Department of Defense
Fiscal Year (FY) 2016 President's Budget Submission

February 2015

Navy

Justification Book Volume 3 of 5

Research, Development, Test & Evaluation, Navy

Budget Activity 5

The estimated total cost for producing the Department of Navy budget justification material is approximately $1,436,000 for the 2015 fiscal year. This includes $74,000 in supplies and $1,362,000 in labor.

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Research, Development, Test and Evaluation, Navy

For expenses necessary for basic and applied scientific research, development, test and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment, $17,921,663,000, to remain available for obligation until September 30, 2016.

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Department of Defense
FY 2016 President's Budget
Exhibit R-1 FY 2016 President's Budget
Total Obligational Authority
(Dollars in Thousands)

09 Jan 2015

Summary Recap of Budget Activities	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Basic Research	604,155	650,153		650,153	586,928		586,928
Applied Research	844,152	869,912		869,912	864,570		864,570
Advanced Technology Development	622,947	635,203		635,203	662,864		662,864
Advanced Component Development & Prototypes	4,151,886	4,443,594		4,443,594	5,024,626		5,024,626
System Development & Demonstration	4,174,217	5,236,176	470	5,236,646	6,308,800		6,308,800
Management Support	1,153,417	972,892		972,892	955,955		955,955
Operational Systems Development	3,395,279	3,146,674	35,550	3,182,224	3,482,173	35,747	3,517,920
Total Research, Development, Test & Evaluation	14,946,053	15,954,604	36,020	15,990,624	17,885,916	35,747	17,921,663

Summary Recap of FYDP Programs							
Strategic Forces	139,615	142,745		142,745	174,014		174,014
General Purpose Forces	1,292,622	1,265,259	470	1,265,729	1,429,549		1,429,549
Intelligence and Communications	644,998	713,250	470	713,720	766,221		766,221
Research and Development	11,368,895	12,607,993		12,607,993	14,235,441		14,235,441
Central Supply and Maintenance	79,240	62,684		62,684	28,506		28,506
Administration and Associated Activities	1,209						
Classified Programs	1,419,474	1,162,673	35,080	1,197,753	1,252,185	35,747	1,287,932
Total Research, Development, Test & Evaluation	14,946,053	15,954,604	36,020	15,990,624	17,885,916	35,747	17,921,663

Department of the Navy
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Department of the Navy
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Total Obligational Authority
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Appropriation: 1319N Research, Development, Test & Eval, Navy

Line No	Program Element Number	Item	Act	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Sec
1	0601103N	University Research Initiatives	01	108,617	133,908		133,908	116,196		116,196	U
2	0601152N	In-House Laboratory Independent Research	01	18,135	19,142		19,142	19,126		19,126	U
3	0601153N	Defense Research Sciences	01	477,403	497,103		497,103	451,606		451,606	U
	Basic Research			604,155	650,153		650,153	586,928		586,928	
4	0602114N	Power Projection Applied Research	02	104,413	95,753		95,753	68,723		68,723	U
5	0602123N	Force Protection Applied Research	02	168,311	163,660		163,660	154,963		154,963	U
6	0602131M	Marine Corps Landing Force Technology	02	45,834	45,782		45,782	49,001		49,001	U
7	0602235N	Common Picture Applied Research	02	35,411	43,533		43,533	42,551		42,551	U
8	0602236N	Warfighter Sustainment Applied Research	02	49,083	46,923		46,923	45,056		45,056	U
9	0602271N	Electromagnetic Systems Applied Research	02	98,551	107,663		107,663	115,051		115,051	U
10	0602435N	Ocean Warfighting Environment Applied Research	02	43,698	65,388		65,388	42,252		42,252	U
11	0602651M	Joint Non-Lethal Weapons Applied Research	02	5,805	5,880		5,880	6,119		6,119	U
12	0602747N	Undersea Warfare Applied Research	02	99,302	86,880		86,880	123,750		123,750	U
13	0602750N	Future Naval Capabilities Applied Research	02	162,580	175,924		175,924	179,686		179,686	U
14	0602782N	Mine and Expeditionary Warfare Applied Research	02	31,164	32,526		32,526	37,418		37,418	U
	Applied Research			844,152	869,912		869,912	864,570		864,570	
15	0603114N	Power Projection Advanced Technology	03	67,601	37,734		37,734	37,093		37,093	U

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Line No	Program Element Number	Item	Act	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Sec
16	0603123N	Force Protection Advanced Technology	03	28,194	25,831		25,831	38,044		38,044	U
17	0603271N	Electromagnetic Systems Advanced Technology	03	53,519	64,574		64,574	34,899		34,899	U
18	0603640M	USMC Advanced Technology Demonstration (ATD)	03	128,772	128,320		128,320	137,562		137,562	U
19	0603651M	Joint Non-Lethal Weapons Technology Development	03	11,452	11,498		11,498	12,745		12,745	U
20	0603673N	Future Naval Capabilities Advanced Technology Development	03	241,652	260,847		260,847	258,860		258,860	U
21	0603680N	Manufacturing Technology Program	03					57,074		57,074	U
22	0603729N	Warfighter Protection Advanced Technology	03	40,260	40,538		40,538	4,807		4,807	U
23	0603747N	Undersea Warfare Advanced Technology	03		9,985		9,985	13,748		13,748	U
24	0603758N	Navy Warfighting Experiments and Demonstrations	03	49,581	53,876		53,876	66,041		66,041	U
25	0603782N	Mine and Expeditionary Warfare Advanced Technology	03	1,916	2,000		2,000	1,991		1,991	U
		Advanced Technology Development		622,947	635,203		635,203	662,864		662,864	
26	0603207N	Air/Ocean Tactical Applications	04	41,138	40,429		40,429	41,832		41,832	U
27	0603216N	Aviation Survivability	04	6,637	4,325		4,325	5,404		5,404	U
28	0603237N	Deployable Joint Command and Control	04	3,195	2,991		2,991	3,086		3,086	U
29	0603251N	Aircraft Systems	04	10,072	12,651		12,651	11,643		11,643	U
30	0603254N	ASW Systems Development	04	6,809	7,782		7,782	5,555		5,555	U
31	0603261N	Tactical Airborne Reconnaissance	04	5,257	5,270		5,270	3,087		3,087	U

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32	0603382N	Advanced Combat Systems Technology	04	1,510	1,639		1,639	1,636		1,636	U
33	0603502N	Surface and Shallow Water Mine Countermeasures	04	150,540	86,333		86,333	118,588		118,588	U
34	0603506N	Surface Ship Torpedo Defense	04	83,366	50,781		50,781	77,385		77,385	U
35	0603512N	Carrier Systems Development	04	78,928	5,959		5,959	8,348		8,348	U
36	0603525N	PILOT FISH	04	107,210	138,865		138,865	123,246		123,246	U
37	0603527N	RETRACT LARCH	04	11,797	25,365		25,365	28,819		28,819	U
38	0603536N	RETRACT JUNIPER	04	77,292	76,477		76,477	112,678		112,678	U
39	0603542N	Radiological Control	04	757	669		669	710		710	U
40	0603553N	Surface ASW	04	8,543	1,053		1,053	1,096		1,096	U
41	0603561N	Advanced Submarine System Development	04	832,736	67,551		67,551	87,160		87,160	U
42	0603562N	Submarine Tactical Warfare Systems	04	8,675	8,044		8,044	10,371		10,371	U
43	0603563N	Ship Concept Advanced Design	04	17,604	17,864		17,864	11,888		11,888	U
44	0603564N	Ship Preliminary Design & Feasibility Studies	04	37,380	1,773		1,773	4,332		4,332	U
45	0603570N	Advanced Nuclear Power Systems	04	428,933	499,961		499,961	482,040		482,040	U
46	0603573N	Advanced Surface Machinery Systems	04	17,551	21,026		21,026	25,904		25,904	U
47	0603576N	CHALK EAGLE	04	511,633	542,415		542,415	511,802		511,802	U
48	0603581N	Littoral Combat Ship (LCS)	04	256,456	86,705		86,705	118,416		118,416	U
49	0603582N	Combat System Integration	04	4,270	20,881		20,881	35,901		35,901	U
50	0603595N	Ohio Replacement	04		853,277		853,277	971,393		971,393	U
51	0603596N	LCS Mission Modules	04	105,682	176,948		176,948	206,149		206,149	U

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52	0603597N	Automated Test and Re-Test (ATRT)	04	9,639	8,115		8,115	8,000		8,000	U
53	0603609N	Conventional Munitions	04	8,380	7,603		7,603	7,678		7,678	U
54	0603611M	Marine Corps Assault Vehicles	04	34,956	105,749		105,749	219,082		219,082	U
55	0603635M	Marine Corps Ground Combat/Support System	04	1,362	1,342		1,342	623		623	U
56	0603654N	Joint Service Explosive Ordnance Development	04	34,773	21,384		21,384	18,260		18,260	U
57	0603658N	Cooperative Engagement	04	52,539	37,310		37,310	76,247		76,247	U
58	0603713N	Ocean Engineering Technology Development	04	7,530	6,264		6,264	4,520		4,520	U
59	0603721N	Environmental Protection	04	18,812	13,200		13,200	20,711		20,711	U
60	0603724N	Navy Energy Program	04	43,851	63,804		63,804	47,761		47,761	U
61	0603725N	Facilities Improvement	04	2,893	2,588		2,588	5,226		5,226	U
62	0603734N	CHALK CORAL	04	121,021	176,301		176,301	182,771		182,771	U
63	0603739N	Navy Logistic Productivity	04	3,715	3,473		3,473	3,866		3,866	U
64	0603746N	RETRACT MAPLE	04	293,872	376,028		376,028	360,065		360,065	U
65	0603748N	LINK PLUMERIA	04	153,214	260,096		260,096	237,416		237,416	U
66	0603751N	RETRACT ELM	04	56,519	42,233		42,233	37,944		37,944	U
67	0603764N	LINK EVERGREEN	04	54,613	46,504		46,504	47,312		47,312	U
68	0603787N	Special Processes	04	47,227	25,109		25,109	17,408		17,408	U
69	0603790N	NATO Research and Development	04	7,502	9,659		9,659	9,359		9,359	U
70	0603795N	Land Attack Technology	04		318		318	887		887	U
71	0603851M	Joint Non-Lethal Weapons Testing	04	39,470	35,627		35,627	29,448		29,448	U

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72	0603860N	Joint Precision Approach and Landing Systems - Dem/Val	04	126,802	41,886		41,886	91,479		91,479	U
73	0603925N	Directed Energy and Electric Weapon Systems	04	4,349	55,696		55,696	67,360		67,360	U
74	0604112N	Gerald R. Ford Class Nuclear Aircraft Carrier (CVN 78 - 80)	04		43,613		43,613	48,105		48,105	U
75	0604122N	Remote Minehunting System (RMS)	04		21,110		21,110	20,089		20,089	U
76	0604272N	Tactical Air Directional Infrared Countermeasures (TADIRCM)	04	24,562	5,556		5,556	18,969		18,969	U
77	0604279N	ASE Self-Protection Optimization	04	169	3,921		3,921	7,874		7,874	U
78	0604292N	MH-XX	04		3,055		3,055	5,298		5,298	U
79	0604454N	LX (R)	04		36,859		36,859	46,486		46,486	U
80	0604653N	Joint Counter Radio Controlled IED Electronic Warfare (JCREW)	04	15,582	15,197		15,197	3,817		3,817	U
81	0604659N	Precision Strike Weapons Development Program	04	2,191				9,595		9,595	U
82	0604707N	Space and Electronic Warfare (SEW) Architecture/Engineering Support	04	30,377	18,749		18,749	29,581		29,581	U
83	0604786N	Offensive Anti-Surface Warfare Weapon Development	04	86,683	181,939		181,939	285,849		285,849	U
84	0605812M	Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Ph	04	50,251	9,445		9,445	36,656		36,656	U
85	0303354N	ASW Systems Development - MIP	04	4,908	6,495		6,495	9,835		9,835	U
86	0304270N	Electronic Warfare Development - MIP	04	153	332		332	580		580	U
		Advanced Component Development & Prototypes		4,151,886	4,443,594		4,443,594	5,024,626		5,024,626	

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87	0603208N	Training System Aircraft	05		25,153		25,153	21,708		21,708	U
88	0604212N	Other Helo Development	05	24,910	35,099		35,099	11,101		11,101	U
89	0604214N	AV-8B Aircraft - Eng Dev	05	30,291	25,372		25,372	39,878		39,878	U
90	0604215N	Standards Development	05	66,594	53,706		53,706	53,059		53,059	U
91	0604216N	Multi-Mission Helicopter Upgrade Development	05	20,365	11,434		11,434	21,358		21,358	U
92	0604218N	Air/Ocean Equipment Engineering	05	3,915	2,164		2,164	4,515		4,515	U
93	0604221N	P-3 Modernization Program	05	779	710		710	1,514		1,514	U
94	0604230N	Warfare Support System	05	9,630	9,094		9,094	5,875		5,875	U
95	0604231N	Tactical Command System	05	62,298	60,195		60,195	81,553		81,553	U
96	0604234N	Advanced Hawkeye	05	103,489	176,700		176,700	272,149		272,149	U
97	0604245N	H-1 Upgrades	05	48,994	44,115		44,115	27,235		27,235	U
98	0604261N	Acoustic Search Sensors	05	28,344	23,214		23,214	35,763		35,763	U
99	0604262N	V-22A	05	42,205	57,749		57,749	87,918		87,918	U
100	0604264N	Air Crew Systems Development	05	7,418	15,014		15,014	12,679		12,679	U
101	0604269N	EA-18	05	10,550	18,730		18,730	56,921		56,921	U
102	0604270N	Electronic Warfare Development	05	34,239	28,742		28,742	23,685		23,685	U
103	0604273N	Executive Helo Development	05	92,840	368,084		368,084	507,093		507,093	U
104	0604274N	Next Generation Jammer (NGJ)	05	153,552	230,713		230,713	411,767		411,767	U
105	0604280N	Joint Tactical Radio System - Navy (JTRS-Navy)	05	3,909	6,945		6,945	25,071		25,071	U
106	0604307N	Surface Combatant Combat System Engineering	05	249,940	179,112		179,112	443,433		443,433	U

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107	0604311N	LPD-17 Class Systems Integration	05	1,175	376		376	747		747	U
108	0604329N	Small Diameter Bomb (SDB)	05	24,215	56,286		56,286	97,002		97,002	U
109	0604366N	Standard Missile Improvements	05	60,933	36,698		36,698	129,649		129,649	U
110	0604373N	Airborne MCM	05	109,485	38,941		38,941	11,647		11,647	U
111	0604376M	Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) for Aviation	05	12,032	7,832		7,832	2,778		2,778	U
112	0604378N	Naval Integrated Fire Control - Counter Air Systems Engineering	05	20,937	15,263		15,263	23,695		23,695	U
113	0604404N	Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System	05	115,275	403,008		403,008	134,708		134,708	U
114	0604501N	Advanced Above Water Sensors	05	144,589	19,809		19,809	43,914		43,914	U
115	0604503N	SSN-688 and Trident Modernization	05	83,361	71,551		71,551	109,908		109,908	U
116	0604504N	Air Control	05	9,664	29,037		29,037	57,928		57,928	U
117	0604512N	Shipboard Aviation Systems	05	77,046	122,083		122,083	120,217		120,217	U
118	0604522N	Air and Missile Defense Radar (AMDR) System	05		129,706		129,706	241,754		241,754	U
119	0604558N	New Design SSN	05	60,843	87,695		87,695	122,556		122,556	U
120	0604562N	Submarine Tactical Warfare System	05	47,777	38,985		38,985	48,213		48,213	U
121	0604567N	Ship Contract Design/ Live Fire T&E	05	174,375	40,016		40,016	49,712		49,712	U
122	0604574N	Navy Tactical Computer Resources	05	3,582	3,935		3,935	4,096		4,096	U
123	0604580N	Virginia Payload Module (VPM)	05	57,282	120,602		120,602	167,719		167,719	U
124	0604601N	Mine Development	05	4,903	14,067		14,067	15,122		15,122	U

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Line No	Program Element Number	Item	Act	FY 2014 (Base & OCO)	FY 2015 Base Enacted	FY 2015 OCO Enacted	FY 2015 Total Enacted	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Sec
125	0604610N	Lightweight Torpedo Development	05	26,098	35,280		35,280	33,738		33,738	U
126	0604654N	Joint Service Explosive Ordnance Development	05	8,872	8,985		8,985	8,123		8,123	U
127	0604703N	Personnel, Training, Simulation, and Human Factors	05	4,233	7,669		7,669	7,686		7,686	U
128	0604727N	Joint Standoff Weapon Systems	05	434	4,400		4,400	405		405	U
129	0604755N	Ship Self Defense (Detect & Control)	05	98,382	56,884		56,884	153,836		153,836	U
130	0604756N	Ship Self Defense (Engage: Hard Kill)	05	42,551	96,937		96,937	99,619		99,619	U
131	0604757N	Ship Self Defense (Engage: Soft Kill/EW)	05	112,900	116,904		116,904	116,798		116,798	U
132	0604761N	Intelligence Engineering	05	1,984	200		200	4,353		4,353	U
133	0604771N	Medical Development	05	27,725	27,287		27,287	9,443		9,443	U
134	0604777N	Navigation/ID System	05	41,735	29,504		29,504	32,469		32,469	U
135	0604800M	Joint Strike Fighter (JSF) - EMD	05	410,080	499,048		499,048	537,901		537,901	U
136	0604800N	Joint Strike Fighter (JSF) - EMD	05	425,340	502,260		502,260	504,736		504,736	U
137	0604810M	Joint Strike Fighter Follow On Development - Marine Corps	05		10,399		10,399	59,265		59,265	U
138	0604810N	Joint Strike Fighter Follow On Development - Navy	05		10,622		10,622	47,579		47,579	U
139	0605013M	Information Technology Development	05	4,787	2,887		2,887	5,914		5,914	U
140	0605013N	Information Technology Development	05	51,746	66,317		66,317	89,711		89,711	U
141	0605212N	CH-53K RDTE	05	447,511	559,687		559,687	632,092		632,092	U
142	0605220N	Ship to Shore Connector (SSC)	05		42,778		42,778	7,778		7,778	U

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143	0605450N	Joint Air-to-Ground Missile (JAGM)	05	4,757	6,300		6,300	25,898		25,898	U
144	0605500N	Multi-mission Maritime Aircraft (MMA)	05	252,426	306,033		306,033	247,929		247,929	U
145	0204202N	DDG-1000	05	189,580	202,517		202,517	103,199		103,199	U
146	0304231N	Tactical Command System - MIP	05	2,140	1,011		1,011	998		998	U
147	0304785N	Tactical Cryptologic Systems	05	9,406	10,357	470	10,827	17,785		17,785	U
148	0305124N	Special Applications Program	05	9,794	23,975		23,975	35,905		35,905	U
		System Development & Demonstration		4,174,217	5,236,176	470	5,236,646	6,308,800		6,308,800	
149	0604256N	Threat Simulator Development	06	42,177	40,793		40,793	30,769		30,769	U
150	0604258N	Target Systems Development	06	70,263	66,718		66,718	112,606		112,606	U
151	0604759N	Major T&E Investment	06	37,974	123,993		123,993	61,234		61,234	U
152	0605126N	Joint Theater Air and Missile Defense Organization	06	1,322	4,960		4,960	6,995		6,995	U
153	0605152N	Studies and Analysis Support - Navy	06	5,453	3,484		3,484	4,011		4,011	U
154	0605154N	Center for Naval Analyses	06	44,928	44,696		44,696	48,563		48,563	U
155	0605285N	Next Generation Fighter	06		4,794		4,794	5,000		5,000	U
156	0605502N	Small Business Innovative Research	06	294,649							U
157	0605804N	Technical Information Services	06	1,046	876		876	925		925	U
158	0605853N	Management, Technical & International Support	06	81,918	87,038		87,038	78,143		78,143	U
159	0605856N	Strategic Technical Support	06	3,085	2,590		2,590	3,258		3,258	U
160	0605861N	RDT&E Science and Technology Management	06	71,998	73,033		73,033	76,948		76,948	U

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161	0605863N	RDT&E Ship and Aircraft Support	06	140,064	138,304		138,304	132,122		132,122	U
162	0605864N	Test and Evaluation Support	06	303,177	336,286		336,286	351,912		351,912	U
163	0605865N	Operational Test and Evaluation Capability	06	16,304	16,650		16,650	17,985		17,985	U
164	0605866N	Navy Space and Electronic Warfare (SEW) Support	06	3,885	2,503		2,503	5,316		5,316	U
165	0605867N	SEW Surveillance/Reconnaissance Support	06	7,134	8,325		8,325	6,519		6,519	U
166	0605873M	Marine Corps Program Wide Support	06	26,831	17,849		17,849	13,649		13,649	U
167	0909999N	Financing for Cancelled Account Adjustments	06	1,209							U
		Management Support		1,153,417	972,892		972,892	955,955		955,955	
169	0604227N	HARPOON Modifications	07	199							U
170	0604402N	Unmanned Combat Air Vehicle (UCAV) Advanced Component and Prototype Development	07	24,893	35,877		35,877				U
171	0604766M	Marine Corps Data Systems	07	34							U
172	0605525N	Carrier Onboard Delivery (COD) Follow On	07	1,230	8,873		8,873				U
173	0605555N	Strike Weapons Development	07	8,955							U
174	0101221N	Strategic Sub & Weapons System Support	07	86,197	94,525		94,525	107,039		107,039	U
175	0101224N	SSBN Security Technology Program	07	30,719	30,039		30,039	46,506		46,506	U
176	0101226N	Submarine Acoustic Warfare Development	07	1,430	4,509		4,509	3,900		3,900	U
177	0101402N	Navy Strategic Communications	07	21,269	13,672		13,672	16,569		16,569	U

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178	0203761N	Rapid Technology Transition (RTT)	07	8,561	8,480		8,480	18,632		18,632	U
179	0204136N	F/A-18 Squadrons	07	110,487	86,216		86,216	133,265		133,265	U
180	0204152N	E-2 Squadrons	07	1,903							U
181	0204163N	Fleet Telecommunications (Tactical)	07	22,576	27,039		27,039	62,867		62,867	U
182	0204228N	Surface Support	07	2,320	2,878		2,878	36,045		36,045	U
183	0204229N	Tomahawk and Tomahawk Mission Planning Center (TMPC)	07	12,015	26,145		26,145	25,228		25,228	U
184	0204311N	Integrated Surveillance System	07	41,609	34,471		34,471	54,218		54,218	U
185	0204413N	Amphibious Tactical Support Units (Displacement Craft)	07	4,534	4,609		4,609	11,335		11,335	U
186	0204460M	Ground/Air Task Oriented Radar (G/ATOR)	07	74,432	99,082		99,082	80,129		80,129	U
187	0204571N	Consolidated Training Systems Development	07	38,444	37,922		37,922	39,087		39,087	U
188	0204574N	Cryptologic Direct Support	07	2,703	1,157	470	1,627	1,915		1,915	U
189	0204575N	Electronic Warfare (EW) Readiness Support	07	18,859	16,567		16,567	46,609		46,609	U
190	0205601N	HARM Improvement	07	13,581	17,420		17,420	52,708		52,708	U
191	0205604N	Tactical Data Links	07	162,499	121,680		121,680	149,997		149,997	U
192	0205620N	Surface ASW Combat System Integration	07	30,985	26,366		26,366	24,460		24,460	U
193	0205632N	MK-48 ADCAP	07	10,050	25,952		25,952	42,206		42,206	U
194	0205633N	Aviation Improvements	07	76,009	85,037		85,037	117,759		117,759	U
195	0205675N	Operational Nuclear Power Systems	07	116,928	104,023		104,023	101,323		101,323	U

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196	0206313M	Marine Corps Communications Systems	07	157,440	73,982		73,982	67,763		67,763	U
197	0206335M	Common Aviation Command and Control System (CAC2S)	07		32,495		32,495	13,431		13,431	U
198	0206623M	Marine Corps Ground Combat/ Supporting Arms Systems	07	116,944	52,377		52,377	56,769		56,769	U
199	0206624M	Marine Corps Combat Services Support	07	23,883	20,999		20,999	20,729		20,729	U
200	0206625M	USMC Intelligence/Electronic Warfare Systems (MIP)	07	35,213	14,170		14,170	13,152		13,152	U
201	0206629M	Amphibious Assault Vehicle	07		96,207		96,207	48,535		48,535	U
202	0207161N	Tactical AIM Missiles	07	17,518	37,258		37,258	76,016		76,016	U
203	0207163N	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	2,575	10,210		10,210	32,172		32,172	U
204	0208058N	Joint High Speed Vessel (JHSV)	07	974							U
208	0303109N	Satellite Communications (SPACE)	07	63,642	41,729		41,729	53,239		53,239	U
209	0303138N	Consolidated Afloat Network Enterprise Services (CANES)	07	23,965	22,773		22,773	21,677		21,677	U
210	0303140N	Information Systems Security Program	07	25,604	23,016		23,016	28,102		28,102	U
211	0303150M	WWMCCS/Global Command and Control System	07					294		294	U
213	0305160N	Navy Meteorological and Ocean Sensors-Space (METOC)	07	726	359		359	599		599	U
214	0305192N	Military Intelligence Program (MIP) Activities	07	5,758	6,166		6,166	6,207		6,207	U
215	0305204N	Tactical Unmanned Aerial Vehicles	07	8,381	8,505		8,505	8,550		8,550	U
216	0305205N	UAS Integration and Interoperability	07					41,831		41,831	U

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217	0305208M	Distributed Common Ground/Surface Systems	07	5,207	11,606		11,606	1,105		1,105	U
218	0305208N	Distributed Common Ground/Surface Systems	07	17,718	18,146		18,146	33,149		33,149	U
219	0305220N	RQ-4 UAV	07	375,235	451,442		451,442	227,188		227,188	U
220	0305231N	MQ-8 UAV	07	41,713	43,294		43,294	52,770		52,770	U
221	0305232M	RQ-11 UAV	07		718		718	635		635	U
222	0305233N	RQ-7 UAV	07	710	851		851	688		688	U
223	0305234N	Small (Level 0) Tactical UAS (STUASL0)	07	5,033	4,813		4,813	4,647		4,647	U
224	0305239M	RQ-21A	07	11,122	8,192		8,192	6,435		6,435	U
225	0305241N	Multi-Intelligence Sensor Development	07	28,851	17,751		17,751	49,145		49,145	U
226	0305242M	Unmanned Aerial Systems (UAS) Payloads (MIP)	07		2,000		2,000	9,246		9,246	U
227	0305421N	RQ-4 Modernization	07		5,000		5,000	150,854		150,854	U
228	0308601N	Modeling and Simulation Support	07	4,932	4,719		4,719	4,757		4,757	U
229	0702207N	Depot Maintenance (Non-IF)	07	25,630	21,168		21,168	24,185		24,185	U
230	0708011N	Industrial Preparedness	07	48,795	37,169		37,169				U
231	0708730N	Maritime Technology (MARITECH)	07	4,815	4,347		4,347	4,321		4,321	U
9999	9999999999	Classified Programs		1,419,474	1,162,673	35,080	1,197,753	1,252,185	35,747	1,287,932	U
		Operational Systems Development		3,395,279	3,146,674	35,550	3,182,224	3,482,173	35,747	3,517,920	
Total Research, Development, Test & Eval, Navy				14,946,053	15,954,604	36,020	15,990,624	17,885,916	35,747	17,921,663	

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Special Applications Program	0305124N	148	05	Volume 3 - 1485
Standard Missile Improvements	0604366N	109	05	Volume 3 - 497

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Strategic Sub & Wpns Sys Supt	0101221N	174	07	Volume 5 - 47
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Studies & Analysis Supt - Navy	0605152N	153	06	Volume 4 - 41
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Submarine Tactical Warfare Sys	0603562N	42	04	Volume 2 - 391
Submarine Tactical Warfare System	0604562N	120	05	Volume 3 - 795
Surface & Shallow Water MCM	0603502N	33	04	Volume 2 - 157
Surface ASW	0603553N	40	04	Volume 2 - 327
Surface ASW Cmbt Sys Integr	0205620N	192	07	Volume 5 - 415
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Surface Ship Torpedo Defense	0603506N	34	04	Volume 2 - 253
Surface Support	0204228N	182	07	Volume 5 - 189
Tact Air Dir Infrared CM (TADIRCM)	0604272N	76	04	Volume 2 - 943
Tactical Aim Missiles	0207161N	202	07	Volume 5 - 905
Tactical Airborne Reconnaissance	0603261N	31	04	Volume 2 - 137
Tactical Command System	0604231N	95	05	Volume 3 - 175
Tactical Command System - MIP	0304231N	146	05	Volume 3 - 1457
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Tactical Unmanned Aer Vehicles	0305204N	215	07	Volume 5 - 1039
Target Systems Development	0604258N	150	06	Volume 4 - 13
Technical Information Services	0605804N	157	06	Volume 4 - 107
Test & Evaluation Support	0605864N	162	06	Volume 4 - 209
Threat Simulator Development	0604256N	149	06	Volume 4 - 1
Tomahawk Mssn Planning Ctr	0204229N	183	07	Volume 5 - 203
Training System Aircraft	0603208N	87	05	Volume 3 - 1
USMC Intelligence/Electronics Warfare Sys	0206625M	200	07	Volume 5 - 863
Undersea Warfare Advanced Tech	0603747N	23	03	Volume 1 - 465
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Warfare Support System	0604230N	94	05	Volume 3 - 151
Warfighter Protection Adv Tech	0603729N	22	03	Volume 1 - 459
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88	05	0604212N	Other Helicopter Development	Volume 3 - 13
89	05	0604214N	AV-8B Aircraft - Engine Dev	Volume 3 - 45
90	05	0604215N	Standards Development	Volume 3 - 59
91	05	0604216N	Multi-Mssn Helicopter Upgrade Dev	Volume 3 - 113
92	05	0604218N	Air/Ocean Equipment Engineering	Volume 3 - 125
93	05	0604221N	P-3 Modernization Program	Volume 3 - 143
94	05	0604230N	Warfare Support System	Volume 3 - 151
95	05	0604231N	Tactical Command System	Volume 3 - 175
96	05	0604234N	Advanced Hawkeye	Volume 3 - 241
97	05	0604245N	H-1 Upgrades	Volume 3 - 281
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Budget Activity 05: System Development & Demonstration (SDD)
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103	05	0604273N	(U)Executive Helo Development	Volume 3 - 389
104	05	0604274N	Next Generation Jammer (NGJ)	Volume 3 - 401
105	05	0604280N	JT Tact Radio Sys (JTRS)	Volume 3 - 423
106	05	0604307N	Surface Combatant Cmbt Sys Eng	Volume 3 - 439
107	05	0604311N	LPD-17 Class Systems Integration	Volume 3 - 467
108	05	0604329N	Small Diameter Bomb (SDB)	Volume 3 - 475
109	05	0604366N	Standard Missile Improvements	Volume 3 - 497
110	05	0604373N	Airborne Mine Countermeasures (AMCM)	Volume 3 - 521
111	05	0604376M	(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio	Volume 3 - 565
112	05	0604378N	Nav Integrated Fire Control-Counter Air Sys Eng	Volume 3 - 583
113	05	0604404N	(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys	Volume 3 - 593
114	05	0604501N	Advanced Above Water Sensors	Volume 3 - 609
115	05	0604503N	SSN-688 & Trident Modernization	Volume 3 - 655
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Budget Activity 05: System Development & Demonstration (SDD)
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123	05	0604580N	(U)Virginia Payload Module (VPM	Volume 3 - 887
124	05	0604601N	Mine Development	Volume 3 - 895
125	05	0604610N	Lightweight Torpedo Development	Volume 3 - 903
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132	05	0604761N	Intelligence Engineering	Volume 3 - 1075
133	05	0604771N	Medical Development	Volume 3 - 1081
134	05	0604777N	Navigation/Id System	Volume 3 - 1101
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(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio	0604376M	111	05	Volume 3 - 565
(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys	0604404N	113	05	Volume 3 - 593
(U)Virginia Payload Module (VPM	0604580N	123	05	Volume 3 - 887
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Acoustic Search Sensors	0604261N	98	05	Volume 3 - 295
Advanced Above Water Sensors	0604501N	114	05	Volume 3 - 609
Advanced Hawkeye	0604234N	96	05	Volume 3 - 241
Air Control	0604504N	116	05	Volume 3 - 705
Air Crew Systems Development	0604264N	100	05	Volume 3 - 333
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Intelligence Engineering	0604761N	132	05	Volume 3 - 1075
JT Service EOD	0604654N	126	05	Volume 3 - 919
JT Strike Fighter (JSF) - EMD	0604800N	136	05	Volume 3 - 1175
JT Tact Radio Sys (JTRS)	0604280N	105	05	Volume 3 - 423
Joint Air-to-ground Missile (JAGM)	0605450N	143	05	Volume 3 - 1399
Joint Standoff Weapon Systems	0604727N	128	05	Volume 3 - 939
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LPD-17 Class Systems Integration	0604311N	107	05	Volume 3 - 467
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Mine Development	0604601N	124	05	Volume 3 - 895
Multi-Mssn Helicopter Upgrade Dev	0604216N	91	05	Volume 3 - 113
Multi-mssn Maritime Aircraft (MMA) (P-8A)	0605500N	144	05	Volume 3 - 1407
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Next Generation Jammer (NGJ)	0604274N	104	05	Volume 3 - 401
Other Helicopter Development	0604212N	88	05	Volume 3 - 13
P-3 Modernization Program	0604221N	93	05	Volume 3 - 143
Personnel, Trng, Sim, & Human Factors	0604703N	127	05	Volume 3 - 927
SSN-688 & Trident Modernization	0604503N	115	05	Volume 3 - 655
Ship Contract Design/ Live Fire T&E	0604567N	121	05	Volume 3 - 807
Ship Self Def (Detect & Cntrl)	0604755N	129	05	Volume 3 - 947
Ship Self Def (Engage: Hard Kill)	0604756N	130	05	Volume 3 - 993
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Small Diameter Bomb (SDB)	0604329N	108	05	Volume 3 - 475
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Tactical Cryptologic Systems	0304785N	147	05	Volume 3 - 1465
Training System Aircraft	0603208N	87	05	Volume 3 - 1
V-22A	0604262N	99	05	Volume 3 - 313
Warfare Support System	0604230N	94	05	Volume 3 - 151

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0603208N *I Training System Aircraft*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	-	25.153	21.708	-	21.708	17.814	17.918	2.954	3.030	-	88.577
3367: *Training Aircraft Updates*	0.000	-	25.153	21.708	-	21.708	17.814	17.918	2.954	3.030	-	88.577

Note

The Federal Aviation Administration (FAA) has developed a plan to modernize the National Airspace System (NAS) in order to address the impact of air traffic growth in the United States. This multi-phase plan, called Next Generation Air Transportation System (NextGen) is intended to increase the air traffic capacity while at the same time improving safety and efficiency. In part, NextGen implements a capability called Performance Based Navigation (PBN) in which the aircraft's navigation performance capability will be a determining factor as to whether or not it can fly within specific airspace, certain air traffic routes or instrument procedures. Also, NextGen transforms the NAS from a radar based system, with aircraft interrogation, to a satellite based system utilizing Automatic Dependent Surveillance-Broadcast (ADS-B Out) communication in order to transmit the aircraft's own position to the controllers and other ADS-B in capable aircraft. PBN is an enabler for ADS-B functionality.

On May 28th, 2010 the FAA released DoT/FAA, 14 CFR Part 91: Automatic Dependent Surveillance-Broadcast (ADS-B) Out Performance Requirements To Support Air Traffic Control (ATC) Service Final Rule. This mandate stipulated that all aircraft required to have unrestricted access to operate in Classes A, B, and C airspace, certain Class E airspace, and other specified airspace requiring ADS-B Out, must be in compliance with this regulation by January 1, 2020.

A. Mission Description and Budget Item Justification

The T-45 Training System (TS) Required Avionics Sustainment Program (RASP) Phase I (ADS-B Out):
In order for the T-45TS to continue to have unrestricted access to the NAS through its projected end of service life, 2035, and avoid impacts to Chief of Naval Air Training (CNATRA) Strike Pilot and Naval Flight Officer (NFO) training, the T-45TS must develop, test, and integrate the RASP Phase I ADS-B Out capability. This research and development effort will be an ACAT III program and consists of the minimum required capability increase necessary for ADS-B Out, enabling 197 aircraft and 18 simulators to meet the January 1, 2020 FAA ADS-B Out mandate. Specifically, this includes the development, integration, test and certification of the replacement for the APX-100 Transponder (with associated control panel, personality module, and data bus connectivity), the replacement of the Air Data Computer (ADC), and the integration of these components with the modified Global Position System/Inertial Navigation Assembly (GINA), antennas, and Mission Display Processor Operational Flight Program (MDP/OFP) software.

The T-6 Joint Primary Aircraft Training System (JPATS) Communication and Navigation System/Air Traffic Management (CNS/ATM):
JPATS is a joint United States Navy (USN)/United States Air Force (USAF) Acquisition Program designed to replace the aging primary aircraft (T-34/T-37) fleet. Principle JPATS mission is primary training for entry-level Navy/Air Force student pilots, associated instructor pilots, and primary/intermediate training for USN NFOs. JPATS includes the T-6 Texan II which is a stepped tandem seat, commercially derived aircraft powered by a single Pratt & Whitney PT6A-68 turboprop engine. It serves as the aircraft component of the JPATS integrated primary pilot training system which replaces the T-34C primary training aircraft. In order for the T-6 A&B training aircraft to continue to have unrestricted access to the NAS through its projected end of service life and avoid impacts to CNATRA primary entry-level student pilots and NFO training, the T-6 program must develop, integrate, test and certify ADS-B Out capability for both the A&B models. This R&D effort will consist of

the minimum required capability increase necessary for ADS-B Out, enabling 295 aircraft and 29 simulators to meet the January 1, 2020 FAA mandate. This effort specifically includes development, integration, test and certification.

This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	25.153	21.884	-	21.884
Current President's Budget	-	25.153	21.708	-	21.708
Total Adjustments	-	-	-0.176	-	-0.176
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.176	-	-0.176

Change Summary Explanation

T-45 updates reflect changes based on engineering study conducted which indicated that replacing the GINA would be cost-prohibitive but that IFF antenna replacements would not be required; we could use the existing aircraft antenna. The existing GINA and antenna wiring will be modified and will therefore be funded with APN-5. The study also indicated the necessity of replacing the Air Data Computer to ensure sufficient altitude accuracy, which will need to be developed for use in the T-45 and has been added to this effort. Test and Certification omission was also corrected. Milestones B and C shifted to reflect current Integrated Master Schedule (IMS).

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0603208N / *Training System Aircraft*	Project (Number/Name) 3367 / *Training Aircraft Updates*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3367: *Training Aircraft Updates*	-	-	25.153	21.708	-	21.708	17.814	17.918	2.954	3.030	-	88.577
Quantity of RDT&E Articles		-	-	14	-	14	-	-	-	-		

A. Mission Description and Budget Item Justification

The Federal Aviation Administration (FAA) has developed a plan to modernize the National Airspace System (NAS) in order to address the impact of air traffic growth in the United States. This multi-phase plan, called Next Generation Air Transportation System (NextGen), is intended to increase the air traffic capacity while at the same time improving safety and efficiency. In part, NextGen implements a capability called Performance Based Navigation (PBN) in which the aircraft's navigation performance capability will be a determining factor as to whether or not it can fly within specific airspace, certain air traffic routes or instrument procedures. Also, NextGen transforms the NAS from a radar based system, with aircraft interrogation, to a satellite based system utilizing Automatic Dependent Surveillance-Broadcast (ADS-B Out) communication in order to transmit the aircraft's own position to the controllers and other ADS-B In capable aircraft.

On May 28th, 2010 the FAA released DoT/FAA, 14 CFR Part 91: Automatic Dependent Surveillance-Broadcast (ADS-B) Out Performance Requirements To Support Air Traffic Control (ATC) Service Final Rule. This mandate stipulated that all aircraft required to have unrestricted access to operate in Classes A, B, and C airspace, certain Class E airspace, and other specified airspace requiring ADS-B Out, must be in compliance with this regulation by January 1, 2020.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: T45 RASP	-	5.478	15.083	-	15.083
Articles:	-	-	14	-	14
Description: Funding supports development, integration, test, and certification of the ADS-B Out capability in the T-45 Training System to comply with the January 1, 2020 FAA ADS-B Out mandate.					
FY 2014 Accomplishments: N/A					
FY 2015 Plans: T-45 Training System: Begin design and integration of Required Avionics Sustainment Program (RASP) Phase I into the T-45 by providing manpower to support an ACAT III Program of Record pre-Milestone B in FY15. Activities to begin in FY15 include: contract efforts to support the FY15 award of the Engineering Manufacturing Development (EMD) contract; the development, replacement, and integration of the transponder (with associated control panel, personality module, and data bus connectivity), and the Air Data Computer (ADC); and the integration of these components with the modified Global Position System/Inertial Navigation Assembly (GINA), antennas, and Mission Display Processor Operational Flight Program (MDP/OFP) software.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0603208N / *Training System Aircraft*	**Project (Number/Name)** 3367 / *Training Aircraft Updates*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue the design and integration of the Automatic Dependent Surveillance - Broadcast (ADS-B (Out)) solution in the T-45 that will include the replacements to the transponder (with associated control panel, personality module, and data bus connectivity), the Air Data Computer (ADC), and the integration of these components with the modified Global Position System/Inertial Navigation Assembly (GINA), antennas, and Mission Display Processor Operational Flight Program (MDP/OFP) software. Continuation of the Engineering Manufacturing Development (EMD) contract for this ACAT III program to support Milestone B in FY 2017 and the certification process. To allow for sufficient lead time, 4 transponder kits and 4 ADC articles will be purchased to support laboratory integration testing, and 3 transponder kits and 3 ADC articles will be purchased to support aircraft test in FY 2017; for a total of 14 RDT&E,N articles. ***FY 2016 OCO Plans:*** N/A					
Title: T6 A/B CNS/ATM	-	19.675	6.625	-	6.625
Articles:	-	-	-	-	-
Description: Funding supports development, integration, test, and certification of the ADS-B Out capability in the T-6 A/B Training System to comply with the January 1, 2020 FAA ADS-B Out mandate. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** T-6 JPATS: Significant non-recurring engineering and qualification/certification of new equipment, corresponding ground based training systems and technical documentation for upgrade current instruments and associated components that do not support ADS-B Out capability. Activities to be conducted during FY15 include: Receipt of RFP responses, prime contractor proposal evaluations and discussions through contract award, and all major engineering design and development efforts through Preliminary Design Review (PDR). ***FY 2016 Base Plans:*** T-6 JPATS: Continue non-recurring engineering and qualification/certification of equipment, corresponding ground based training system and technical documentation for upgrading current instruments and associated components that do not support ADS-B Out. FY 2016 efforts will include design refinement from PDR through CDR, establishment of the configuration baseline and initial system demonstration. ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0603208N / *Training System Aircraft*	**Project (Number/Name)** 3367 / *Training Aircraft Updates*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	-	25.153	21.708	-	21.708

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0569: *T45 Series (OSIP 006-16)*	-	-	13.273	-	13.273	27.274	39.993	65.992	55.467	47.523	249.522
• APN/0571: *JT Primary Acft Trnr Sys (JPATS) (OSIP 007-16)*	-	-	5.943	-	5.943	9.530	16.651	25.250	14.864	-	72.238

Remarks

D. Acquisition Strategy

T-45 Training System: Required Avionics Sustainment Program (RASP) Phase I is the first phase of an ACAT III Program of Record to allow the T-45 to operate in the Federal Aviation Administration's (FAA) NextGen through 2035, the expected life of the T-45. The RDT&E effort will consist of a sole source Engineering & Manufacturing Development (EMD) contract effort to be awarded in FY 2015. Replacement kits for the Weapon Replaceable Assemblies (WRA) associated with the Automatic Dependent Surveillance-Broadcast (ADS-B) Out capability will be contracted through the Lead Systems Integrator for the EMD phase through Test and Validation/Verification.

T6 Communication, Navigation, System/Air Traffic Management (CNS/ATM) and Avionics Upgrades for FAA Compliance are outside of the JPATS Major Defense Acquisition Program and will be established as a new Joint Acquisition Program with the Air Force. For the JPATS Avionics Upgrade for FAA Compliance effort, a competitive award will be the strategy for the T-6A air vehicles due to their federated design. A sole-source strategy will be sought for the T-6B air vehicles due to proprietary hardware and software. Avionics in the T-6B are of an integrated design with proprietary hardware and software controlling input and output of navigation, communications, air data and other avionics information through an Integrated Avionics Computer (IAC). The CNS/ATM mandate requires integration into these systems in order to meet FAA advisory circular 20-165A ADS-B Out system requirements and user capability requirements for flying in national airspace in 2020. Specifically, transponder and Global Positioning System (GPS) information that the ADS-B functions rely on are processed through proprietary software written to integrate with proprietary hardware designed by the same avionics manufacturer. A sole-source approach has been selected because the government does not own or have access to proprietary data to support development of hardware or software required to integrate ADS-B into the aircraft.

E. Performance Metrics

T-45 Training System: Performance of the program will be measured via the Acquisition and Systems Engineering Technical Review (SETR) Process for an ACAT III program. Milestone B is planned for 1st quarter FY 2017 with Milestone C planned for 2nd quarter FY 2018.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0603208N / *Training System Aircraft*	**Project (Number/Name)** 3367 / *Training Aircraft Updates*

T-6 JPATS: National Airspace Compliance is planned to be a new ACAT III program with Acquisition Milestones utilizing systems engineering processes. Milestone B is planned for 1st quarter FY 2016 with Milestone C planned for 1st quarter FY 2017.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0603208N / *Training System Aircraft*	Project (Number/Name) 3367 / *Training Aircraft Updates*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Production Development Cost T45	SS/CPFF	Boeing : St. Louis, MO	0.000	-		2.494	Aug 2015	8.200	Nov 2015	-		8.200	16.416	27.110	27.110
Production Development Cost T6	TBD	TBD : TBD	0.000	-		18.836	May 2015	3.545	May 2016	-		3.545	-	22.381	22.381
		Subtotal	0.000	-		21.330		11.745		-		11.745	16.416	49.491	49.491

Remarks

Increase in T45 contract amount due to addition of Air Data Computer (ADC) development effort.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering Support - EMD T45	WR	NAWCAD : Patuxent River, MD	0.000	-		1.840	Jan 2015	2.426	Nov 2015	-		2.426	8.767	13.033	-
Systems Engineering Support - T6	WR	NAWCAD : Patuxent River, MD	0.000	-		-		0.425	Jan 2016	-		0.425	-	0.425	-
Integrated Logistics Support - T45	WR	NAWCAD : Patuxent River, MD	0.000	-		0.650	Jan 2015	1.498	Nov 2015	-		1.498	5.473	7.621	-
Systems Engineering Support - T6	WR	NADEP : Jacksonville, FL	0.000	-		-		1.075	Dec 2015	-		1.075	-	1.075	-
Engineering Study - T45	SS/BOA	JHU : Laurel, MD	0.000	-		0.300	Jan 2015	-		-		-	1.400	1.700	1.700
Integrated Logistics Support - T6	WR	NAWCAD : Patuxent River, MD	0.000	-		-		0.500	Dec 2015	-		0.500	-	0.500	-
DT&E - T6	WR	NAWCAD : Patuxent River, MD	0.000	-		-		0.200	Dec 2015	-		0.200	-	0.200	-
		Subtotal	0.000	-		2.790		6.124		-		6.124	15.640	24.554	-

Remarks

Removed China Lake and Orlando TSD Systems Engineering Support because efforts are funded by APN-5.
Patuxent River System Engineering Support increased to account for TEMP development in FY 2015 and Systems Engineering Technical Review (SETR) events in FY 2016.
ILS funding increased to support creation of additional logistics documentation.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0603208N / *Training System Aircraft*	**Project (Number/Name)** 3367 / *Training Aircraft Updates*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Certification - T45	WR	NAWCAD : Patuxent River, MD	0.000	-		-		1.200	Nov 2015	-		1.200	4.426	5.626	-
		Subtotal	0.000	-		-		1.200		-		1.200	4.426	5.626	-

Remarks

Test & Certification line inadvertently omitted in previous budget submits.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
T45 Travel	Various	NAVAIR : Patuxent River, MD	0.000	-		0.194	Jan 2015	0.459	Oct 2015	-		0.459	1.444	2.097	-
T6 Program Management	Various	Various : Various	0.000	-		0.794	Jan 2015	0.794	Nov 2015	-		0.794	-	1.588	-
T6 Travel	Various	NAVAIR : Patuxent River, MD	0.000	-		0.045	Jan 2015	0.086	Oct 2015	-		0.086	-	0.131	-
T45 Program Management	Various	Various : Various	0.000	-		-		1.300	Oct 2015	-		1.300	3.790	5.090	-
		Subtotal	0.000	-		1.033		2.639		-		2.639	5.234	8.906	-

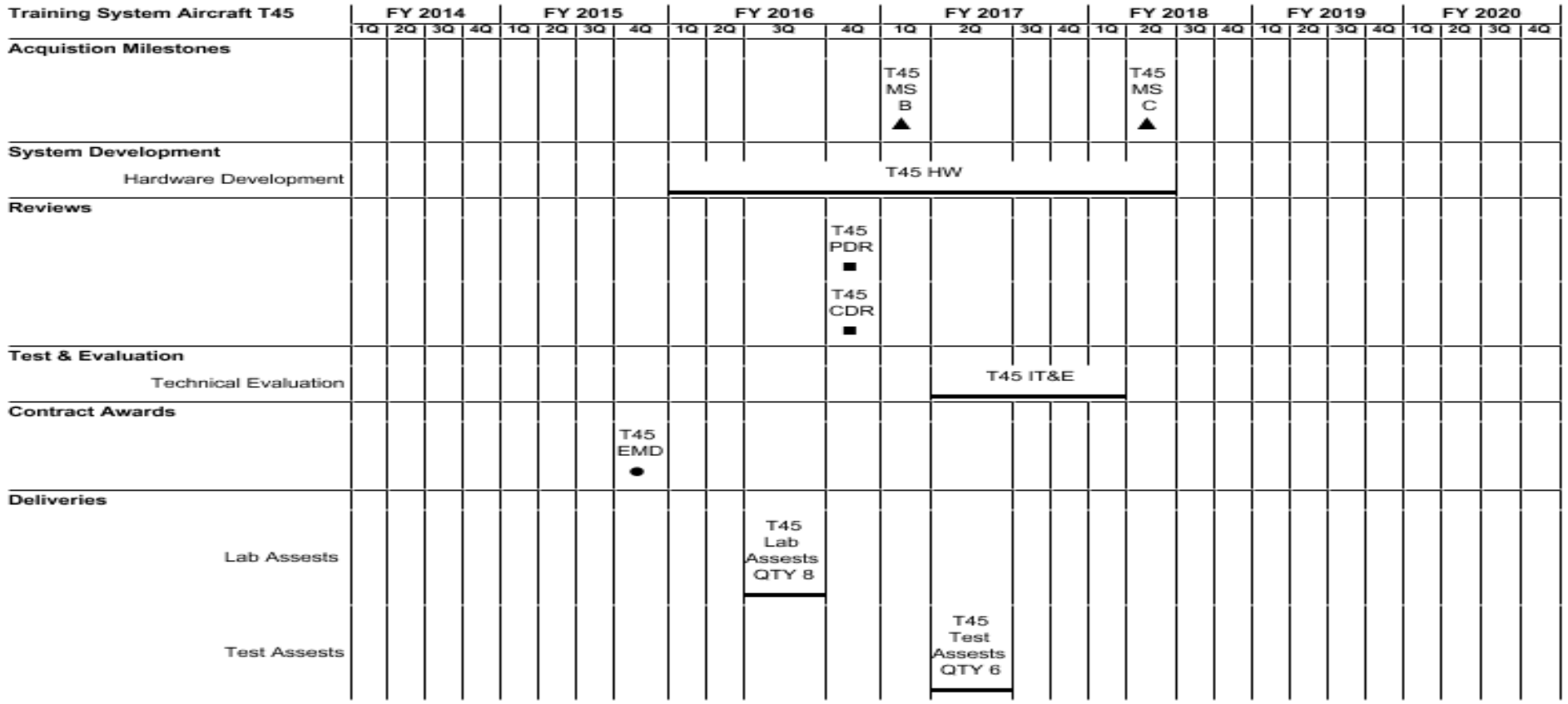
Remarks

Travel increased due to participation in subcontractor SETR events.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		25.153		21.708		-		21.708	41.716	88.577	-

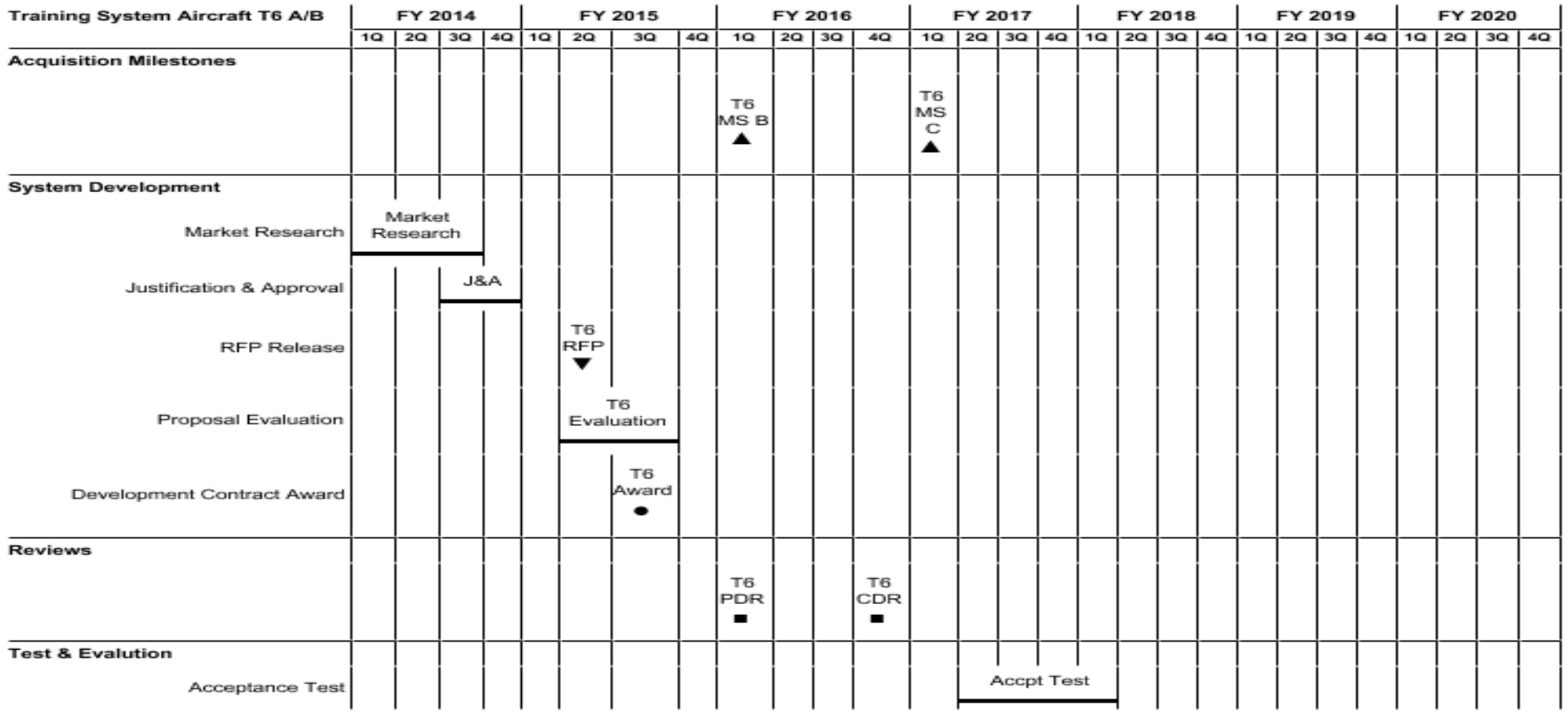
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0603208N / *Training System Aircraft*	**Project (Number/Name)** 3367 / *Training Aircraft Updates*



2016PB - 0603208N - 3367

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0603208N / *Training System Aircraft*	**Project (Number/Name)** 3367 / *Training Aircraft Updates*



2016PB - 0603208N - 3367

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0603208N / *Training System Aircraft*	**Project (Number/Name)** 3367 / *Training Aircraft Updates*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Training System Aircraft T45				
Acquistion Milestones: T45 Milestone B	1	2017	1	2017
Acquistion Milestones: T45 Milestone C	2	2018	2	2018
System Development: Hardware Development: T45 Hardware Development	1	2016	2	2018
Reviews: T45 Preliminary Design Review	4	2016	4	2016
Reviews: T45 Critical Design Review	4	2016	4	2016
Test & Evaluation: Technical Evaluation: T45 Integrated Test & Evaluation	2	2017	1	2018
Contract Awards: T45 Engineering Manufacturing Development	4	2015	4	2015
Deliveries: Lab Assests: T45 Lab Assets	3	2016	3	2016
Deliveries: Test Assests: T45 Test Assests	2	2017	2	2017
Training System Aircraft T6 A/B				
Acquisition Milestones: Milestone B	1	2016	1	2016
Acquisition Milestones: Milestone C	1	2017	1	2017
System Development: Market Research: Market Research	1	2014	3	2014
System Development: Justification & Approval: J&A	3	2014	4	2014
System Development: RFP Release: RFP Release	2	2015	2	2015
System Development: Proposal Evaluation: Proposal Evaluation	2	2015	3	2015
System Development: Development Contract Award: Contract Award	3	2015	3	2015
Reviews: T6 Preliminary Design Review	1	2016	1	2016
Reviews: T6 Critical Design Review	4	2016	4	2016
Test & Evalution: Acceptance Test: Acceptance Test	2	2017	1	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604212N *I Other Helicopter Development*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	789.161	24.910	35.099	11.101	-	11.101	4.092	4.109	4.228	4.315	Continuing	Continuing
1109: *CH/MH-53*	46.423	1.830	2.675	2.672	-	2.672	2.715	2.725	2.785	2.842	Continuing	Continuing
2415: *H-60 Development*	719.482	21.335	25.885	5.150	-	5.150	-	-	-	-	-	771.852
2460: *VH-3/VH-60*	23.256	1.484	6.539	3.279	-	3.279	1.377	1.384	1.443	1.473	Continuing	Continuing
3355: *MH-XX Development*	0.000	0.261	-	-	-	-	-	-	-	-	-	0.261
MDAP/MAIS Code: 282												

Note

Proj: 3355 MH-XX Development Budget Activity moved to PE 0604292N, Project Unit 2934 in FY2015 and out.

A. Mission Description and Budget Item Justification

This Program Element includes funding for the development support for improvements to current systems for CH/MH-53, MH-60 development, VH-3/VH-60, and MH-XX. The H-53 is the premier heavy lift helicopter for the Marine Corps and the only operational airborne mine sweeping platform for the Navy. H-53 RDT&E efforts focus on trade studies and risk reduction measures to identify candidate survivability, safety, avionics, cargo handling, cockpit and other airframe specific improvements to extend the service life. The MH-60S Helicopter has three primary mission areas; Combat Support, Armed Helo which includes the Fast Attack Craft/Fast Inshore Attack Craft (FAC/FIAC) threat response capabilities and Airborne Mine Countermeasures. The VH-3/VH-60 is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office. The MH-XX Development will provide the Navy's next generation Anti-Submarine Warfare, Mine Warfare, Surface Warfare, and Logistics support rotorcraft. MH-XX RDT&E includes all pre-system acquisition requirements with a focus on exploration of emerging technologies to minimize risk.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	25.458	46.154	11.321	-	11.321
Current President's Budget	24.910	35.099	11.101	-	11.101
Total Adjustments	-0.548	-11.055	-0.220	-	-0.220
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-11.055			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.548	-			
• Rate/Misc Adjustments	-	-	-0.220	-	-0.220

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604212N *I Other Helicopter Development*

Change Summary Explanation

Technical:
2460 VH-3/VH-60: Additional funding in FY's 2014-2016 dedicated to strategic communication Wideband capabilities as mandated and funded by the Department of Defense Chief Information Officer.

Schedule:
1109 CH/MH-53: Not Applicable

2415 AMCM: Not Applicable

2415 Forward Firing Weapon: Not Applicable

2460 VH-3/VH-60: The schedule has been updated to reflect the evaluation of a Wideband Line of Sight System (WBLoS) for integration, prototype and test for the VH Communications Suite.

3355 MH-XX Development: Not Applicable

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604212N / *Other Helicopter Development*	Project (Number/Name) 1109 / *CH/MH-53*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1109: *CH/MH-53*	46.423	1.830	2.675	2.672	-	2.672	2.715	2.725	2.785	2.842	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The H-53 helicopter is the premier heavy lift helicopter for the Marine Corps and the only operational airborne mine sweeping platform for the Navy. Through FY2020, H-53 efforts will continue to develop and qualify components, prior to production and approval decisions, in order to replace obsolete system components. Emphasis will be placed on supportability improvement modifications that will sustain the H-53 aircraft until the transition of the H-53K is complete. These efforts combined, will significantly improve the readiness of the H-53 fleet while reducing long term operational and supportability costs. Survivability efforts to address improved situational awareness to pilots will include improved Digital Interoperability and improve Degraded Visual Environment Awareness. Modeling and simulation will be used to the maximum practical extent throughout this effort. Manned Flight Simulator will be utilized to develop, install and test interim modifications to existing H-53 legacy avionics, while maintaining the original basic system footprint and functionality. As a part of this effort, a complete Electro Magnetic Vulnerability assessment will be required for the affected and/or modified systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: H-53 Avionics	0.392	0.667	1.110	-	1.110
Articles:	-	-	-	-	-

FY 2014 Accomplishments:
Integrated software applique for cockpit and avionics improvements, to include the development of new sensors. Developed flight control computer and test set design modifications to address anticipated obsolescence issues. Conducted Business Case Analyses to determine impact of high Operation and Support cost drivers and address alternatives to mitigate identified issues.

FY 2015 Plans:
Integrate software applique for cockpit and avionics improvements, to include the development of new sensors. Develop flight control computer and test set design modifications to address anticipated obsolescence issues. Conduct Business Case Analyses to determine impact of high Operation and Support cost drivers and address alternatives to mitigate identified issues.

FY 2016 Base Plans:
Integrate software applications for cockpit and avionics improvements, to include the development of new sensors. Investigate solutions to address the degraded visual environment. Develop flight control computer and test set design modifications to address anticipated obsolescence issues. Conduct Business Case Analyses

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 1109 / *CH/MH-53*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
to determine impact of high Operation and Support cost drivers and address alternatives to mitigate identified issues. ***FY 2016 OCO Plans:*** N/A					
Title: H-53 Survivability	0.316	0.445	0.583	-	0.583
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Performed trade studies, risk reduction, design, development, model, integration and test activities for H-53 survivability systems which included effectiveness of the ballistic vulnerability (armor) package. ***FY 2015 Plans:*** Perform trade studies, risk reduction, design, development, model, integration and test activities for H-53 survivability systems to include effectiveness of the ballistic vulnerability (armor) package. ***FY 2016 Base Plans:*** Perform trade studies, risk reduction, design, development, model, integration and test activities for H-53 survivability to include increased situational awareness via digital interoperability. ***FY 2016 OCO Plans:*** N/A					
Title: H-53 Propulsion	0.315	0.524	0.300	-	0.300
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided in-house, field activity, and contractor support of IPTs to allow for studies and analyses, preparation of acquisition documentation and examination of equipment and avionics for the H-53. Efforts included, but were not limited to, government development support, engineering support, product management support, system engineering and logistics support, and travel for the H-53 program. ***FY 2015 Plans:*** Provide in-house, field activity, and contractor support of IPTs to allow for studies and analyses, preparation of acquisition documentation and examination of equipment and avionics for the H-53. Efforts include, but are					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 1109 / *CH/MH-53*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
not limited to, government development support, engineering support, product management support, system engineering and logistics support, and travel for the H-53 program. ***FY 2016 Base Plans:*** Conduct Business Case Analyses to determine impact of high Operation and Support Propulsion cost drivers and address alternatives to mitigate. ***FY 2016 OCO Plans:*** N/A					
Title: Project Management Support	0.505	0.715	0.397	-	0.397
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided in-house, field activity, and contractor support of IPTs to allow for studies and analyses, preparation of acquisition documentation and examination of equipment and avionics for the H-53. Efforts included, but were not limited to, government development support, engineering support, product management support, system engineering and logistics support, and travel for the H-53 program. ***FY 2015 Plans:*** Provide in-house, field activity, and contractor support of IPTs to allow for studies and analyses, preparation of acquisition documentation and examination of equipment and avionics for the H-53. Efforts include, but are not limited to, government development support, engineering support, product management support, system engineering and logistics support, and travel for the H-53 program. ***FY 2016 Base Plans:*** Provide in-house, field activity, and contractor support of IPTs to allow for studies and analyses, preparation of acquisition documentation and examination of equipment and avionics for the H-53. Efforts include, but are not limited to, government development support, engineering support, product management support, system engineering and logistics support, and travel for the H-53 program. ***FY 2016 OCO Plans:*** N/A					
Title: H-53 Airframe	0.302	0.324	0.282	-	0.282
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 1109 / *CH/MH-53*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Performed trade studies, risk reduction, design, development, integration and test activities for the H-53 airframe to include, but not limited to, main rotor head, cowlings, aircraft structure, drive train, and various dynamic components. ***FY 2015 Plans:*** Perform trade studies, risk reduction, design, development, integration and test activities for the H-53 airframe to include, but not limited to, main rotor head, cowlings, aircraft structure, drive train, and various dynamic components ***FY 2016 Base Plans:*** Continue to develop and qualify components, prior to production and approval decisions, in order to replace obsolete system components. Perform trade studies, risk reduction, design, development, integration and test activities for the H-53 airframe to include, but not limited to, main rotor head, cowlings, aircraft structure, drive train, and various dynamic components. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.830	2.675	2.672	-	2.672

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0528: *H-53 Series*	53.172	36.619	46.887	-	46.887	47.454	34.331	24.370	31.764	148.171	1,836.317

Remarks

D. Acquisition Strategy

This is a non-ACAT program. H-53 RDT&E efforts will focus on trade studies and risk reduction measures to identify candidate survivability, interoperability, safety, avionics, cargo handling, cockpit and other airframe specific improvements to extend the service life.

E. Performance Metrics

Successfully perform studies, analysis and develop software to address emergent H-53 issues. Successfully support developmental and operation test activities to qualify aircraft modifications/upgrades.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604212N / *Other Helicopter Development*	Project (Number/Name) 1109 / *CH/MH-53*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWC AD : Patuxent River, MD	3.277	0.394	Nov 2013	0.554	Nov 2014	0.761	Nov 2015	-		0.761	Continuing	Continuing	Continuing
Systems Engineering Contract	C/CPFF	Sikorsky : Stratford, CT	0.000	-		0.151	Feb 2015	0.151	Feb 2016	-		0.151	-	0.302	0.302
Prior Year Prod Dev no longer funded in the FYDP	Various	Various : Various	19.475	-		-		-		-		-	-	19.475	-
		Subtotal	22.752	0.394		0.705		0.912		-		0.912	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	Various	Various : Various	2.541	0.156	Mar 2014	0.303	Mar 2015	0.670	Mar 2016	-		0.670	Continuing	Continuing	Continuing
GFE	Various	NAWC AD : Patuxent River, MD	2.506	0.380	Nov 2013	0.663	Nov 2014	0.450	Nov 2015	-		0.450	Continuing	Continuing	Continuing
		Subtotal	5.047	0.536		0.966		1.120		-		1.120	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various : Various	6.563	0.550	Mar 2014	0.549	Mar 2015	0.268	Mar 2016	-		0.268	Continuing	Continuing	Continuing
		Subtotal	6.563	0.550		0.549		0.268		-		0.268	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NAWC AD : Patuxent River, MD	5.646	0.286	Nov 2013	0.326	Nov 2014	0.325	Nov 2015	-		0.325	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 1109 / *CH/MH-53*

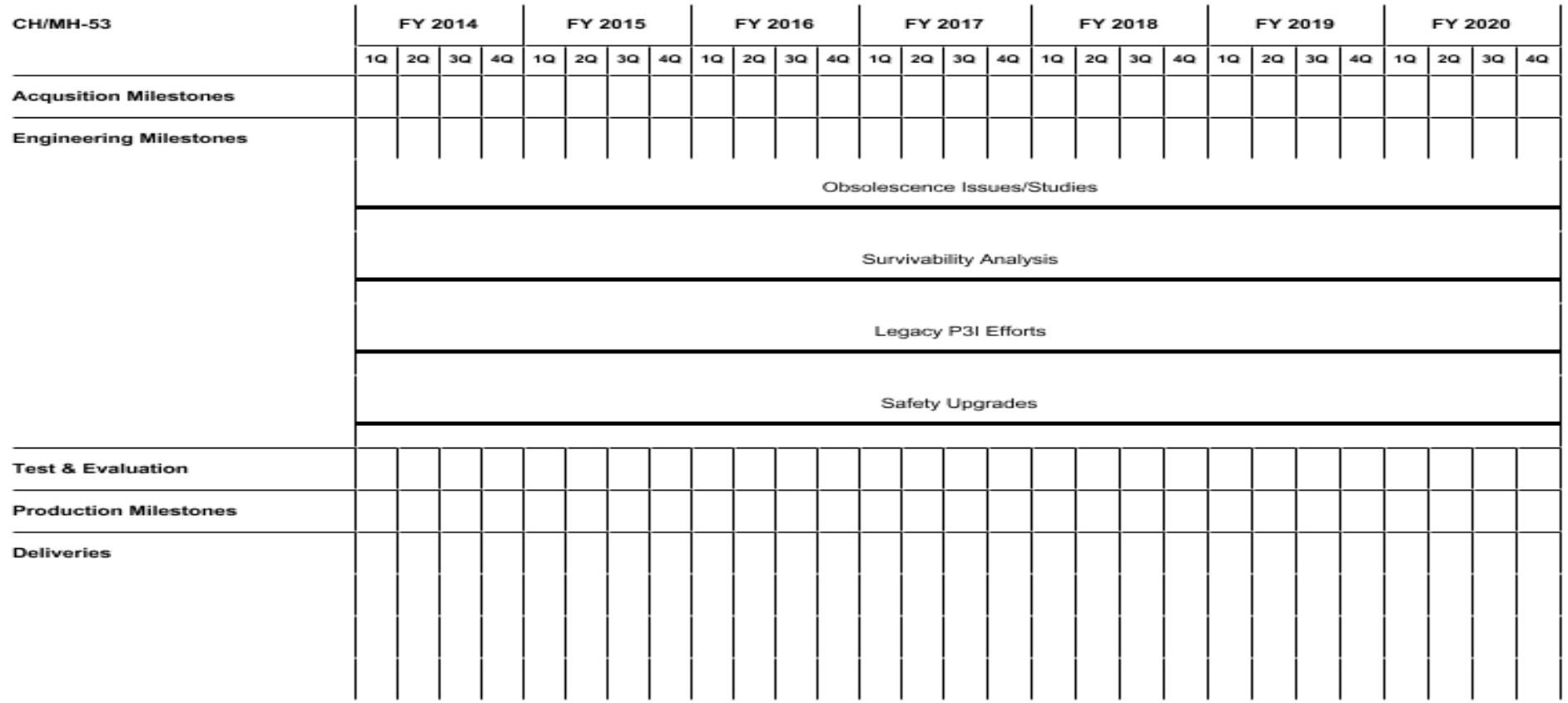
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	Various : Various	1.741	0.064	Oct 2013	0.129	Oct 2014	0.047	Oct 2015	-		0.047	Continuing	Continuing	Continuing
Prior Year Mgmt no longer funded in the FYDP	Various	Various : Various	4.674	-		-		-		-		-	-	4.674	-
		Subtotal	12.061	0.350		0.455		0.372		-		0.372	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	46.423	1.830		2.675		2.672		-		2.672	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 1109 / *CH/MH-53*



2016PB - 0604212N - 1109

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 1109 / *CH/MH-53*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CH/MH-53				
Engineering Milestones: - Obsolescence Issues/Studies	1	2014	4	2020
Engineering Milestones: - Survivability Analysis	1	2014	4	2020
Engineering Milestones: - Legacy P3I Efforts	1	2014	4	2020
Engineering Milestones: - Safety Upgrades	1	2014	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604212N / *Other Helicopter Development*	Project (Number/Name) 2415 / *H-60 Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2415: *H-60 Development*	719.482	21.335	25.885	5.150	-	5.150	-	-	-	-	-	771.852
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Helicopter Combat Support mission provides organic fleet Armed Helo Fast Attack Craft/Fast Inshore Attack Craft (FAC/FIAC) threat response, maintains forward deployed fleet sustainability through rapid airborne delivery of materials and personnel and supports amphibious operations through search and rescue coverage. The aircraft conduct vertical replenishment, day/night ship-to-ship, ship-to-shore, and shore-to-ship external transfer of cargo; internal transport of passengers, mail and cargo, vertical on board delivery; airhead operations, and day/night search and rescue. Armed Helo and Airborne Mine Countermeasures (AMCM) were added as primary mission areas for the MH-60S as block upgrades to the platform. The MH-60S Operational Requirements Document (ORD) was modified in May 2000 to add AMCM as a primary mission for the MH-60S. ORD Change II was validated and approved by the Joint Requirements Oversight Council on 15 February 2008 updating key performance parameters. AMCM provides an organic capability for the Littoral Combat Ship Mine Countermeasures Mission Package. Armed Helo provides Special Warfare Support, Combat Search and Rescue, Surface Warfare and Maritime Interdiction Operations capability with Link 16 and Forward Firing Weapons (FFW) which includes rockets and anti-swarm weapons to address the FAC/FIAC threat. Aircraft secondary roles include torpedo and drone recovery, noncombatant evacuation operations, and SEAL team and Explosive Ordnance Disposal support. Additionally, a service life assessment program, trade studies, and analysis efforts to develop and qualify components to replace obsolete system components will be commenced.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: MH-60S Airframe Development and Integration	3.539	1.550	-	-	-
Articles:	-	-	-	-	-
Description: The effort includes analysis, design, integration, test, and support for FFW/Rockets to include Advanced Precision Kill Weapon System (APKWS) and Digital Rocket Launcher with mixed loads and enhancements. FFW training development to include situational analysis and Instructional System Development documentation. Conduct Service Life Assessment Program (SLAP), trade studies and analysis, develop and qualify components in order to replace obsolete system components on the MH-60S. Accomplishments include design, development, integration, correction of deficiencies and support of the AMCM unique items into the MH-60S airframe; Test and Evaluation on AMCM Mission Kits for the sensor/weapon systems integration on the MH-60S; and AMCM training development.					
FY 2014 Accomplishments: Continued AMCM sensor/weapon system testing at a significantly de-scoped level due to PL 113.6, Budget Control Act and FY 2014 Appropriations Act . Analyzed, designed, integrated, and supported follow-on FFW/					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2415 / *H-60 Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Rockets capability to include APKWS, DRL with mixed loads, FFW enhancements and training development of FFW capability ***FY 2015 Plans:*** Continue to analyze, design, integrate, and support follow-on Forward Firing Weapons (FFW)/Rockets capability to include Digital Rocket Launcher with mixed loads and training development of FFW capability. Complete Airborne Mine Countermeasures (AMCM) sensor/weapon system integration. Conduct SLAP and obsolescence trade studies and analysis. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: MH-60S Avionics Development and Integration	5.602	10.707	-	-	-
Articles:	-	-	-	-	-
Description: This effort includes developmental efforts on the avionics architecture and systems of the MH-60S helicopter. Limited software development/improvements for targeting to support FFW/Rockets integration to include Advanced Precision Kill Weapon System (APKWS) and Digital Rocket Launcher (DRL) with mixed loads. Training development to include situational analysis, instructional analysis and training updates for FFW Rockets and various AMCM sensors. Development of the operator consoles, as well as software modifications/ improvements, to support AMCM systems. Link 16 software development/upgrades and test for AMCM messages. ***FY 2014 Accomplishments:*** Continued AMCM test efforts at minimal levels; Support FFW/Rockets integration to include APKWS, DRL with mixed loads and limited avionics hardware and associated software improvements to enhance FFW/Rockets effectiveness/targeting. Efforts for AMCM test and FFW/Rockets effectiveness were de-scoped due to PL 113.6, Budget Control Act and FY 2014 Appropriations Act. ***FY 2015 Plans:*** Complete the FFW/Rockets integration of DRL with mixed loads. Continue the limited avionics hardware and software improvements/enhancements for enhancements/targeting. Complete AMCM test efforts. ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2415 / *H-60 Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 OCO Plans:*** N/A					
Title: MH-60S Test, Engineering, Logistics, Management Support	12.194	13.628	5.150	-	5.150
Articles:	-	-	-	-	-
Description: Navy field activity systems engineering, logistics support, management and travel for the FFW/ Rockets integration to include Advanced Precision Kill Weapon System (APKWS), Digital Rocket Launcher (DRL) with mixed loads and AMCM MH-60S Sensor/Weapon Systems Integration team for airframe and avionics. Support/conduct MH-60S aircraft integration testing for FFW/Rockets and enhancements. AMCM sensor/weapon system integration testing and support. Additionally, provide support to a service life assessment program and trade studies and analysis efforts. ***FY 2014 Accomplishments:*** Supported AMCM test and integration of AMCM 2B sensor/weapon system, follow-on FFW Rockets Integration/ testing. ***FY 2015 Plans:*** Continue Forward Firing Weapons (FFW)/Rockets integration/testing for DRL with mixed loads, FFW enhancements and Airborne Mine Countermeasures (AMCM) sensor/weapon system integration. Changes to the R-2A for MH-XX: ***FY 2016 Base Plans:*** Complete Forward Firing Weapons (FFW)/Rockets integration/testing for DRL with mixed loads, and FFW enhancements. Commence support for a service life assessment program and trade studies and analysis efforts. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	21.335	25.885	5.150	-	5.150

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN1/017900: *MH-60S*	395.708	182.140	28.232	-	28.232	-	-	-	-	-	6,775.450

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2415 / *H-60 Development*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN6/060510: *MH-60S SPARES*	2.592	-	-	-	-	-	-	-	-	-	178.109
• APN5/053000: *H-60 MODS*	38.085	32.186	32.050	-	32.050	27.688	22.581	34.291	33.037	159.347	553.670

Remarks

APN5/0300 reflects only MH-60S specific OSIPS 016-04 and 09-07 funding.

D. Acquisition Strategy

Armed Helo and AMCM are elements of the existing MH-60S ACAT IC Program. MH-60S employed an evolutionary acquisition approach via the MH-60S Block Upgrades. This allowed for modification of systems still in early development. The block upgrades maximize commonality across all MH-60S missions and all Armed Helo/AMCM weapon systems, including logistics, training and maintenance. The MH-60S block upgrades are as follows:
-Block 1 - Combat Support Helicopter
-Block 2 - Organic Airborne Mine Countermeasures
-Block 3 - Armed Helo

Block 2 aircraft are being upgraded to include Armed Helo Capability.

E. Performance Metrics

Successfully complete FFW/ Rockets Developmental/Operational Testing. Successfully achieve Initial Operational Capability for Airborne Mine Countermeasures and Littoral Combat Ship Mine Countermeasures Mission Package.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2415 / *H-60 Development*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Dev - Airframe*	SS/CPIF	Sikorsky : Stratford, CT	170.465	0.100	Jul 2014	0.300	Mar 2015	-		-		-	-	170.865	170.865
Primary Hdw Dev - Airframe FFW	SS/CPFF	Sikorsky : Stratford, CT	11.130	0.345	Mar 2014	1.250	Aug 2015	-		-		-	-	12.725	12.725
Primary Hdw Dev - Avionics*	SS/CPIF	Lockheed Martin : Owego, NY	221.700	1.674	May 2014	1.000	Mar 2015	-		-		-	-	224.374	224.374
Primary Hdw Dev - Avionics*FFW	SS/CPIF	Lockheed Martin : Owego, NY	7.028	0.868	Mar 2014	2.500	Mar 2015	-		-		-	-	10.396	10.396
Primary Hdw Dev - Avionics*FFW	MIPR	Army, DOTC : Picatinny, NJ	0.000	2.650	May 2014	3.060	Nov 2014	-		-		-	-	5.710	-
Primary Hdw Dev - Avionics*FFW	TBD	Raytheon : TBD	0.000	-		2.622	Mar 2015	-		-		-	-	2.622	2.622
Primary Hdw Dev - CSTRS	WR	NSWC : Panama City, FL	22.734	0.400	Feb 2014	-		-		-		-	-	23.134	-
Primary Hdw Dev - CSTRS	MIPR	CECOM : APG, MD	13.029	0.600	May 2014	-		-		-		-	-	13.629	-
Primary Hdw Dev - Training	TBD	TBD : TBD	0.000	-		1.150	Feb 2015	-		-		-	-	1.150	-
Primary Hdw Dev - Avionics FFW	Various	Various : China Lake, CA	0.000	-		0.375	Dec 2014	-		-		-	-	0.375	-
Prior year Product Dev cost no longer funded in the FYDP	Various	Various : Various	51.554	-		-		-		-		-	-	51.554	-
		Subtotal	497.640	6.637		12.257		-		-		-	-	516.534	-

Remarks

Remarks: FY05-FY12 SS/CPIF

FY12-FY14 Primary Hdw Dev- Avionics - Lockheed Martin includes Progress Payments aligned to Fixed Price CLIN only.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604212N / *Other Helicopter Development*	Project (Number/Name) 2415 / *H-60 Development*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ILS - MSS (Non FFRDC)	Various	Various : Various	3.074	0.227	Dec 2013	0.150	Dec 2014	-		-		-	-	3.451	-
Integrated Logistics Support	WR	Various : Various	7.029	0.498	Dec 2013	0.450	Dec 2014	-		-		-	-	7.977	-
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	8.589	-		-		-		-		-	-	8.589	-
		Subtotal	18.692	0.725		0.600		-		-		-	-	20.017	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Evaluation	WR	NAWCAD : Patuxent River, MD	47.638	5.179	Nov 2013	4.000	Dec 2014	-		-		-	-	56.817	-
Dev Test & Evaluation	WR	Various : Various	25.765	0.913	Nov 2013	0.200	Dec 2014	-		-		-	-	26.878	-
Operational Test & Evaluation	WR	OPTEVFOR : Norfolk, VA	5.916	1.203	Feb 2014	3.725	Dec 2014	-		-		-	-	10.844	-
Prior year T&E cost no longer funded in the FYDP	Various	Various : Various	6.159	-		-		-		-		-	-	6.159	-
		Subtotal	85.478	7.295		7.925		-		-		-	-	100.698	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Eng & Tech Srvc (Non FFRDC)	Various	Various : Various	19.307	2.300	Jan 2014	1.581	Dec 2014	0.700	Nov 2015	-		0.700	-	23.888	-
Government Engineering Support	WR	NAWCAD : Patuxent River, MD	15.643	1.773	Nov 2013	1.374	Dec 2014	-		-		-	-	18.790	-
Government Engineering Support	WR	NSWC : Panama City, FL	32.078	0.667	Nov 2013	0.500	Dec 2014	-		-		-	-	33.245	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2415 / *H-60 Development*

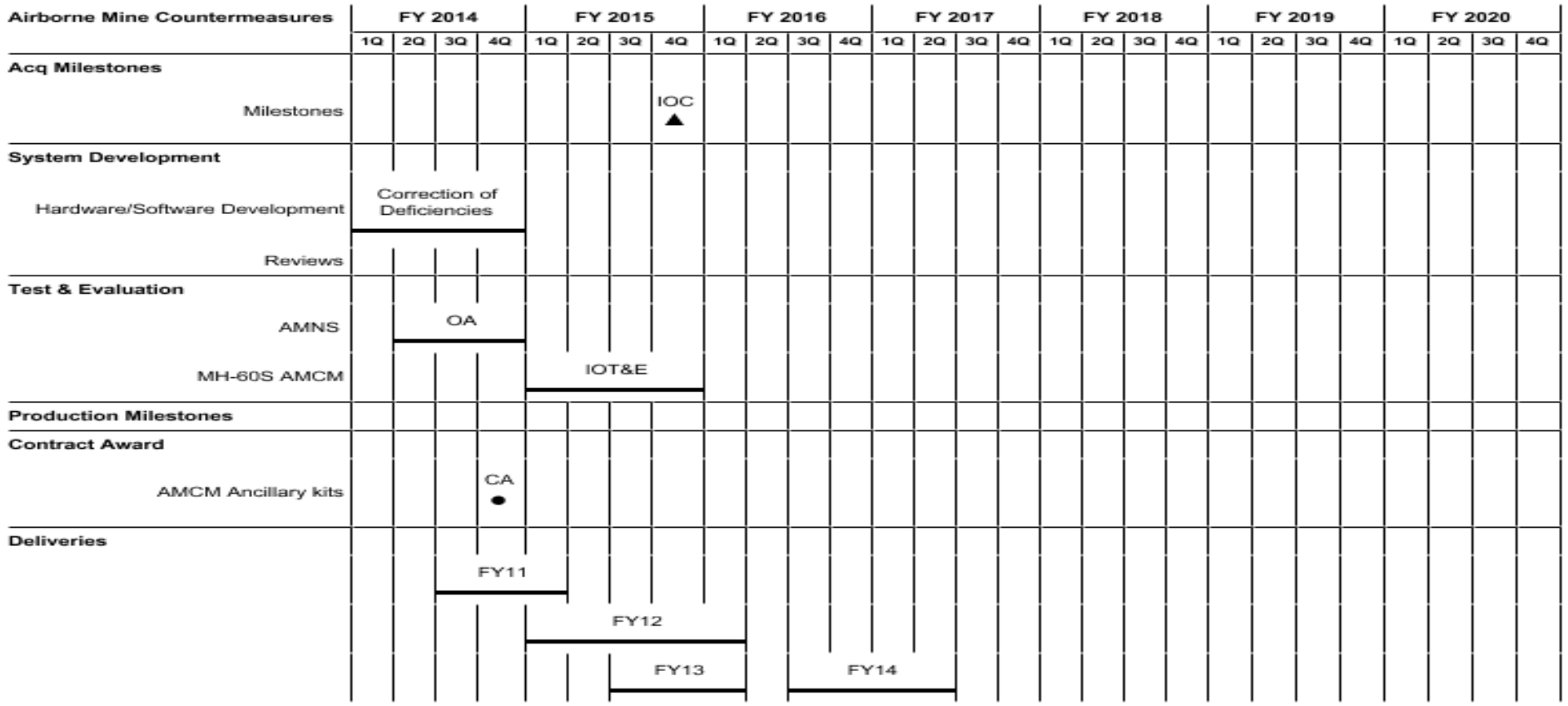
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	Various : Various	25.800	1.470	Dec 2013	1.118	Dec 2014	4.430	Dec 2015	-		4.430	-	32.818	-
Program Mgmt Support CSS	WR	Various : Various	6.175	0.180	Dec 2013	0.180	Jan 2015	-		-		-	-	6.535	-
Program Mgmt Support	WR	Various : Various	14.528	0.230	Nov 2013	0.250	Dec 2014	-		-		-	-	15.008	-
Travel	WR	Various : Various	3.157	0.058	Nov 2013	0.100	Oct 2014	0.020	Oct 2015	-		0.020	-	3.335	-
Prior year Mgmt cost no longer funded in the FYDP	Various	Various : Various	0.984	-		-		-		-		-	-	0.984	-
		Subtotal	117.672	6.678		5.103		5.150		-		5.150	-	134.603	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	719.482	21.335		25.885		5.150		-		5.150	-	771.852	-

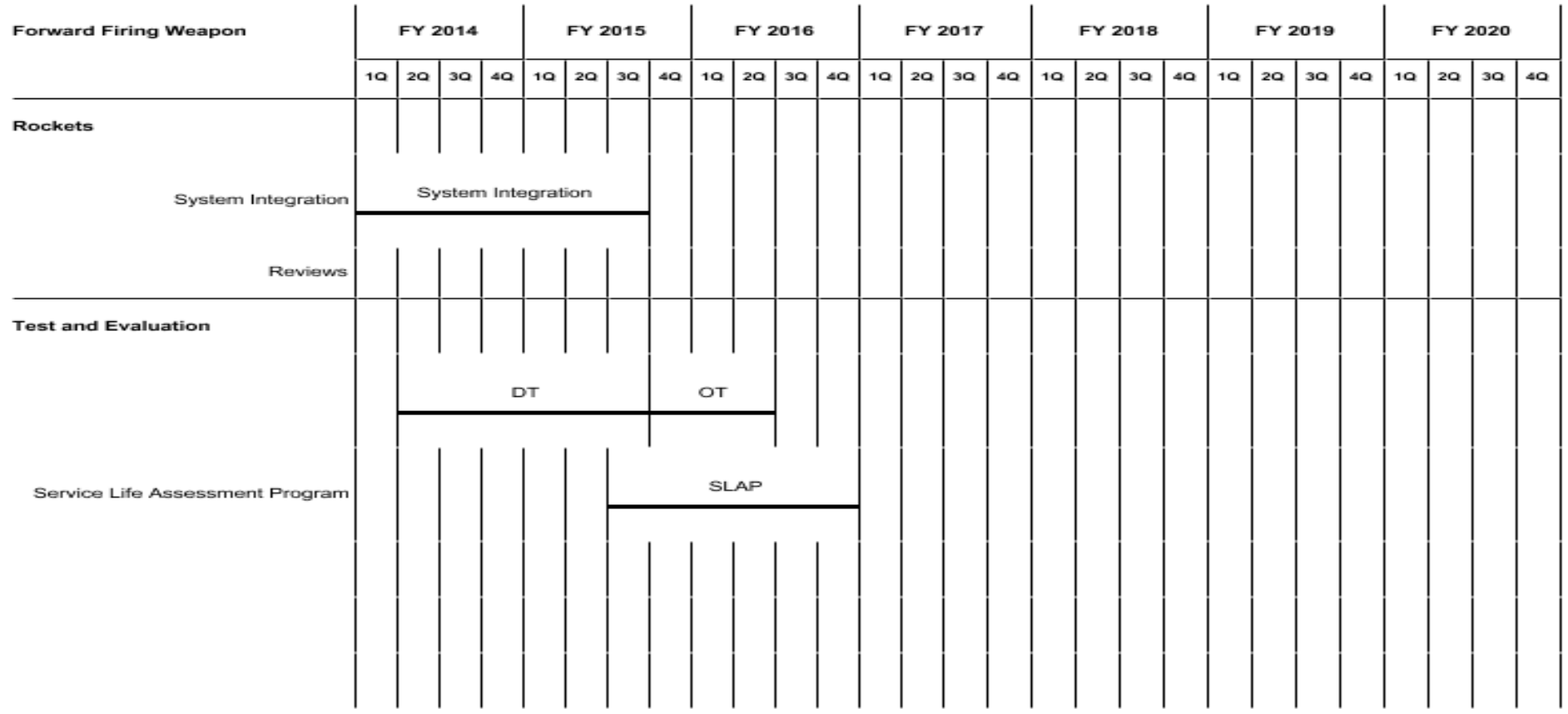
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2415 / *H-60 Development*



2016PB - 0604212N - 2415

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2415 / *H-60 Development*



2016PB - 0604212N - 2415

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2415 / *H-60 Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Airborne Mine Countermeasures				
Acq Milestones: Milestones: - Initial Operational Capability-AMCM	4	2015	4	2015
System Development: Hardware/Software Development: AMCM Correction of Deficiencies	1	2014	4	2014
Test & Evaluation: AMNS: - Operational Assessment (OA) (AMNS)	2	2014	4	2014
Test & Evaluation: MH-60S AMCM: Initial Operational Test and Evaluation (IOT&E)	1	2015	4	2015
Contract Award: AMCM Ancillary kits: - Contract Award - Production (AMCM Ancillary Kits-FY14)	4	2014	4	2014
Deliveries: - LRIP Delivery (AMCM Ancillary Kits-FY11)	3	2014	1	2015
Deliveries: - Production Delivery (AMCM Ancillary Kits-FY12)	1	2015	1	2016
Deliveries: - Production Delivery (AMCM Ancillary Kits-FY13)	3	2015	1	2016
Deliveries: - Production Delivery (AMCM Ancillary Kits-FY14)	3	2016	2	2017
Forward Firing Weapon				
Rockets: System Integration: System Integration	1	2014	3	2015
Test and Evaluation: Developmental Testing (DT) (FFW)	2	2014	3	2015
Test and Evaluation: Operational Testing (OT) (FFW)	4	2015	2	2016
Test and Evaluation: Service Life Assessment Program: SLAP	3	2015	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604212N / *Other Helicopter Development*	Project (Number/Name) 2460 / *VH-3/VH-60*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2460: *VH-3/VH-60*	23.256	1.484	6.539	3.279	-	3.279	1.377	1.384	1.443	1.473	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Marine Helicopter Squadron One (HMX-1) is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office. Currently two Type, Model, Series aircraft are used by HMX-1 for the Presidential support mission - the VH-3D and the VH-60N. This project currently funds the VH Executive Helicopter's Aircraft Life Management Program. The VH program will develop, design, test and install the WBLOS Executive Strategic communication system into both the VH-3D and the VH-60N aircraft. This effort will require separate efforts with regards to Software, Hardware, and installation requirements for each of the two platforms. The VH-3D effort will be handled within the NAVAIR envelope, with the VH-60N requiring Rockwell Collins to modify the current Operational Flight Program (OFP) software to support the new WBLOS Executive Strategic communication system.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: VH Executive Helicopter Aircraft Life Management Program	1.484	6.539	3.279	-	3.279
Articles:	-	-	-	-	-
Description: VH Executive Helicopter Aircraft Life Management Program: Provides for management and improvement of all Executive Helicopter systems readiness including safety, operational weight, mission availability, structural integrity, component reliability, maintainability, software, and obsolescence issues as they arise.					
FY 2014 Accomplishments: Provided government support and contract awards for efforts associated with the Aircraft Life Management Program for VH Executive Helicopters. Evaluated a Wideband Line of Sight (WBLoS) system for prototype and tested for integration into the VH Communications Suite.					
FY 2015 Plans: Provide government support and contract awards for efforts associated with the Aircraft Life Management Program for VH Executive Helicopters. Support design, integration, and test of a WBLoS System for Executive Lift Platforms.The majority of the RDT&E,N WBLoS hardware and software integration work is in FY 2015 using the VH software support activity.					
FY 2016 Base Plans: Provide initial capability of Phase II WBLoS into 1st VH-3D Executive helicopter, to include installation, testing and verification actions associated with performance, drawings, and schematics. Support software development					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2460 / *VH-3/VH-60*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
and testing of 1st VH60N aircraft OFP as well as initial aircraft installation design efforts. Complete software testing of the Phase II WBLoS software OFP, and begin the effort of Phase III of the WBLoS system. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.484	6.539	3.279	-	3.279

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/056600: *Executive Helicopters Series*	65.537	68.128	76.138	-	76.138	70.779	63.199	52.842	44.475	-	1,001.199

Remarks

D. Acquisition Strategy

VH Executive Helicopter Aircraft Life Management Program will include trade studies and risk reduction efforts necessary to address safety, operational weight, mission availability, structural integrity, component reliability, maintainability, software, and obsolescence issues as they arise. Results of these trade studies and risk reduction efforts will lead to modifications to be addressed through the program's Obsolescence Management Program and VH Comm Suite Upgrade Operational Safety and Improvement Programs as directed by the Deputy Secretary of Defense. The VH program will develop, design, test and install the WBLOS Executive Strategic communication system into both the VH-3D and the VH-60N aircraft. This effort will require separate efforts with regards to Software, Hardware, and installation requirements for each of the two platforms. The VH-3D effort with be handled within the NAVAIR envelope, with the VH-60N requiring Rockwell Collins to modify the current OFP software to support the new WBLOS Executive Strategic communication system.

E. Performance Metrics

Completion of VH Executive Helicopter Aircraft Life Management Program efforts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2460 / *VH-3/VH-60*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/CPFF	Sikorsky : Stratford, CT	8.675	-		-		-		-		-	7.206	15.881	-
Primary HW Development-WBLoS	TBD	Sikorsky : Stratford, CT	0.000	-		0.950	Dec 2014	-		-		-	Continuing	Continuing	Continuing
Software Development-WBLoS	SS/FFP	Rockwell Collins : Cedar Rapids, IA	0.000	-		2.500	Dec 2014	-		-		-	-	2.500	-
Systems Engineering-WBLoS	WR	NAWCAD : Patuxent River, MD	0.000	-		1.023	Dec 2014	0.768	Dec 2015	-		0.768	-	1.791	-
Prior Year Prod Dev no longer funded in the FYDP	Various	Various : Various	5.321	-		-		-		-		-	-	5.321	-
		Subtotal	13.996	-		4.473		0.768		-		0.768	-	-	-

Remarks

Primary Hardware Development/WBLoS-Sikorsky: Develop and build installation drawings to support the WBLoS system.
Software Development/WBLoS-Rockwell: Develop and code the OFP to support the WBLoS system in the VH-60N.
System Engineering/WBLoS-NAWCAD: Develop the OFP and Communications Interface Unit (CIU) interface to support the WBLoS system.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation-WBLoS	WR	NAWCAD : Patuxent River, MD	0.000	-		1.168	Dec 2014	1.688	Nov 2015	-		1.688	Continuing	Continuing	Continuing
		Subtotal	0.000	-		1.168		1.688		-		1.688	-	-	-

Remarks

Development Test & Evaluation/WBLoS-NAWCAD: Perform developmental test on Phase II for the VH-3D and VH-60N.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2460 / *VH-3/VH-60*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support-WBLoS	WR	NAWCAD : Patuxent River, MD	8.576	0.917	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Program Management Support	WR	NAWCAD : Patuxent River, MD	0.493	0.272	Nov 2013	0.777	Dec 2014	0.793	Nov 2015	-		0.793	Continuing	Continuing	Continuing
System Engineering-WBLoS	SS/CPFF	NAVSEA : Washington Navy Yard, DC	0.000	0.255	Aug 2014	0.100	Feb 2015	-		-		-	-	0.355	-
Travel	Various	Various : Various	0.191	0.040	Oct 2013	0.021	Oct 2014	0.030	Oct 2015	-		0.030	Continuing	Continuing	Continuing
		Subtotal	9.260	1.484		0.898		0.823		-		0.823	-	-	-

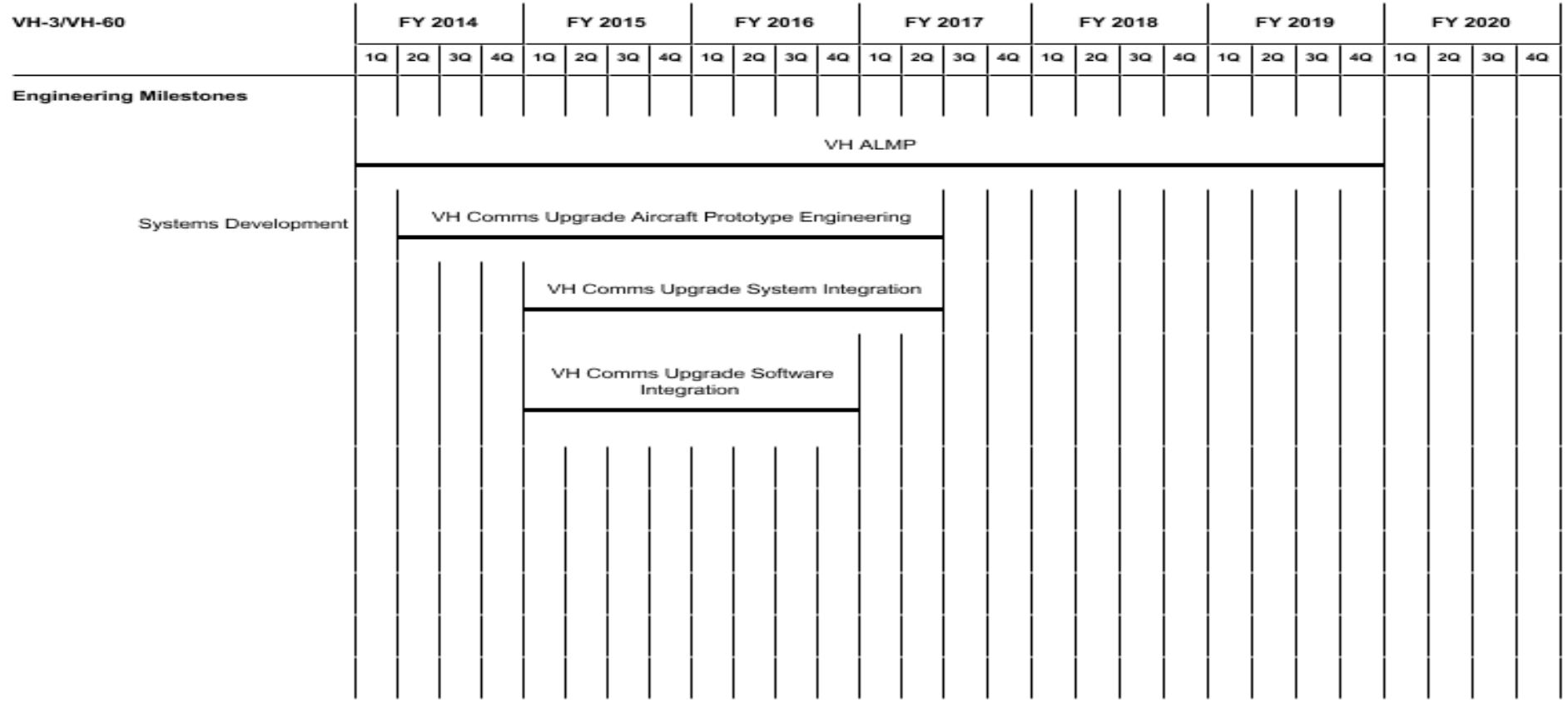
Remarks

Government Engineering Support/WBLoS-NAWCAD: Provide engineering support for the Phase II integration of WBLoS.
System Engineering/WBLoS-NAVSEA: Develop a WiFi system to intergrate into the WBLoS system.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	23.256	1.484		6.539		3.279		-		3.279	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2460 / *VH-3/VH-60*



2016PB - 0604212N - 2460

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 2460 / *VH-3/VH-60*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
VH-3/VH-60				
Engineering Milestones: VH-3D / VH-60N ALMP	1	2014	4	2019
Engineering Milestones: Systems Development: VH Comms Upgrade Aircraft Prototype Engineering and Flight Test	2	2014	2	2017
Engineering Milestones: Systems Development: VH Comms Upgrade System Integration	1	2015	2	2017
Engineering Milestones: Systems Development: VH Comms Upgrade Software Integration	1	2015	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604212N / *Other Helicopter Development*	Project (Number/Name) 3355 / *MH-XX Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3355: *MH-XX Development*	-	0.261	-	-	-	-	-	-	-	-	-	0.261
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Proj: 3355 MH-XX Development Budget Activity moved to PE 0604292N, Project Unit 2934, in FY2015 and out.

A. Mission Description and Budget Item Justification

The MH-XX project directs Naval Aviation developmental activities in support of the replacement of the Navy H-60 series helicopters, multi-mission medium lift helicopter capability, in the 2028 timeframe. These aircraft will be used extensively to protect Joint assets from airborne, surface, and sub-surface threats. Other supported mission areas will include Combat Search and Rescue, Naval Special Warfare, Humanitarian Assistance/Disaster Relief, Logistics, and Medical Evacuation. Specific developmental activities will include: capability requirements definition supporting Initial Capabilities Document (ICD) approval; support to the Joint Multi-Role Technology Demonstrator (JMR TD) to explore key maritime enablers including Future Airborne Capability Environment (FACE), mission system interoperability, and shipboard compatibility; and affordability studies. These activities will result in completion of all pre-system acquisition documentation required for a Material Development Decision in first quarter FY 2017. These efforts will enable timely development of a system which provides best value to the Joint Warfighter and Naval Aviation while maintaining effective and efficient war fighting capability in support of the Navy's 30-year Aviation Plan.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: MH-XX Development Engineering Support	0.261	-	-	-	-
Articles:	-	-	-	-	-
Description: Provide research and development support for pre-Milestone A activities to enable recapitalization of the capabilities of the Navy H-60 Type/Model/Series.					
FY 2014 Accomplishments: Provided support for developmental activities which included modeling and simulation of identified capability gaps and engineering analysis					
FY 2015 Plans: Continue modeling and simulation; provide support for developmental activities which include capability requirements definition and development of the Initial Capabilities Document, Analysis of Alternatives (AOA) Study Guidance and AOA Study Plan.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 3355 / *MH-XX Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.261	-	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Provide research and development support for Pre-Milestone A activities, predominantly government, to enable recapitalization of the Navy H-60 Type/Model/Series.

E. Performance Metrics

Completion of Capability Requirements and Milestone Documentation.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 3355 / *MH-XX Development*

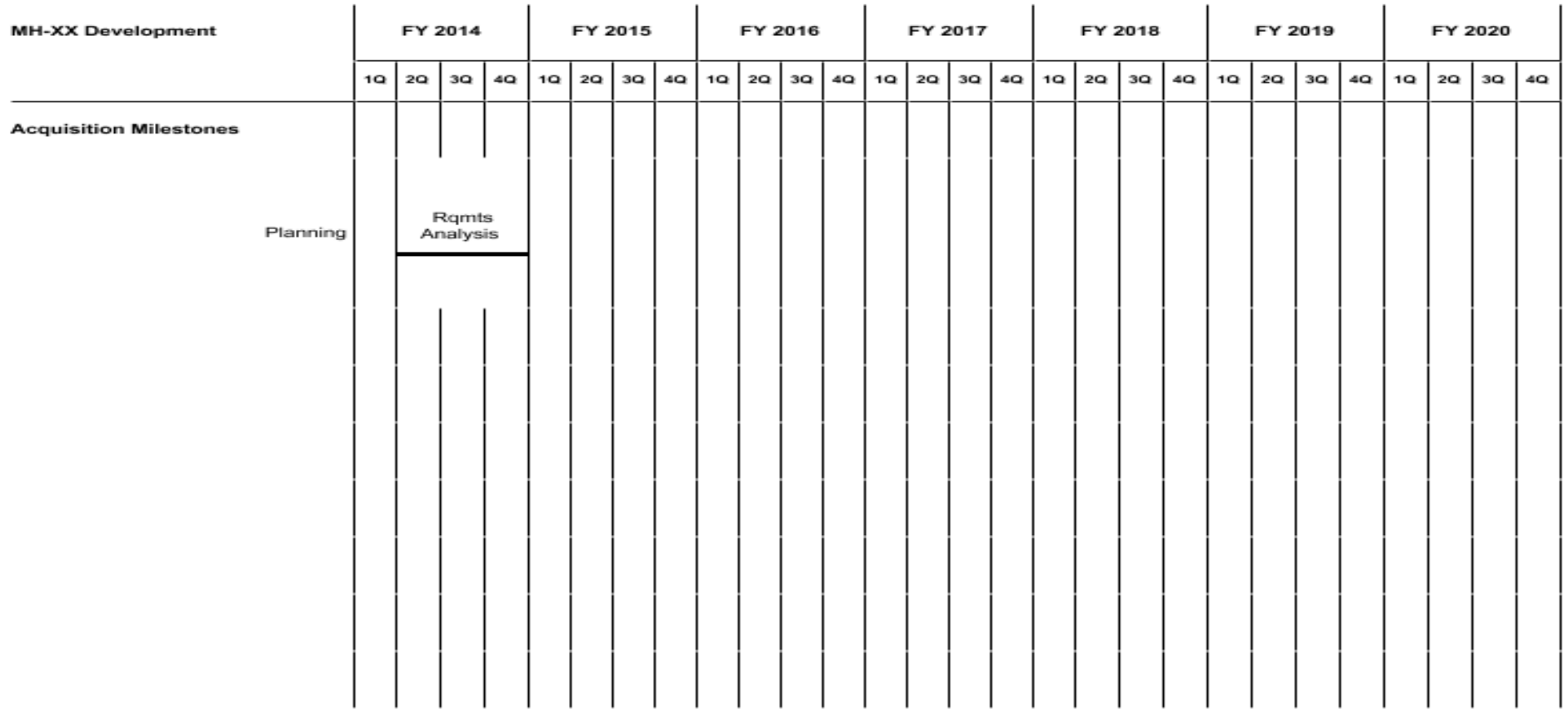
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Govt Engineering/Log Supt	WR	NAWC AD : Patuxent River MD	0.000	0.123	Mar 2014	-		-		-		-	-	0.123	-
Contr Engineering Supt	TBD	Various : Patuxent River MD	0.000	0.133	Mar 2014	-		-		-		-	-	0.133	-
Program Management	WR	NAWC AD : Patuxent River MD	0.000	-		-		-		-		-	-	-	-
Travel	Various	Various : Not Specified	0.000	0.005	Mar 2014	-		-		-		-	-	0.005	-
		Subtotal	0.000	0.261		-		-		-		-	-	0.261	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.261		-		-		-		-	-	0.261	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 3355 / *MH-XX Development*



2016PB - 0604212N - 3355

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604212N / *Other Helicopter Development*	**Project (Number/Name)** 3355 / *MH-XX Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MH-XX Development				
Acquisition Milestones: Planning: Requirements Analysis	2	2014	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604214N *I AV-8B Aircraft - Engine Dev*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	303.573	30.291	25.372	39.878	-	39.878	22.315	21.105	19.531	17.840	Continuing	Continuing
0652: *AV-8B*	303.573	30.291	25.372	39.878	-	39.878	22.315	21.105	19.531	17.840	Continuing	Continuing

A. Mission Description and Budget Item Justification

The program provides for AV-8B Design, Development, Integration and Test of various platform improvements such as: Engine Life Management Program (ELMP), Escape Systems, Joint Mission Planning System (JMPS), and Block upgrades to various mission systems, communications systems, navigation equipment, weapons carriage and countermeasures, and the Obsolescence Replacement (OR)/Readiness Management Plan (RMP) including structural, hydraulic, electrical, environmental, and mechanical systems. The JMPS is required as part of the Department of the Navy directed migration to a common Navy and Marine Corps mission planning system. OR/RMP represents all engineering activities for development and design to support aircraft safety flight clearances, concept explorations, and developments to support Program Objective Memorandum. The program's Evolutionary Acquisition Strategy includes Design, Development, Integration and Test activities under the consolidated effort of Block Developments: H6.1, H6.2 and follow-on block upgrades, to include a H7.0 block upgrade that will be required to implement Link 16 capability. The H6.1 update will provide enhancements and software corrections that improve the AV-8B platform combat effectiveness, survivability, and relevance through avionics processor upgrades, mission planning updates, and Litening Operational Flight Programs. A H6.2 update, including the Common Avionics Program, provides AV-8B a self-contained Global Positioning System navigation capability that is required to access preferred airspaces, and will include a Litening Operational Flight Program. AV-8B funding supports peculiar flight test requirements. The Link 16 integration effort, which will require an H7.0 Operational Flight Program (OFP) upgrade beyond H6.2, will provide interoperability, combat identification, situational awareness, and information sharing. Connection to the Link 16 network is vital to the AV-8B's ability to operate within some Command and Control situations and Operational Plans, as designed today, as well as provide a tactical capability for the more effective and safe prosecution of both airborne and ground targets. Continued AV-8B combat relevance through 2025 is critical to the Marine Air-Ground Task Force's ability to generate aviation combat power throughout the transition to F-35B. J-series, K-series, Tactical Targeting Network Technology, and other emerging datalink technology messages are required to support current and future mission threads. Linked performance on par with current tactical platforms as well as design to communicate with F-35 is required for the AV-8B to remain tactically relevant to sundown. AIM-120 unique platform flight test will be required to utilize updated AIM-120C variants on the AV-8B and utilize the AIM-120 in mixed stores loadouts. The ELMP is a comprehensive plan to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine and accessories. PMA-257 will accomplish this mission by conducting Engineering Project Description investigations and performing a series of planned Endurance Tests to derive engineering improvements to the engine. The OR/RMP is required to ensure the AV-8B air vehicle's sustained mission availability, and safe and reliable operational readiness until end of service. Air vehicle sustainment requires component and system analyses, technical planning, identification, prioritization, and diagnosis of emergent problems and the allocation of resources for the development, testing and flight clearance of engineering solutions in the areas of flight, crew safety, and escape systems and structural integrity, obsolescence, systems reliability and maintainability, inventory preservation, alternative mission development, or other emergent material or equipment conditions affecting AV-8B systems readiness. Activities include research/ analysis for system safety deficiency corrections, fuel system safety improvements, structural analyses, monitoring and integrity analysis, component compatibility, component obsolescence analyses and mitigation development, explorations for aging equipment, reliability improvement analyses and design developments. FY 2016 continues development efforts and associated obsolescence and readiness requirements for ELMP, RMP, Link 16, weapons carriage, and OFP updates.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604214N *I AV-8B Aircraft - Engine Dev*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	33.325	25.372	48.325	-	48.325
Current President's Budget	30.291	25.372	39.878	-	39.878
Total Adjustments	-3.034	-	-8.447	-	-8.447
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.000	-			
• SBIR/STTR Transfer	-1.034	-			
• Program Adjustments	-	-	-38.743	-	-38.743
• Rate/Misc Adjustments	-	-	30.296	-	30.296

Change Summary Explanation

The FY 2016 funding request was reduced by $1 million to account for the availability of prior year execution balances.

Technical: HX now defined as H7.0.

Schedule: H7.0 Software Development effort captured 1Q FY16 to 1Q FY18. AIM-120C Flight Test effort captured 2Q FY16 to 2Q FY18.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604214N / *AV-8B Aircraft - Engine Dev*	Project (Number/Name) 0652 / *AV-8B*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0652: *AV-8B*	303.573	30.291	25.372	39.878	-	39.878	22.315	21.105	19.531	17.840	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program provides for AV-8B Design, Development, Integration and Test of the following improvements: The Engine Life Management Program (ELMP), Operational Flight Program (OFP) and Avionics/Weapons Integration, Escape System, and Readiness Management Plan (RMP). The ELMP is a comprehensive plan to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine and Gas Turbine Starter, as well as other critical engine components. The Program Office will accomplish this mission through the Component Improvement Program, which entails Engineering Project Description investigations and a series of planned Endurance Tests to derive safety and reliability improvements to the engine and engine components. The Joint Mission Planning System is required as part of the Department of Navy directed migration to a common Navy and Marine Corps mission planning system. H6.1 provides enhancements and software corrections, and H6.2 (Common Avionics Program) provides Global Positioning System navigation capabilities as well as software updates. H7.0 OFP will integrate APX-123 and Link 16 capability and provide software updates. Follow on OFP will integrate common avionics ADS-B (out), Mode 5, and Mode S Identification Friend or Foe capabilities. Other specific efforts include Airborne Variable Message Format Terminal and AIM-120C flight test, as AIM-120A/B will become obsolete, as well as AIM-120 mixed stores flight test. The program is working closely with the Common Avionics Program and the Allies (Spain and Italy) on all efforts. RMP represents all engineering activities for development and design to support aircraft safety, flight clearance and concept exploration for resolution of emergent safety, service life, escape systems, compatibility, obsolescence, and readiness issues.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Development of RMP Engineering Change Proposals	22.807	14.265	11.729	-	11.729
Articles:	-	-	-	-	-
Description: Develop obsolescence solutions to improve safety, structural integrity, and systems reliability of the AV-8B aircraft.					
FY 2014 Accomplishments: Extensions to AV-8B End of Service date require extensive obsolescence mitigation efforts to preclude aircraft on ground. The program begun in PB13 will continue to address known, predicted, and emergent obsolescence equipment issues. Systems engineering will support ongoing and emergent analysis and design/development efforts required to identify Engineering Change Proposal (ECP) requirements to correct systems safety, structural integrity, and readiness issues.					
FY 2015 Plans: Extensions to AV-8B End of Service date require extensive obsolescence mitigation efforts to preclude aircraft on ground. The program begun in PB14 will continue to address known, predicted, and emergent obsolescence					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604214N / *AV-8B Aircraft - Engine Dev*	**Project (Number/Name)** 0652 / *AV-8B*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
equipment issues. Systems engineering will support ongoing and emergent analysis and design/development efforts required to identify ECP requirements to correct systems safety, structural integrity, and readiness issues. Begin design of Brake Temperature monitoring system to prevent brake fires and improve safety. Begin the development of Improved Main Landing Gear strut servicing indication system to improve safety and reliability. Conduct system engineering study and design work for Outrigger Landing Gear service indicating system to improve safety and reliability. Begin system engineering analyses and design for GR-9 component compatibility. ***FY 2016 Base Plans:*** Extension to AV-8B End of Service date requires continued obsolescence mitigation efforts to preclude aircraft on ground. The program begun in PB15 will continue to address known, predicted, and emergent obsolescence equipment issues. Systems engineering will support ongoing and emergent analysis and design/development efforts required to identify Engineering Change Proposal requirements to correct systems safety, structural integrity, compatibility, and readiness issues. Complete design of Brake Temperature monitoring system to prevent brake fires and improve safety. Continue the development of Improved Main Landing Gear strut servicing indication system and Environmental Control System capacity (Turbine) improvements. Continue system engineering analyses and design for GR-9 component compatibility and Heads Up Display combining glass. Begin Vinson/Advanced Narrowband Digital Voice Terminal Cryptographic Modernization obsolescence remediation to improve safety and reliability. ***FY 2016 OCO Plans:*** N/A					
Title: Operational Flight Program (OFP) and Avionics Weapons Systems Development and Integration	2.368	4.458	21.697	-	21.697
Articles:	-	-	-	-	-
Description: Develop Airborne Variable Message Format Terminal, formerly Strikelink/A. Aircraft Operational Flight Program (OFP) updates, mission planning updates, Litening Pod software updates, support aircraft avionics development efforts, integrate weapon such as AIM-120C, and conduct Link 16 integration efforts. ***FY 2014 Accomplishments:*** Funds will provide for future capability expansion studies and analyses, peculiar flight test requirements, and aircraft OFP/Litening Pod software updates and developmental test as part of the H6.1 and H6.2 block upgrades. ***FY 2015 Plans:*** Funds will provide for future capability expansion studies and analyses, peculiar flight test requirement, and aircraft OFP/Litening Pod software updates and developmental test as part of the H6.2 upgrade. Begin Global					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604214N / *AV-8B Aircraft - Engine Dev*	**Project (Number/Name)** 0652 / *AV-8B*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Positioning System performance test in preparation for H6.2 upgrade development testing, which will require use of ranges and telemetry, and associated telemetry analysis. Begin developmental testing of second Mission Systems Computer processor card that will be used in H6.2. ***FY 2016 Base Plans:*** Funds will provide for future capability expansion studies and analyses, peculiar flight test requirements, and aircraft Operational Flight Program/Litening Pod software updates and developmental test as part of the H6.2 upgrade. Continue developmental testing of second Mission Systems Computer processor card. Procure AIM-120 test assets and begin AIM-120C flight testing. Begin H7.0 OFP/Link 16 integration efforts. ***FY 2016 OCO Plans:*** N/A					
Title: F402-RR-408 Engine Safety and Reliability Enhancements	5.116	6.649	6.452	-	6.452
Articles:	-	-	-	-	-
Description: Improve Safety and Reliability of the F402-RR-408 Engine for the AV-8B Harrier. ***FY 2014 Accomplishments:*** The Component Improvement Program (CIP) will conduct investigations to develop improvements and develop design solutions for correction of deficiencies and issues resulting from safety, obsolescence and structural fatigue for the engine and accessories. ***FY 2015 Plans:*** The engineering CIP will conduct investigations to develop improvements and develop design solutions for correction of deficiencies and issues resulting from safety, obsolescence and structural fatigue for the engine and accessories. ***FY 2016 Base Plans:*** The engineering CIP will conduct investigations to develop improvements and develop design solutions for correction of deficiencies and issues resulting from safety, obsolescence, and structural fatigue for the engine and accessories. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	30.291	25.372	39.878	-	39.878

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604214N / *AV-8B Aircraft - Engine Dev*	**Project (Number/Name)** 0652 / *AV-8B*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0514: *AV-8B Series Modification*	96.712	61.722	41.890	41.365	83.255	38.055	35.200	35.867	36.578	Continuing	Continuing

Remarks

D. Acquisition Strategy

All efforts under obsolescence replacement Readiness Management Program provide investigations and analysis of testing and flight clearance authorization necessary to assess overall system capability and integration of projects. Funding for the Engine Life Management Program will be placed on a cost-type contract to Rolls-Royce to address safety of flight issues, top readiness degraders, engine removal and mission failure drivers in order to improve Fleet readiness and reduce cost of ownership. It is also developed to assess life management program issues and design fixes for any service revealed deficiencies. The program's Evolutionary Acquisition Strategy includes Design, Development, Integration and Test activity under the consolidated effort of Block Developments: H2.0, H4.0, H5.0, H6.0, H6.1, H6.2, H7.0 and following Operational Flight Programs (OFP). The development and integration of Joint Mission Planning System occurred concurrently with H2.0. H4.0 Block improvements included the Tactical Aircraft Moving Map Capability. H5.0 Block Upgrade provided Dual Mode Laser Guided Bomb, Litening Centerline/Station 4 (improvement of current weapons carriage capability). H6.0 Block Upgrade provided ALE-47 countermeasures system integration, and weapon carriage expansion. The program is working closely with the Allies (Spain and Italy) and the Common Avionics Program on H6.1 and H6.2 efforts. The H6.1 update will provide enhancements and software corrections that improve the AV-8B platform combat effectiveness, survivability, and relevance through avionics processor upgrades and Litening Common Operational Flight Program. The H6.2 update is being accomplished in conjunction with the Common Avionics Program and provides a Global Positioning System Navigation capability for AV-8B as well as a Litening Common Operational Flight Program update. Link 16 integration will require an H.7.0 Operational Flight Program subsequent to H6.2 and will provide the AV-8B with APX-123 and Link 16 capability. Follow-on OFP will be accomplished in conjunction with Common Avionics Program and will integrate ADS-B (out), Mode 5, and Mode S. Peculiar flight test efforts to include weapons integration such as AIM-120 will be conducted by NAWCWD and AV-8B flight test squadrons.

E. Performance Metrics

Achieve Engine Life Management Program Rolls-Royce Component Improvement Program contract award 1st Quarter FY 2016.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604214N / *AV-8B Aircraft - Engine Dev*	Project (Number/Name) 0652 / *AV-8B*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development - ELMP	C/CPFF	Rolls-Royce PLC : Bristol, GB	27.819	1.598	Feb 2014	1.960	Dec 2014	1.887	Dec 2015	-		1.887	9.449	42.713	42.713
Primary Hardware Development - ELMP	C/FFP	ONTIC (Goodrich) PS : Pitstone, GB	5.761	0.050	Mar 2014	0.300	Mar 2015	0.300	Mar 2016	-		0.300	1.500	7.911	7.911
Primary Hardware Development - OFP	WR	NAWCWD : China Lake, CA	46.051	-		0.250	Dec 2014	4.374	Dec 2015	-		4.374	Continuing	Continuing	Continuing
Primary Hardware Development - RMP	C/CPFF	GE Aviation DS : Grand Rapids, MI	16.839	-		-		-		-		-	3.371	20.210	20.210
Primary Hardware Development	C/CPFF	Stauder : St. Peters, MO	12.449	-		-		-		-		-	7.580	20.029	20.029
Primary Hardware Development - RMP	WR	NAWCAD : Patuxent River, MD	0.220	-		0.467	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Primary Hardware Development - RMP	C/FFP	Boeing : St. Louis, MO	0.391	4.356	Nov 2013	0.500	Jan 2015	-		-		-	2.000	7.247	7.247
Primary Hardware Development - OFP	C/FFP	Boeing : St. Louis, MO	0.000	-		0.531	Jan 2015	2.695	Dec 2015	-		2.695	-	3.226	3.226
Systems Engineering - RMP	C/FFP	Boeing : St. Louis, MO	10.450	2.765	Nov 2013	7.271	Jan 2015	5.842	Jan 2016	-		5.842	18.793	45.121	45.121
Systems Engineering - RMP	WR	NAWCWD : China Lake, CA	2.382	0.120	Nov 2013	0.121	Nov 2014	0.091	Nov 2015	-		0.091	Continuing	Continuing	Continuing
Systems Engineering - RMP	WR	NAWCAD : Patuxent River, MD	2.837	3.200	Nov 2013	2.396	Nov 2014	4.561	Nov 2015	-		4.561	Continuing	Continuing	Continuing
Systems Engineering - OFP	WR	NAWCAD : Patuxent River, MD	0.000	-		-		0.383	Nov 2015	-		0.383	Continuing	Continuing	Continuing
Systems Engineering - RMP	WR	TBD : Other Gov	0.000	-		0.104	Jan 2015	0.106	Jan 2016	-		0.106	Continuing	Continuing	Continuing
Prior year cost no longer funded in the FYDP	Various	Various : Various	13.600	-		-		-		-		-	-	13.600	-
		Subtotal	138.799	12.089		13.900		20.239		-		20.239	-	-	-

Remarks

Primary Hardware Development and System Engineering efforts increase in FY16 for H7.0 OFP/Link 16 integration efforts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604214N / *AV-8B Aircraft - Engine Dev*	Project (Number/Name) 0652 / *AV-8B*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development - RMP	WR	NAWCWD : China Lake, CA	13.744	0.100	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Integrated Logistics Support - RMP	WR	NAWCAD : Patuxent River, MD	0.000	1.234	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Integrated Logistics Support - OFP	WR	NAWCAD : Patuxent River, MD	0.000	0.030	Nov 2013	-		0.231	Nov 2015	-		0.231	Continuing	Continuing	Continuing
Integrated Logistics Support - OFP	WR	FST : Cherry Pt, NC	0.000	-		-		0.231	Nov 2015	-		0.231	Continuing	Continuing	Continuing
Integrated Logistics Support - OFP	WR	NAWCAD : Lakehurst, NJ	0.000	-		-		0.085	Nov 2015	-		0.085	Continuing	Continuing	Continuing
Technical Data	C/CPFF	Various : Various	2.331	-		-		-		-		-	0.320	2.651	2.651
Studies and Analysis - OFP	WR	NAWCWD : China Lake, CA	0.000	0.222	Nov 2013	0.224	Nov 2014	0.227	Nov 2015	-		0.227	Continuing	Continuing	Continuing
Studies and Analysis - RMP	C/FFP	Boeing : St. Louis, MO	0.000	2.668	Nov 2013	0.501	Jan 2015	-		-		-	-	3.169	3.169
Studies and Analysis - OFP	C/FFP	Boeing : St. Louis, MO	0.000	0.853	Nov 2013	0.781	Nov 2014	-		-		-	-	1.634	1.634
Studies and Analysis	Various	Various : Various	5.478	-		-		-		-		-	1.815	7.293	7.293
Prior year cost no longer funded in the FYDP	Various	Various : Various	31.415	-		-		-		-		-	-	31.415	-
		Subtotal	52.968	5.107		1.506		0.774		-		0.774	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation - RMP	C/CPFF	Boeing : St. Louis, MO	1.500	2.976	Dec 2013	1.233	Jan 2015	-		-		-	4.456	10.165	10.165
Developmental Test & Evaluation - RMP	WR	NAWCWD : China Lake, CA	37.047	4.598	Feb 2014	0.300	Jan 2015	0.833	Jan 2016	-		0.833	Continuing	Continuing	Continuing
Developmental Test & Evaluation - OFP	WR	NAWCWD : China Lake, CA	8.379	0.920	Feb 2014	2.877	Jan 2015	3.734	Jan 2016	-		3.734	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604214N / *AV-8B Aircraft - Engine Dev*	Project (Number/Name) 0652 / *AV-8B*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation - RMP	WR	NAWCAD : Patuxent River, MD	0.258	0.182	Dec 2013	0.360	Jan 2015	0.075	Jan 2016	-		0.075	Continuing	Continuing	Continuing
Developmental Test & Evaluation - OFP	C/CPFF	Raytheon : Tucson, AZ	0.000	-		-		8.334	Jun 2016	-		8.334	2.237	10.571	10.571
Operational Test & Evaluation - OFP	WR	COMOPTEVFOR : Norfolk, VA	23.137	0.075	Feb 2014	0.158	Dec 2014	0.161	Jan 2016	-		0.161	Continuing	Continuing	Continuing
Test Asset - RMP	C/CPFF	Northrup Grumman : Bethpage, NY	0.756	0.524	Mar 2014	-		-		-		-	-	1.280	1.280
Prior year cost no longer funded in the FYDP	Various	Various : Various	3.796	-		-		-		-		-	-	3.796	-
		Subtotal	74.873	9.275		4.928		13.137		-		13.137	-	-	-

Remarks

Developmental Test & Evaluation OFP increase in FY16 for AIM-120 test assets and to begin AIM-120 flight testing.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering & Tec SRVC (Non-FFRDC) - RMP	C/CPFF	Engility : Chantilly, VA	0.100	0.105	Dec 2013	0.106	Dec 2014	0.111	Dec 2015	-		0.111	-	0.422	0.422
Engineering & Tec SRVC (Non-FFRDC) - ELMP	C/CPFF	Zenetex : Herndon, VA	0.000	0.921	May 2014	0.705	May 2015	0.659	Jun 2016	-		0.659	-	2.285	2.285
Engineering & Tec SRVC (Non-FFRDC)	C/CPFF	Various : Various	5.135	-		-		-		-		-	7.500	12.635	12.635
Government Engineering Support - ELMP	WR	NAWCAD : Patuxent River, MD	4.274	1.103	Nov 2013	2.380	Nov 2014	2.330	Nov 2015	-		2.330	Continuing	Continuing	Continuing
Government Engineering Support - OFP	WR	NAWCAD : Patuxent River, MD	1.327	0.174	Nov 2013	0.312	Nov 2014	1.071	Nov 2015	-		1.071	Continuing	Continuing	Continuing
Government Engineering Support - OFP	WR	NAWCTSD : Orlando, FL	0.000	-		-		0.050	Dec 2015	-		0.050	Continuing	Continuing	Continuing
Government Engineering Support	WR	Various : Various	5.463	-		-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604214N / *AV-8B Aircraft - Engine Dev*	Project (Number/Name) 0652 / *AV-8B*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Suport - ELMP	WR	NAWCWD : China Lake, CA	0.000	0.861	Jul 2014	0.835	Dec 2014	0.848	Dec 2015	-		0.848	Continuing	Continuing	Continuing
MGT & PROF SUPPT SRVC (NON-FFRDC)	C/CPFF	Various : Various	8.365	0.570	Dec 2013	0.596	Dec 2014	0.555	Dec 2015	-		0.555	12.542	22.628	22.628
Program Management Support	WR	Various : Various	11.217	-		-		-		-		-	Continuing	Continuing	Continuing
Travel	WR	Various : Various	1.052	0.086	Oct 2013	0.104	Oct 2014	0.104	Oct 2015	-		0.104	Continuing	Continuing	Continuing
		Subtotal	36.933	3.820		5.038		5.728		-		5.728	-	-	-

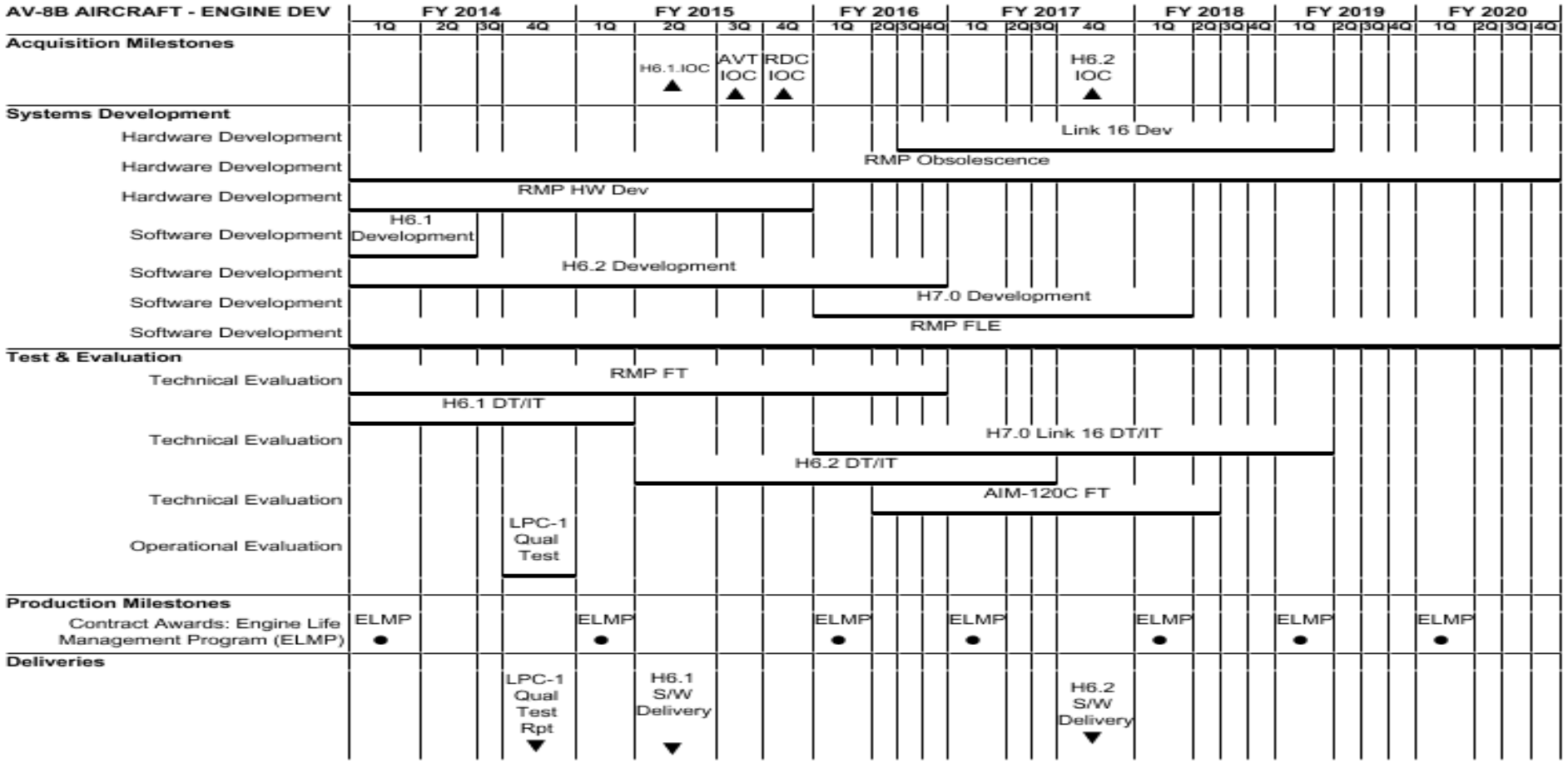
Remarks

Government engineering support increase in FY16 due to engineering efforts required to support increase in budget for AIM-120 and Link 16 efforts.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	303.573	30.291		25.372		39.878		-		39.878	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604214N / *AV-8B Aircraft - Engine Dev*	**Project (Number/Name)** 0652 / *AV-8B*



2016PB - 0604214N - 0652

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604214N / *AV-8B Aircraft - Engine Dev*	**Project (Number/Name)** 0652 / *AV-8B*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AV-8B AIRCRAFT - ENGINE DEV				
Acquisition Milestones: RDC IOC	4	2015	4	2015
Acquisition Milestones: H6.1 IOC	2	2015	2	2015
Acquisition Milestones: H6.2 IOC	4	2017	4	2017
Acquisition Milestones: AVT IOC	3	2015	3	2015
Systems Development: Hardware Development: Link 16 Development	3	2016	1	2019
Systems Development: Hardware Development: RMP Obsolescence Development	1	2014	4	2020
Systems Development: Hardware Development: RMP Hardware Dev	1	2014	4	2015
Systems Development: Software Development: H6.1 Development (program started in 2010)	1	2014	2	2014
Systems Development: Software Development: H6.2 Development	1	2014	4	2016
Systems Development: Software Development: H7.0 Development	1	2016	1	2018
Systems Development: Software Development: RMP Fatigue Life Expended Development	1	2014	4	2020
Test & Evaluation: Technical Evaluation: RMP Flight Test	1	2014	4	2016
Test & Evaluation: Technical Evaluation: H6.1 DT/IT	1	2014	1	2015
Test & Evaluation: Technical Evaluation: H7.0 Link 16 DT/IT	1	2016	1	2019
Test & Evaluation: Technical Evaluation: H6.2 DT/IT	2	2015	3	2017
Test & Evaluation: Technical Evaluation: AIM-120C Flight Test	2	2016	2	2018
Test & Evaluation: Operational Evaluation: LPC-1 Qual Test	4	2014	4	2014
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY14	1	2014	1	2014
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY15	1	2015	1	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604214N / *AV-8B Aircraft - Engine Dev*	**Project (Number/Name)** 0652 / *AV-8B*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY16	1	2016	1	2016
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY17	1	2017	1	2017
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY18	1	2018	1	2018
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY19	1	2019	1	2019
Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY20	1	2020	1	2020
Deliveries: LPC-1 Qual Test Reports	4	2014	4	2014
Deliveries: H6.1 S/W Delivery	2	2015	2	2015
Deliveries: H6.2 S/W Delivery	4	2017	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604215N *I Standards Development*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	1,013.857	66.594	53.706	53.059	-	53.059	69.896	67.370	62.158	63.438	Continuing	Continuing
0572: *JT Service/NV Std Avionics CP/SB*	840.517	52.284	42.260	39.890	-	39.890	54.412	52.878	47.840	48.825	Continuing	Continuing
1857: *Calibration Standards*	10.734	1.830	1.582	1.653	-	1.653	1.692	1.712	1.751	1.786	Continuing	Continuing
2311: *Stores Planning and Weaponeering Module*	147.198	11.956	9.305	10.941	-	10.941	13.125	12.101	11.874	12.120	Continuing	Continuing
2312: *Common Helicopters*	15.408	0.524	0.559	0.575	-	0.575	0.667	0.679	0.693	0.707	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project provides for the identification, study, design, development, demonstration, test, evaluation, and qualification of standard avionics capabilities for Navy use, and wherever practicable, use across all Services and Foreign Military Sales. Such air combat electronics developments include communications and airborne networking, navigation and sensors, flight avionics, safety systems, and flight mission information systems for both forward fit and retrofit aircraft. These efforts continue to maintain federated systems while encouraging transition of procurements to support a modular system for enhanced performance and affordability. Consideration is given up front to reduce acquisition costs through larger procurement quantities that satisfy multi-aircraft customer requirements and that reduce life cycle costs in the areas of reliability, maintainability, and training. This project also provides a Navy-wide program to develop required calibration standards (hardware) in all major measurement technology areas in support of Navy Hull, Mechanical and Electrical (HM&E) systems as well as Navy Weapons systems, ground and air, throughout the Fleet. It funds Navy lead-service responsibilities in the Department of Defense and Joint Services Metrology Research and Development program. This project supports the military requirement to verify the performance of all test systems used to validate the operation of HM&E as well as Navy Weapon Systems with calibration standards traceable to the National Institute of Standards and Technology.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production decision.

The FY 2016 funding request was reduced by $7.045 million to account for the availability of prior year execution balances.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604215N *I Standards Development*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	68.497	53.712	59.023	-	59.023
Current President's Budget	66.594	53.706	53.059	-	53.059
Total Adjustments	-1.903	-0.006	-5.964	-	-5.964
• Congressional General Reductions	-	-0.006			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.903	-			
• Program Adjustments	-	-	1.500	-	1.500
• Rate/Misc Adjustments	-	-	-7.464	-	-7.464

Change Summary Explanation

Technical: Not applicable.

Schedule:

0572:
Communication Navigation Surveillance/Air Traffic Management - Integration/Certification of 8.33 kHz, MODE S, Reduced Vertical Separation Minimum (RVSM), RNP/RNAV, and Automatic Dependent Surveillance-Broadcast (ADS-B(Out)) for E-2D removed to align with funding mandates. Evaluation of ADS-B(Out) technologies/develop solutions to support platform integrations resumes 1Q/16 to incorporate efforts to evaluate updates to Federal Avaiation Administration ADS-B(Out) mandate.

Tactical Communications - Changed title of IW SATCOM S/W Development Phase 2 to SATCOM S/W Development (with MUOS). SATCOM S/W Development (with MUOS) start shifted from 2Q/16 to 2Q/15. Crypto Engine Design start shifted from 1Q/17 to 1Q/16.

Ground Proximity Warning Systems/Terrain Awareness Warning System - Changed title of H-60 TAWS II DT to H-60 TAWS II DT (Phase I and II). Milestone C for H-60 TAWS II shifted from 3Q/17 to 1Q/18.

Mid Air Collision Avoidance Capability - FY14 Congressional Reduction and subsequent efforts to realign with platform program efforts resulted in the following schedule changes: Added Integrated Logistics Assessment in 1Q/18, Analysis of Alternative (AOA) shifted from 1Q/15 to 3Q/15. Capabilities Development Document (CDD) shifted from 1Q/16 to 3Q/16. MDD/ASR shifted from 2Q/15 to 4Q/15. Milestone B from 2Q/16 to 2Q/18, Milestone C from 1Q/19 to outside the FYDP, SRB from 2Q/15 to 4Q/16, SRR from 2Q/15 to 4Q/16, PDR from 3Q/15 to 4Q/17, CDR from 2Q/16 to 2Q/19, Software Design and Development 3Q/15 to

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604215N *I Standards Development*

1Q/18, Platform Integration Test Support shifted from 3Q/15 to 1Q/19. Integration of MH-60R/S from 1Q/16 to 1Q/20, Integration of UH-1Y/AH-1Z from 3Q/16 to 4Q/20, Test and Evaluation of MH-60R/S from 1Q/17 to outside the FYDP, and Test and Evaluation of UH-1Y/AH-1Z from 1Q/18 to outside the FYDP. Removed Integration of F/A-18 and Test and Evaluation of F/A-18.

2311:
Stores Planning and Weaponeering Module schedule presentation has been changed to align more closely with acquisition reporting at a higher level of detail. Test and Evaluation Milestones and Production Milestones have been adjusted to align Initial Operational Capability dates with platform software releases.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604215N / *Standards Development*	Project (Number/Name) 0572 / *JT Service/NV Std Avionics CP/SB*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0572: *JT Service/NV Std Avionics CP/SB*	840.517	52.284	42.260	39.890	-	39.890	54.412	52.878	47.840	48.825	Continuing	Continuing
Quantity of RDT&E Articles		21	-	-	-	-	-	-	-	-		

Note

FY15 New Start is Mid Air Collision Avoidance Capability (MCAC).

A. Mission Description and Budget Item Justification

Joint Services/Navy Standard Avionics Components and Subsystems: This project provides for the identification, study, design, development, demonstration, test, evaluation, and qualification of standard avionics capabilities for Navy use, and wherever practicable, use across all Services and Foreign Military Sales. Standard avionics capabilities under development include the Joint Service Review Committee for Avionics Standardization (JSRC-AS), Communication Navigation Surveillance/ Air Traffic Management (CNS/ATM), Tactical Communications (TACCOM), Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS), Military Flight Operations Quality Assurance (MFOQA), Collaborative Warfare (CW), Avionics Component Improvement Program (AvCIP), Advanced Digital Data Set (ADDS), Mid Air Collision Avoidance Capability (MCAC), and Avionics Architectures. Participation in Human Factors Quality Management Board ensures Navy safety upgrades and mandatory safety improvements for naval aircraft.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Joint Service Review Committee for Avionics Standardization (JSRC-AS)	0.846	0.857	1.000	-	1.000
Articles:	-	-	-	-	-
Description: The JSRC-AS program supports Congressional and Assistant Secretary of the Navy for Research, Development and Acquisition direction to control the growing proliferation of unique avionics and improve coordination among the services through the identification, development, and promotion of investigative and development efforts across the services and U.S. Coast Guard. The JSRC-AS supports the development, analysis and review of new avionics requirements with potential for joint service application. The JSRC-AS consists of an O-6 Level principal from each service and U.S. Coast Guard, as well as the appropriate staff, to support joint service working group efforts. The JSRC-AS reports to the O-7 level tri-service Aviation Common Systems Board who reports to the O-9 level Joint Aeronautical Commanders Group.					
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 0572 / *JT Service/NV Std Avionics CP/SB*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Provided leadership and strategic vision as Naval Aviation's representatives to the Joint Service Review Committee for Avionics Standardization (JSRC-AS). Participated in joint working groups and focus efforts toward good technical and economic decisions across the services. ***FY 2015 Plans:*** Provide leadership in support of the Navy's interest to the JSRC-AS tri-service committee promoting commonality and joint programs with focus on interoperability, communications, navigation, Joint Services avionics obsolescence management, and update of the Core Avionics Master Plan. ***FY 2016 Base Plans:*** Provide leadership in support of the Navy's interest to the JSRC-AS tri-service committee promoting commonality and joint programs with focus on interoperability, communications, navigation, Joint Services avionics obsolescence management, and update of the Core Avionics Master Plan. ***FY 2016 OCO Plans:*** N/A					
Title: Communication Navigation Surveillance/Air Traffic Management (CNS/ATM)	7.248	0.491	3.575	-	3.575
Articles:	-	-	-	-	-
Description: This program will conduct and support CNS/ATM research, studies, development, integration, demonstration, test and evaluation efforts for naval aviation platforms in development. Platform integration of Mode Select (S), 8.33 kHz, Reduced Vertical Separation Minimum (RVSM), Required Navigation Performance Area Navigation (RNP/RNAV) to include M Code, and Automatic Dependent Surveillance-Broadcast Out (ADS-B (Out)) functional integration and certification efforts into naval aircraft. Assist with insertion of communication, navigation, surveillance, and supporting technologies and conduct capability certification on developmental platforms such as E-2D, P-8A, Joint Strike Fighter, CH-53K, and Unmanned Air Systems. Capabilities include Mode S, 8.33 kHz, RVSM, RNP/RNAV, ADS-B (Out), and other civil and military capabilities. ***FY 2014 Accomplishments:*** Researched Mode S diversity requirements and design solutions for developmental platforms. Evaluated ADS-B (Out) technologies and developed solutions to support platform integrations. Assisted with insertion of CNS/ATM technologies on and certification of developmental platforms. Developed CNS/ATM Common Components to support Required Navigation Performance Area Navigation developmental platform requirements. Where					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 0572 / *JT Service/NV Std Avionics CP/SB*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
practical, new technologies were designed to maximize reuse on future platforms through open architectures including the Future Airborne Capability Environment (FACE). ***FY 2015 Plans:*** Assist with insertion and integration of Communication Navigation Surveillance/Air Traffic Management (CNS/ ATM) technologies and certification of developmental platforms. Develop CNS/ATM Common Components to support Required Navigation Performance Area Navigation developmental platform requirements. ***FY 2016 Base Plans:*** Assist with insertion and integration of CNS/ATM technologies and certification of developmental platforms. Evaluate ADS-B (Out) technologies and develop solutions to support platform integrations. Develop CNS/ ATM Common Components to support Required Navigation Performance Area Navigation (RNP RNAV) developmental platform requirements. Begin integration/certification of Mode Select, 8.33 kHz, Reduced Vertical Separation Minimum, RNP/RNAV, and ADS-B (Out) into CH-53K. Research and develop Global Positioning System (GPS) enhancements to support CNS/ATM RNP RNAV improvements. Research and develop Automatic Dependent Surveillance-Broadcast Out System Design Assurance requirements as well as compatibility with the emerging GPS M Code and its impact on RNP RNAV. ***FY 2016 OCO Plans:*** N/A					
Title: Tactical Communications (TACCOM)	1.725	10.718	12.519	-	12.519
Articles:	-	-	-	-	-
Description: This program will conduct research, studies, development, integration, demonstration, test and evaluation efforts to ensure tactical communication systems and capabilities are developed and available to support naval aviation requirements. Perform tactical communication platform integration studies and activities to determine technical and cost effective solutions across naval aviation. Develop tactical communications (voice/data) requirements, concepts and systems which have application across naval aviation. Support all necessary tasks to ensure evolution of legacy communications systems incorporating programmable Communication Security/Information Assurance, mandated National Security Agency (NSA) Crypto Modernization initiatives, Combat Net Radio (CNR) Variable Message Format (VMF), Beyond Line-of-Sight, Satellite Communication (SATCOM) Modernization including Mobile User Objective System (MUOS), High Frequency, civil interoperability, and Joint Precision Approach Landing System (JPALS) data link into the ARC-210 system. Support for networking requirements development and prototyping, Integrated Waveform					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 0572 / *JT Service/NV Std Avionics CP/SB*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
(IW), Intelligence Broadcast System over modern Code Division Multiple Access based satellite channels, Tactical Networks, Data Links, and Link 16. ***FY 2014 Accomplishments:*** Continued Tactical Secure Voice, SATCOM and Variable Message Format (VMF) P3I S/W development. Completed IW and complete release of S/W version 4. ***FY 2015 Plans:*** Begin development of the RT-1939A and RT-1990A. Begin development of Digital Interoperability capability to include Mobile User Objective System (MUOS). Continue development of Air to Ground Interoperability, IW and Variable Message Format/Combat Net Radio. ***FY 2016 Base Plans:*** Initiate Satellite Communications Modernization phase 2 and continue development of Digital Interoperability SATCOM Software capability to include Mobile User Objective System (MUOS). Continue Joint Precision Approach Landing System Software integration with airborne capabilities for a common capabilities release. Initiate design of Crypto Engine. Complete Joint Interoperability Test Command certification to deliver VMF Software. Continue development of Air to Ground (VMF Software) Interoperability. ***FY 2016 OCO Plans:*** N/A					
Title: Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS) ***Articles:*** ***Description:*** This program will conduct research, studies, development, integration, demonstration, test and evaluation efforts to meet naval aviation GPWS/TAWS requirements. These requirements span all operational modes and operational environments, to include Degraded Visual Environment. Perform GPWS/TAWS platform integration studies and activities to determine technical and cost effective solutions across naval aviation. Develop GPWS/TAWS solutions tailored to platform performance and range of military operations. Develop simulation models for use at Manned Flight Simulator (MFS) or other simulation environments as required for platform tailoring, including procurement of test article hardware. Evaluate aircraft simulation models for suitability in GPWS/TAWS development effort. Develop GPWS/TAWS algorithms utilizing simulation environments as real-time hardware and pilot in the loop tool. Develop and evaluate algorithm interfaces necessary for integration of the algorithm within platform host computer. Develop software code to execute GPWS/TAWS algorithm in host platforms.	12.181 -	4.365 -	6.050 -	- -	6.050 -

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Completed Developmental Testing of H-1 GPWS in platform SCS 7.0. Achieved MS-B for H-60 TAWS with obstacles. Continued TAWS with obstacles software development for H-60. ***FY 2015 Plans:*** Complete Terrain Awareness Warning System (TAWS) II with obstacles software development and platform integration for H-60. Complete Developmental Testing (DT)of H-1 Ground Proximity Warning System. ***FY 2016 Base Plans:*** Deliver formal software build of TAWS II system to H-60. Complete beta testing of TAWS II in Manned Flight Simulator or other simulation environment. Complete Phase 1 DT in MH-60R/S. ***FY 2016 OCO Plans:*** N/A					
Title: Military Flight Operations Quality Assurance (MFOQA)	16.843	2.666	-	-	-
Articles:	-	-	-	-	-
Description: This program will develop a MFOQA baseline software integration framework using Government procured software modules to perform functions such as flight data analysis, post mission aircrew debrief, aircraft maintenance and system troubleshooting and mishap investigation to meet naval aviation requirements. Additional efforts will include software development and integration for fleet wide shore based and shipboard MFOQA implementation. Evaluate aircraft recorder systems and requirements to meet current and future MFOQA requirements. Prepare and conduct MFOQA acquisition events such as Systems Readiness Review, Agile Technical Reviews, Developmental Testing, and follow-on Decision Reviews in support of initial Rotary Wing (Phase 2) platforms. ***FY 2014 Accomplishments:*** Completed Phase 1 VX-23 Developmental Test; Achieved MS C and initiated fielding to F/A-18C-F and EA-18G. Initiated Agile software development for Phase 2 (MH-60R/S, M/CH-53, AH-1Z, and UH-1Y). ***FY 2015 Plans:*** Complete Phase 2 Agile software development, software integration and test. Complete deployment decision review and initiate deployment to rotary wing squadrons. ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 OCO Plans:*** N/A					
Title: Collaborative Warfare (CW)	0.136	0.175	0.176	-	0.176
Articles:	-	-	-	-	-
Description: The CW component is a Research & Development effort to identify targeting gaps and determine the warfighting benefit of integrating networked capabilities into naval aircraft to fill those gaps. The CW component also addresses targeting gaps for naval aircraft to operate more effectively with other military services. The following efforts are included: 1) A comprehensive naval aviation Tactical Networking Requirements Strategy that maps fleet gaps and requirements to cross-platform naval aviation solutions. The Naval Effects Cross Domain Targeting Capabilities Based Assessment concept refinement Joint Capability Integration Development System activity will be integrated into this effort. 2) Netted sensors proof of concept prototype demonstrations leveraging the Navy's Fleet Experimentation campaign. 3) Support of integration of Netted Sensors/Sensor Fusion into naval aviation Integrated Capabilities Packages supporting multi-mission capability enhancements to include input to the N81 Offensive Anti-Surface Warfare Targeting and Weapons Control study that ensures naval aviation Intelligence, Surveillance and Reconnaissance delivers a complete kill chain. 4) Provide resource sponsor oversight on an Office of Naval Research Future Naval Capability Enabling Capability for an Advanced Tactical Data Link (ATDL) for naval aviation. 5) Continue work on the Joint Tactical Networking Concept of Employment (JTN CONEMP) that aligns Navy ATDL and Joint Aerial Layer Network - Maritime with USAF future strategies. ***FY 2014 Accomplishments:*** Completed the second iteration of the JTN CONEMP and briefed results to the Air Force - Navy Warfighter Talks. Completed preparations for the TRIDENT WARRIOR 15 netted sensors FoS experiment. Supported potential integration of Naval Aviation relevant tactical networking technologies in the TRIDENT WARRIOR 14 experiment. ***FY 2015 Plans:*** Execute TRIDENT WARRIOR 15 netted sensors evolution to decentralized multi-intelligence correlation architecture. Continue executing tactical networking strategy activities to define future Program Objective Memorandums and analytic agendas. Develop requirements, standards, and architectures in support of new and updated netted-sensors' Concept of Operations and capabilities. ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue executing tactical networking strategy activities to define future Program Objective Memorandums and analytic agendas. Develop requirements, standards, and architectures in support of new and updated netted-sensors' Concept of Operations and capabilities. ***FY 2016 OCO Plans:*** N/A					
Title: Avionics Component Improvement Program (AvCIP)	2.118	5.516	4.972	-	4.972
Articles:	-	-	-	-	-
Description: Investigate high value Return On Investment component improvement candidate projects in support of NAVAIR Commander's third focus area - Improve "capital A" Affordability. Stop operating and sustainment cost growth by reducing costs for fielded systems and implementing life-cycle cost reduction initiatives as part of new systems development. This program positions resources for next year application to fast-track corrections to existing problematic systems. Projects address critical readiness issues (significant back-orders or impending sustainability failures that threaten to down aircraft), functional performance obsolescence issues (system failing to support mission requirement), and top sustainment cost drivers (out of proportion annual maintenance or repair costs). Resources enable design and development of technology insertion and product redesign or replacement to meet readiness goals, meet mission objectives, or reduce overall sustainment costs. Candidate projects are submitted via a rigorous template, reviewed by a panel of Avionics professionals, and selected based upon urgency, warfighting contributions, breadth of application and scope of Return On Investment. Resources cover non-recurring engineering elements (including design and development, prototypes, platform integration, test and evaluation), program management and associated logistics elements (including technical data preparation, support equipment, provisioning, and training). Analysis shows that funding applied under this program between 2006 and 2011 will enable sustainment and procurement cost avoidances exceeding a five to one margin by 2020. ***FY 2014 Accomplishments:*** Addressed current fleet problem avionics systems (top readiness degraders, cost drivers, obsolescence-driven sustainability, capability loss, fleet head-hurters). ***FY 2015 Plans:*** Address current fleet problem avionics systems (top readiness degraders, cost drivers, obsolescence-driven sustainability, capability loss, fleet head-hurters). ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Address current fleet problem avionics systems (top readiness degraders, cost drivers, obsolescence-driven sustainability, capability loss, fleet head-hurters). ***FY 2016 OCO Plans:*** N/A					
Title: Advanced Digital Data Set (ADDS)	11.187	-	-	-	-
Articles:	21	-	-	-	-
Description: This program consists of enabling hardware and software solution for an advanced digital data military operating environment replacing the current data transfer systems. This system includes removable memory, secure data management and storage high speed data transfer of Mission and Map data, recording data (including mission, sensor, audio, and video), and maintenance diagnostics. This approach will include development, test, integration, and delivery of development hardware. Advanced Digital Data Set (ADDS) will increase mission effectiveness by providing situational awareness, reduce crew workload, and enhanced capability for navigation, and mission planning. Data Transfer Unit (DTU) is a form/fit replacement for the existing Digital Memory Device (DMD); it will perform all the data loader/recorder functions that DMD provides. DTU will add data at rest protection via encryption for all data stored on removable memory; this includes National Security Agency (NSA) type 1 encryption for mission data and Federal Information Processing Standards 140 encryption for maintenance data. Data Transfer Unit will also provide enhanced download speed and increased storage capacity for mission and maintenance data. In order to support full time encryption, DTU will include a ground encryption device for use with the Joint Mission Planning System and software to be integrated into the Automated Maintenance Environment (AME). These enhancements will allow naval aircraft to support future weapons, systems, and tactics as well as comply with data at rest requirements. ***FY 2014 Accomplishments:*** Conduct Critical Design Review and Test Readiness Review. NSA will continue to support the vendor in developing and certifying the Type I encryption. Continue integration efforts and perform flight qualification testing, carrier suitability, and Electromagnetic Interference testing. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 OCO Plans:*** N/A					
Title: Mid Air Collision Avoidance Capability (MCAC)	-	3.191	3.460	-	3.460
Articles:	-	-	-	-	-
Description: This program will conduct research, studies, and development, integration, demonstration, test and evaluation efforts to meet Naval Aviation MCAC requirements. These requirements span all operational modes and operational environments, to include Degraded Visual Environment. Perform MCAC platform integration studies and activities to determine technical and cost effective solutions across Naval Aviation. Develop MCAC solutions tailored to platform performance and range of military operations. Develop simulation models for use at Manned Flight Simulator (MFS) or other simulation environments as required for platform tailoring, including procurement of test article hardware. Evaluate aircraft simulation models for suitability in MCAC development effort. Develop MCAC solutions utilizing simulation environments as real-time hardware and pilot in the loop tools. Develop and evaluate interfaces necessary for integration of MCAC within platform host environment. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** Complete Analysis of Alternatives. Conduct Materiel Development Decision/Acquisition Strategy Review. Begin engineering changes required in military transponder. Initiate engineering, manufacturing, and development efforts. ***FY 2016 Base Plans:*** Conduct Integrated Logistics Assessment. Conduct Specification Review Board (SRB) and System Readiness Review (SRR)/System Functional Review. Complete Capability Development Document. Initiate Software Design and Development. Continue Platform Integration and Test Support. ***FY 2016 OCO Plans:*** N/A					
Title: Avionics Architectures	-	14.281	8.138	-	8.138
Articles:	-	-	-	-	-
Description: The Avionics Architecture Team (AAT) provides hardware and software (HW/SW) standards and product line development and management for a common HW/SW operating environments to establish					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
testable open architecture requirements in accordance with NDAA Section 801 Open Architecture language, DoD Directive 5000.1, N6/N7 Naval Open Architecture Requirements Letter 9010, Ser. N6N7/5U916276, and SECNAVINST 5000.2E. The Future Airborne Capability Environment (FACE) Technical Standard is developed through Navy, Army, Air Force, Industry and Academia collaboration in accordance with Public Law 104-113. The Hardware Open Systems Technologies (HOST) standard is being developed through government and academia collaboration and will be provided to industry for prototyping efforts. The AAT provides Subject Matter Experts to define and architect a set of Open Architecture Standards and product lines, design guidance, development and integration tools, acquisition strategy, contracting guidance and cost estimates. The results will enable Department of Defense (DoD) weapons systems to systematically reuse HW/SW and deliver scalable, portable and interoperable war fighting capabilities at a faster rate, reducing redundant development costs and increasing competition. The AAT initiatives enable the government's role as Lead Systems Integrator, per the Weapons System Acquisition Reform Act (WSARA) 2009, and cost effectively manage data rights for reuse across the DoD. Future Airborne Capability Environment (FACE) Program Title changed to Avionics Architectures to define Naval open architecture that includes FACE and Hardware Open Systems Technologies (HOST). ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** Provide development support, systems engineering and program management for design and acquisition strategy implementation guidance. Investigate revisions to the FACE technical standard to meet emerging technologies and new platform requirements. Assist developmental platforms with strategies for and implementation of the FACE technical standard. Subject Matter Expert support for platform integration and competitive source selection. ***FY 2016 Base Plans:*** Provide development support, mission based engineering, systems engineering and program management for design and acquisition strategy implementation guidance. Investigate revisions to the Future Airborne Capability Environment (FACE) and Hardware Open Systems Technologies (HOST) standards to meet emerging technologies and new platform requirements. Assist platforms with strategies for modular functional decomposition and implementation of FACE and HOST standards. Subject Matter Expert support for platform					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
integration and competitive source selection. Academia prototyping and demonstration efforts for FACE and HOST initiatives. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	52.284	42.260	39.890	-	39.890

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/05770: *Common Avionics*	117.594	153.067	202.745	13.988	216.733	197.734	173.428	176.789	124.861	636.941	4,109.560

Remarks

D. Acquisition Strategy

Communication Navigation Surveillance/Air Traffic Management (CNS/ATM) program is a system of systems. The program will encompass the integration of various systems which will be procured utilizing existing contracts for integration on forward-fit and retrofit platforms to provide CNS/ATM functionality. Tactical Communications is utilizing a firm fixed price contract to Rockwell Collins for research and development of the ARC-210 Gen 5 and other Navy contract vehicles for integration studies. The Navy will integrate systems and components to satisfy platform requirements to achieve tactical communication capability as determined by analyses. Ground Proximity Warning System/Terrain Awareness Warning System Software Modules will be developed by a Government Software Product Team in collaboration with Industry where required. Military Flight Operations Quality Assurance (MFOQA) Government activities include integrating a combination of existing aircraft hardware, ground support equipment, Commercial Off The Shelf (COTS), government off the shelf hardware and software products. MFOQA program interfaces will be created to share data captured by the automated maintenance systems (e.g., Automated Maintenance Environment, Health and Usage Monitoring Systems) and existing databases. The Navy conducted a full and open competition for the MFOQA software development, integration and support contract as well as the COTS software data analysis product. Follow-on Sole Source Product Contracts will be awarded to complete MFOQA development, as required. Avionics Component Improvement Program (AvCIP) will annually review, compete and select candidate component improvement proposals according to urgency, criticality of warfighting contributions, technical risk, breadth of application, and scope of Return On Investment (ROI). Projects are selected by a panel of Avionics management experts, including representatives from OPNAV N98, NAVAIR, NAVICP, and the Fleet. Projects are executed by managers in platform or commodity offices that own the component. The AvCIP program management team manages project selection, allocates funds, monitors multiple project executions against proposed spend plans, and tracks solution performance and achievement of projected ROIs over time using Fleet maintenance and component performance databases. Cost avoidances are coordinated with OPNAV N98 to balance Flying Hour Program costs. Component improvement solutions include modular hardware, software and material upgrades. Resources cover engineering elements (including design and development, prototypes, platform integration, test and evaluation), program management and associated logistics elements (including technical data preparation, support equipment, provisioning, and training). Advanced Digital Data Set will award a contract(s) to Industry for the development and procurement of enabling hardware and software in collaboration with platform program offices utilizing competitive methods wherever possible. Mid Air Collision Avoidance Capability (MCAC) is the capability umbrella which encompasses all systems designed and developed which aid in air-to-air collision avoidance. Systems

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include but are not limited to Traffic Collision Avoidance Systems and Mid Air Collision Avoidance Systems. Mid Air Collision Avoidance Capability Software Modules will be developed by a Government Software Product Team in collaboration with Industry where required. Avionics Architectures will provide acquisition strategy guidance and support to platforms implementing open systems architectures to address open architecture requirements.

E. Performance Metrics

Joint Service Review Committee for Avionics (JSRC-AS) - Provide leadership in support of the Navy's interest to the JSRC tri-service committee promoting commonality and joint programs with focus on interoperability, communications, Communication Navigation Surveillance/Air Traffic Management (CNS/ATM), Joint Services avionics obsolescence management and the update of the Core Avionics Master Plan. Support and participate in Naval Aviation Requirements Group panels, Operational Advisory Group, and Human Factors Quality Management Board.
CNS/ATM - Successfully complete platform integration, test, and certifications.
Tactical Communications (TACCOM) - Achieve Joint Interoperability Test Command and National Security Agency certifications on system developmental efforts to meet operational requirements.
Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS) - Develop algorithm and software to meet platform specific requirements, successfully complete flight test, and deliver product on schedule. Successfully complete Milestone B.
Military Flight Operations Quality Assurance (MFOQA) - Successfully complete Milestone C and Initial Operational Capability on schedule; successfully complete Phase 2 development and fleet introduction.
Collaborative Warfare (CW) - Identify collaborative warfighting capability gaps and ensure the development of the most intelligent, cost effective, and timely solutions to fill those gaps.
Avionics Component Improvement Program (AvCIP) - Successful project competition and selection, execution of allocated funds, fielding of solutions, and documentation of component performance enhancement and benefits.
Advanced Digital Data Set (ADDS) - Achieve program acquisition milestones on cost and schedule meeting platform requirements.
Mid Air Collision Avoidance Capability (MCAC) - Achieve program acquisition milestones on cost and schedule meeting platform requirements.
Avionics Architectures - Provide leadership in support of the Navy's interest to the Future Airborne Capability Environment (FACE) Consortium. Participate in technical and business working groups within the FACE Consortium to foster solutions that promote interoperable and integrated warfighting capability for all services. Successfully functionally decompose, prototype and demonstrate FACE conformant applications and FACE compatible operating environments. Develop technical specifications for Hardware Open System Technologies (HOST). Prototype and demonstrate HOST avionics components.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Dev CNS/ATM	TBD	TBD : TBD	0.000	-		-		1.604	May 2016	-		1.604	5.024	6.628	6.628
Primary Hardware Dev GPWS	SS/CPIF	Lockheed Martin : Owego, NY	0.000	6.206	Sep 2014	-		-		-		-	-	6.206	6.206
Primary Hardware Dev MFOQA	SS/CPIF	Mantech : Fairfax, VA	35.834	4.058	Mar 2014	0.225	Mar 2015	-		-		-	-	40.117	40.117
Primary Hardware Dev MFOQA	SS/CPFF	BGI : Akron, OH	14.144	5.607	Apr 2014	0.225	May 2015	-		-		-	-	19.976	19.976
Primary Hardware Dev AvCIP	SS/CPFF	Boeing : St. Louis, MO	0.000	1.911	Dec 2013	-		-		-		-	-	1.911	1.911
Primary Hardware Dev ADDS	SS/BOA	Physical Optics Corporation : Torrance, CA	7.624	8.999	Aug 2014	-		-		-		-	-	16.623	16.623
Primary Hardware Dev ADDS	SS/BOA	Boeing : St. Louis, MO	0.000	1.495	Jul 2014	-		-		-		-	-	1.495	1.495
Primary Hardware Dev	WR	NAWCAD : Patuxent River, MD	1.557	2.055	Dec 2013	2.107	Dec 2014	2.284	Dec 2015	-		2.284	Continuing	Continuing	Continuing
Primary Hardware Dev	Various	Various : Various	61.412	-		4.144	Mar 2015	4.655	Mar 2016	-		4.655	Continuing	Continuing	Continuing
Aircraft Integration TACCOM	SS/FFP	Rockwell Collins : Cedar Rapids, IA	57.049	-		7.173	Mar 2015	6.161	Mar 2016	-		6.161	Continuing	Continuing	Continuing
Aircraft Integration GPWS	SS/CPIF	Lockheed Martin : Owego, NY	0.000	-		-		1.015	Mar 2016	-		1.015	Continuing	Continuing	Continuing
Systems Engineering MFOQA	WR	NSWC Carderock : Bethesda, MD	0.934	1.461	Mar 2014	0.467	Mar 2015	-		-		-	-	2.862	-
Systems Engineering	WR	NAWCAD : Patuxent River, MD	28.073	3.564	Dec 2013	3.069	Dec 2014	2.293	Dec 2015	-		2.293	Continuing	Continuing	Continuing
Systems Engineering AAT	MIPR	DTIC : Ft. Belvoir, Va	0.000	-		11.246	Mar 2015	2.884	Mar 2016	-		2.884	-	14.130	-
Systems Engineering	Various	Various : Various	0.075	0.539	Mar 2014	1.100	Mar 2015	-		-		-	-	1.714	-
Prior year Prod Dev costs no longer funded in FYDP	Various	Various : Various	380.705	-		-		-		-		-	-	380.705	-
		Subtotal	587.407	35.895		29.756		20.896		-		20.896	-	-	-

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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development TACCOM	TBD	Rockwell Collins : Cedar Rapids, IA	0.000	-		-		3.560	Dec 2015	-		3.560	Continuing	Continuing	Continuing
Integrated Logistics Support	WR	NAWCAD : Patuxent River, MD	16.884	1.313	Dec 2013	1.681	Dec 2014	1.127	Dec 2015	-		1.127	Continuing	Continuing	Continuing
Studies and Analysis	Various	Various : Various	18.505	1.593	Jul 2014	-		0.091	Mar 2016	-		0.091	-	20.189	-
Prior year Support costs no longer funded in FYDP	Various	Various : Various	34.557	-		-		-		-		-	-	34.557	-
		Subtotal	69.946	2.906		1.681		4.778		-		4.778	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test and Evaluation	Various	Various : Various	10.286	3.582	Apr 2014	0.543	Apr 2015	0.504	Apr 2016	-		0.504	Continuing	Continuing	Continuing
Prior year T&E costs no longer funded in FYDP	Various	Various : Various	39.111	-		-		-		-		-	-	39.111	-
		Subtotal	49.397	3.582		0.543		0.504		-		0.504	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	69.260	5.060	Jul 2014	5.387	Jun 2015	7.866	Dec 2015	-		7.866	Continuing	Continuing	Continuing
Government Engineering Support	WR	NAWCAD : Patuxent River, MD	21.951	1.411	Mar 2014	1.924	Mar 2015	2.459	Mar 2016	-		2.459	Continuing	Continuing	Continuing
Program Management Support	WR	NAWCAD : Patuxent River, MD	19.855	3.356	Mar 2014	2.861	Mar 2015	3.305	Mar 2016	-		3.305	Continuing	Continuing	Continuing
Travel	WR	NAVAIR : Patuxent River, MD	1.165	0.074	Nov 2013	0.108	Nov 2014	0.082	Nov 2015	-		0.082	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Management Services ($ in Millions)

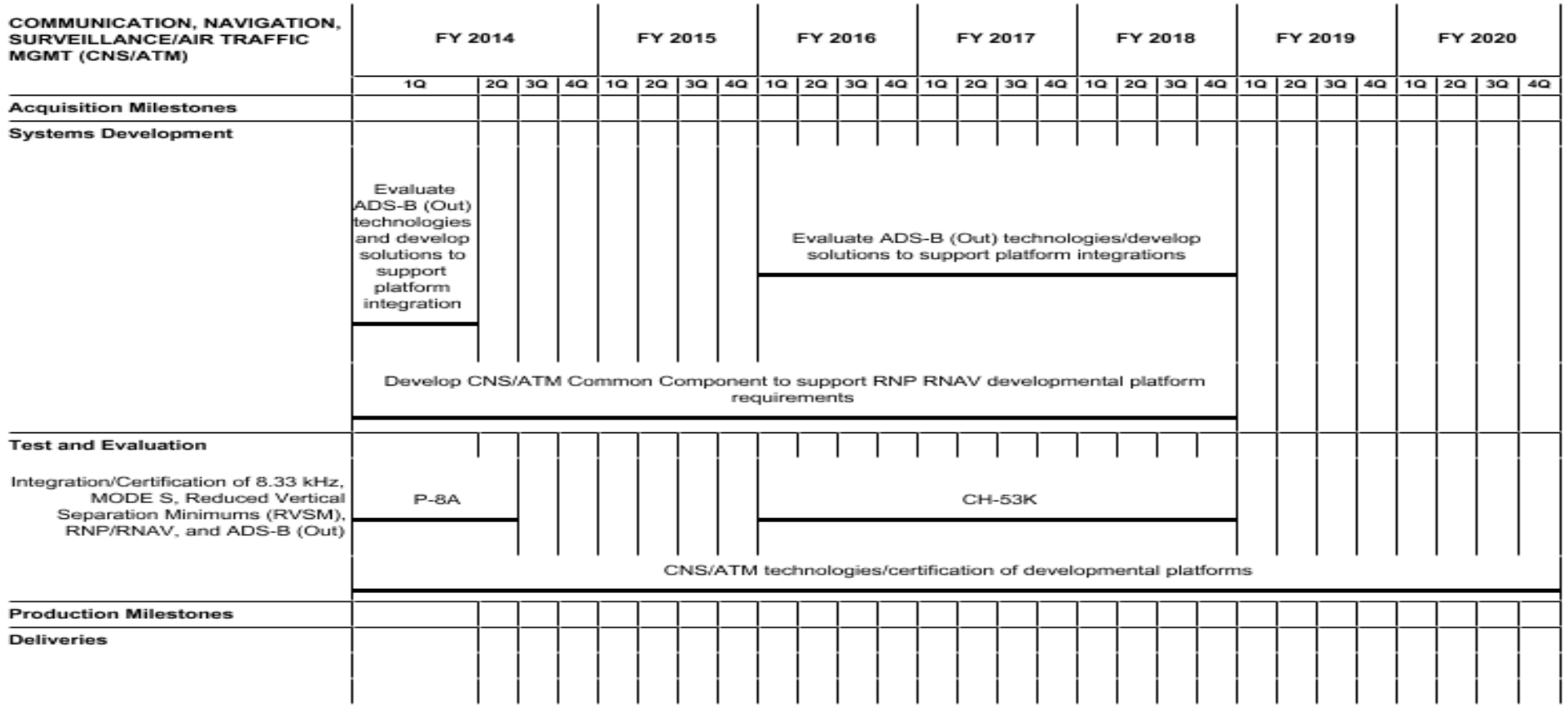
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior year Mgmt costs no longer funded in FYDP	Various	Various : Various	21.536	-		-		-		-		-	-	21.536	-
		Subtotal	133.767	9.901		10.280		13.712		-		13.712	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	840.517	52.284		42.260		39.890		-		39.890	-	-	-

Remarks

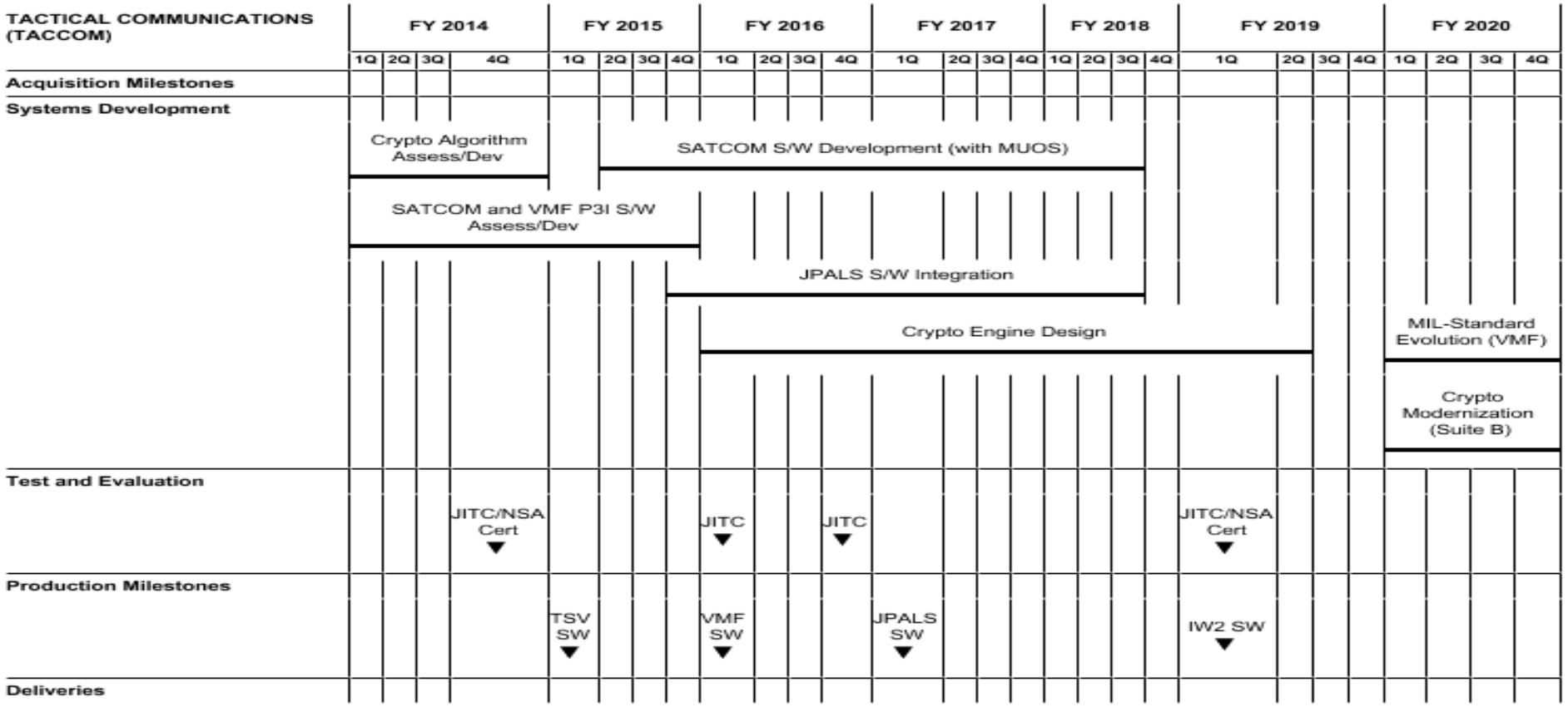
Prior Year costs from OSD16 to PB16 have been adjusted to reflect actuals. Total cost remains the same.

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 0572 / *JT Service/NV Std Avionics CP/SB*



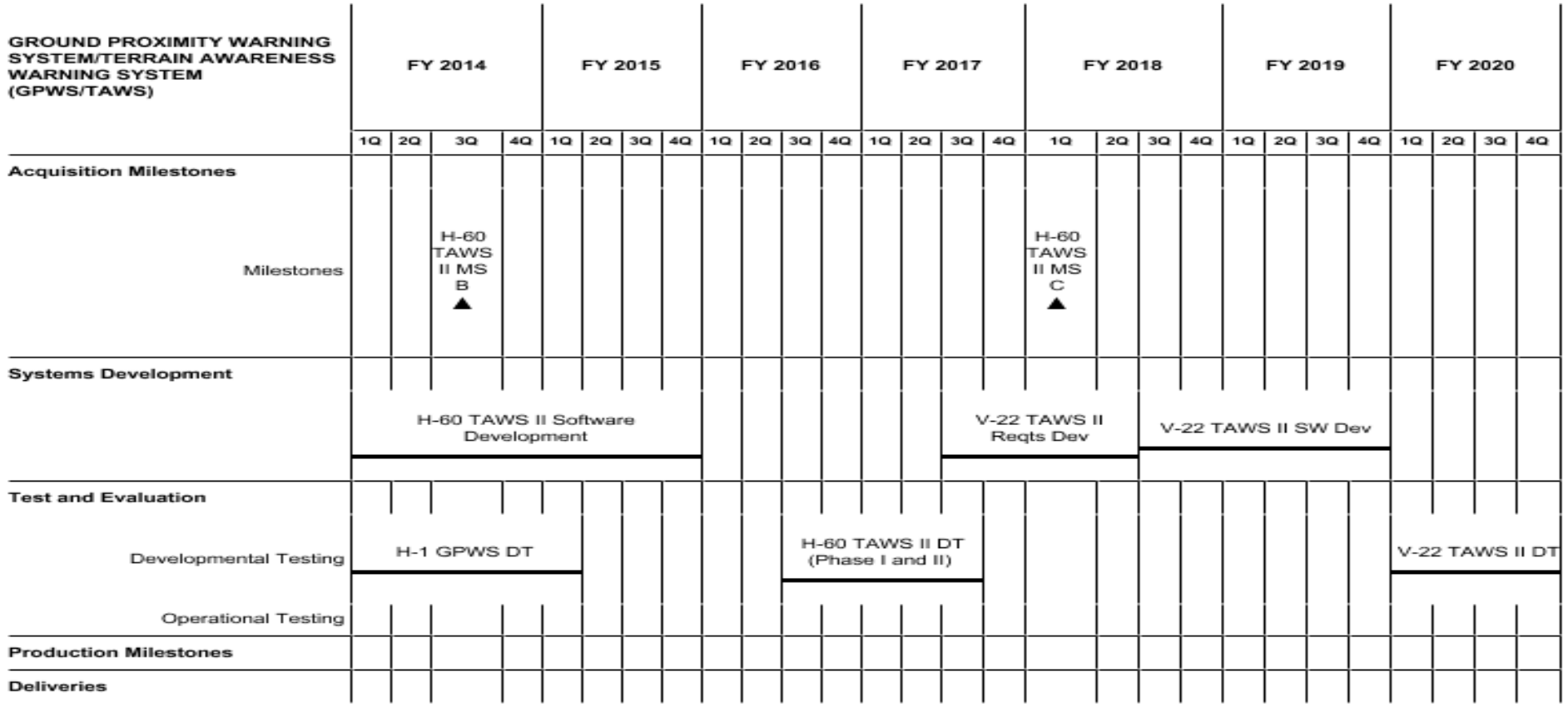
2016PB - 0604215N - 0572

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 0572 / *JT Service/NV Std Avionics CP/SB*



2016PB - 0604215N - 0572

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 0572 / *JT Service/NV Std Avionics CP/SB*

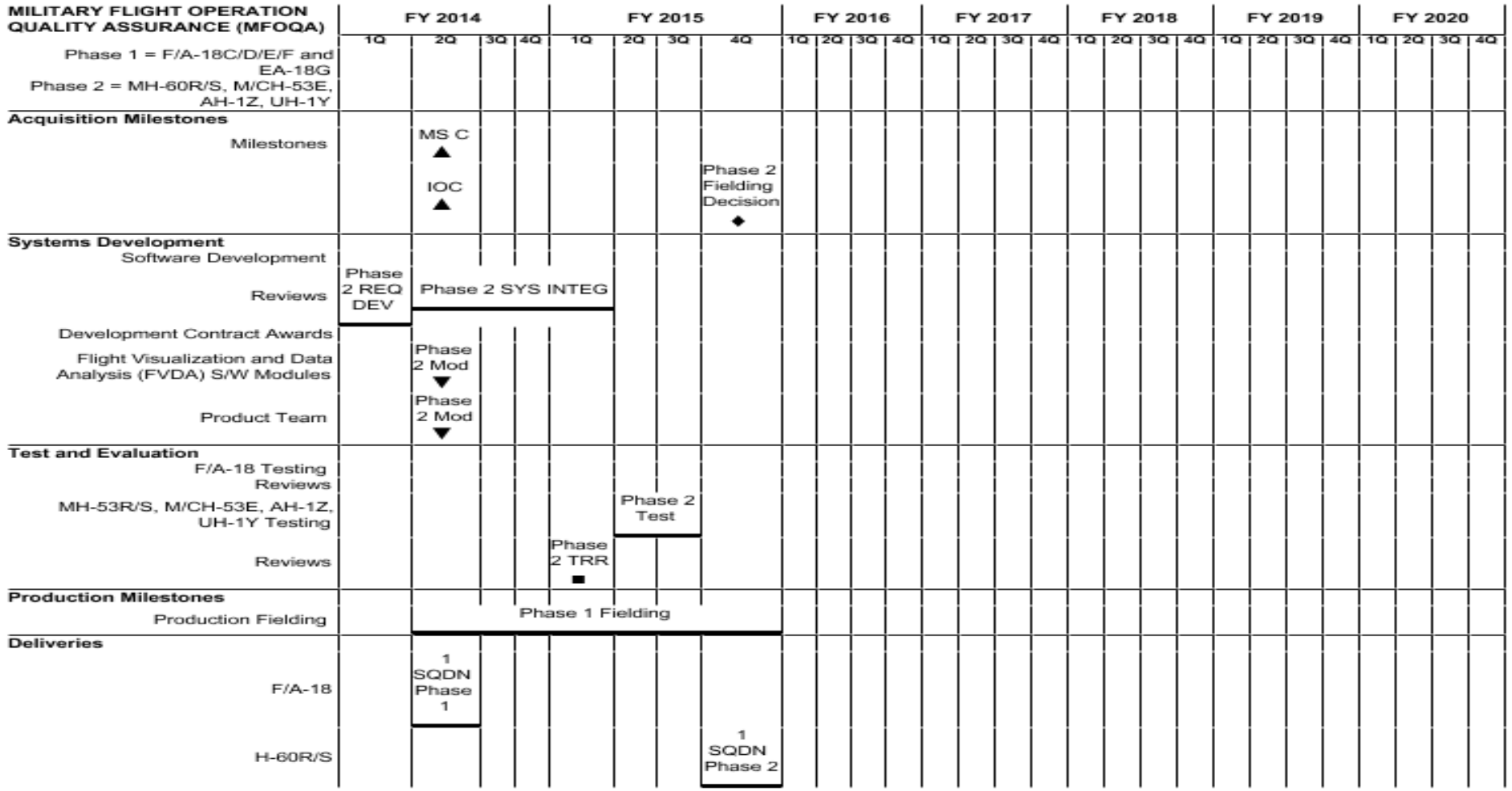
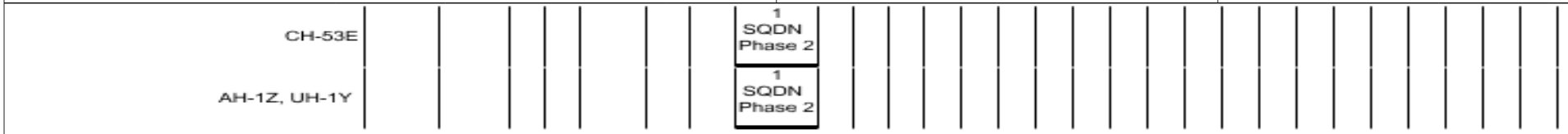
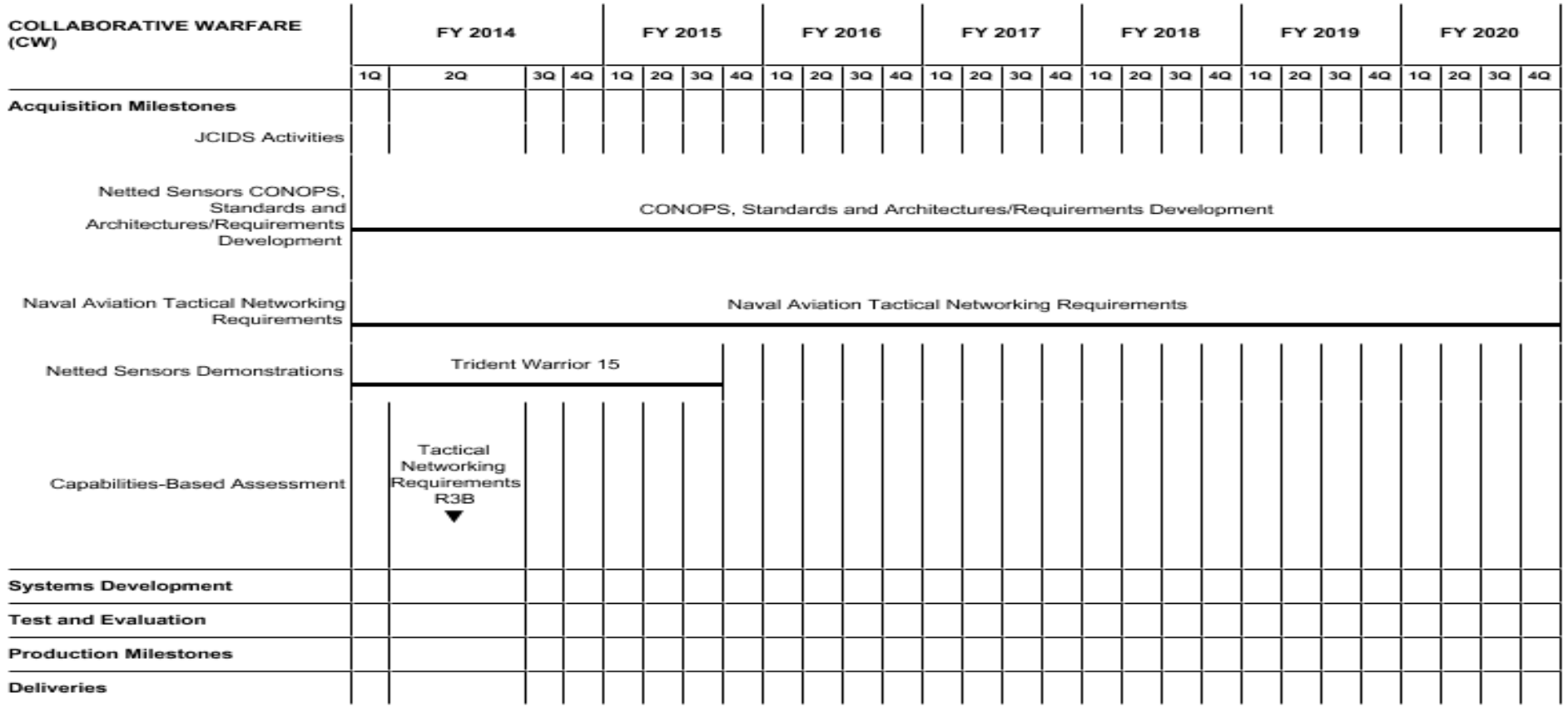


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 0572 / *JT Service/NV Std Avionics CP/SB*



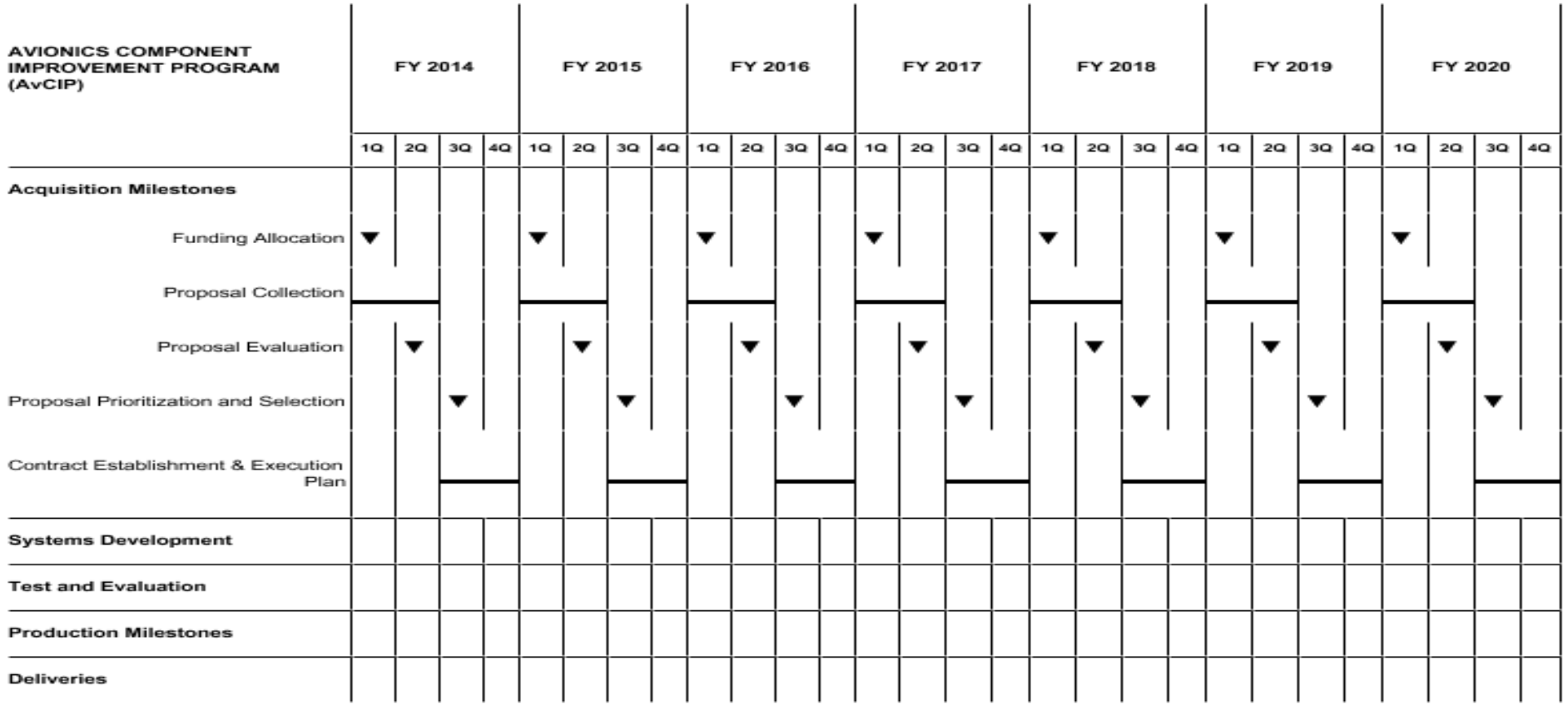
2016PB - 0604215N - 0572

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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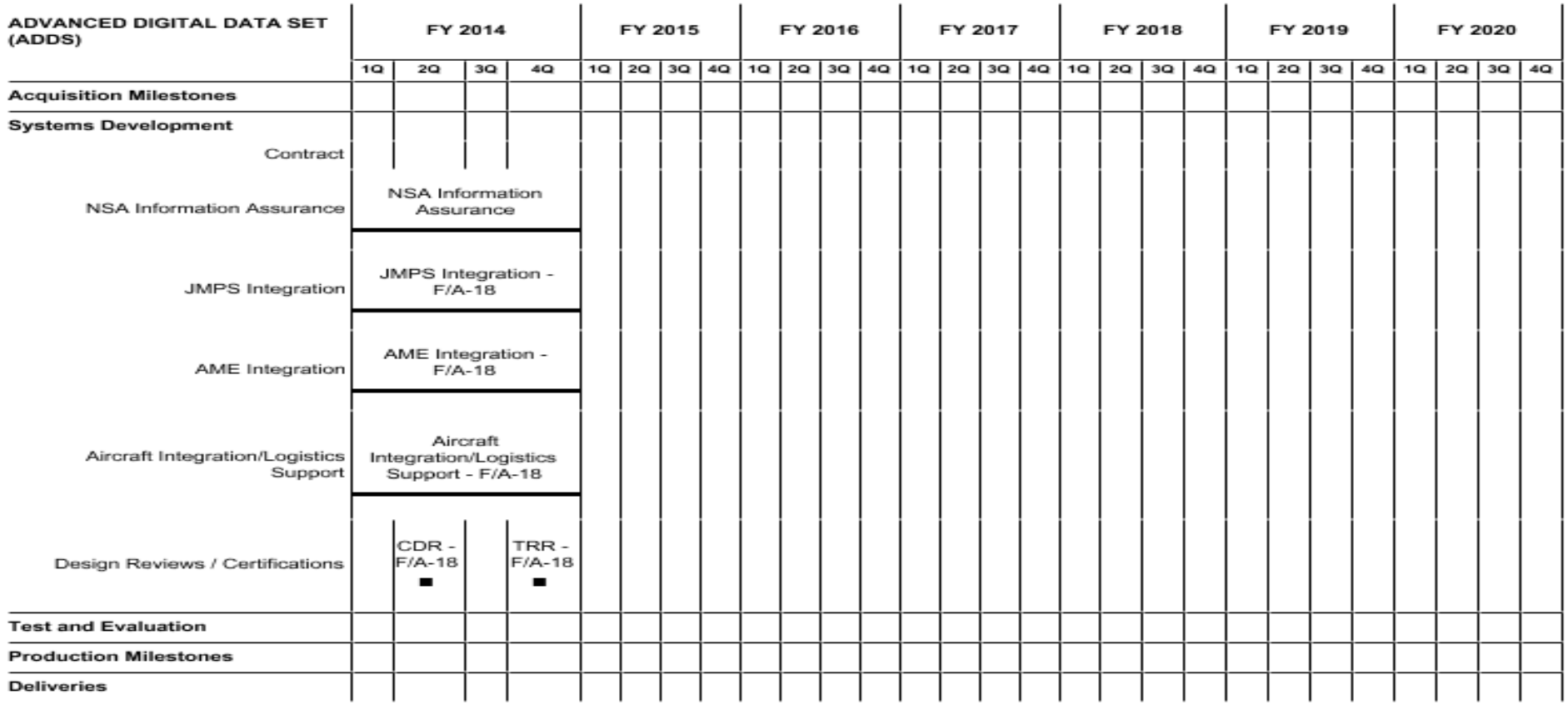
2016PB - 0604215N - 0572

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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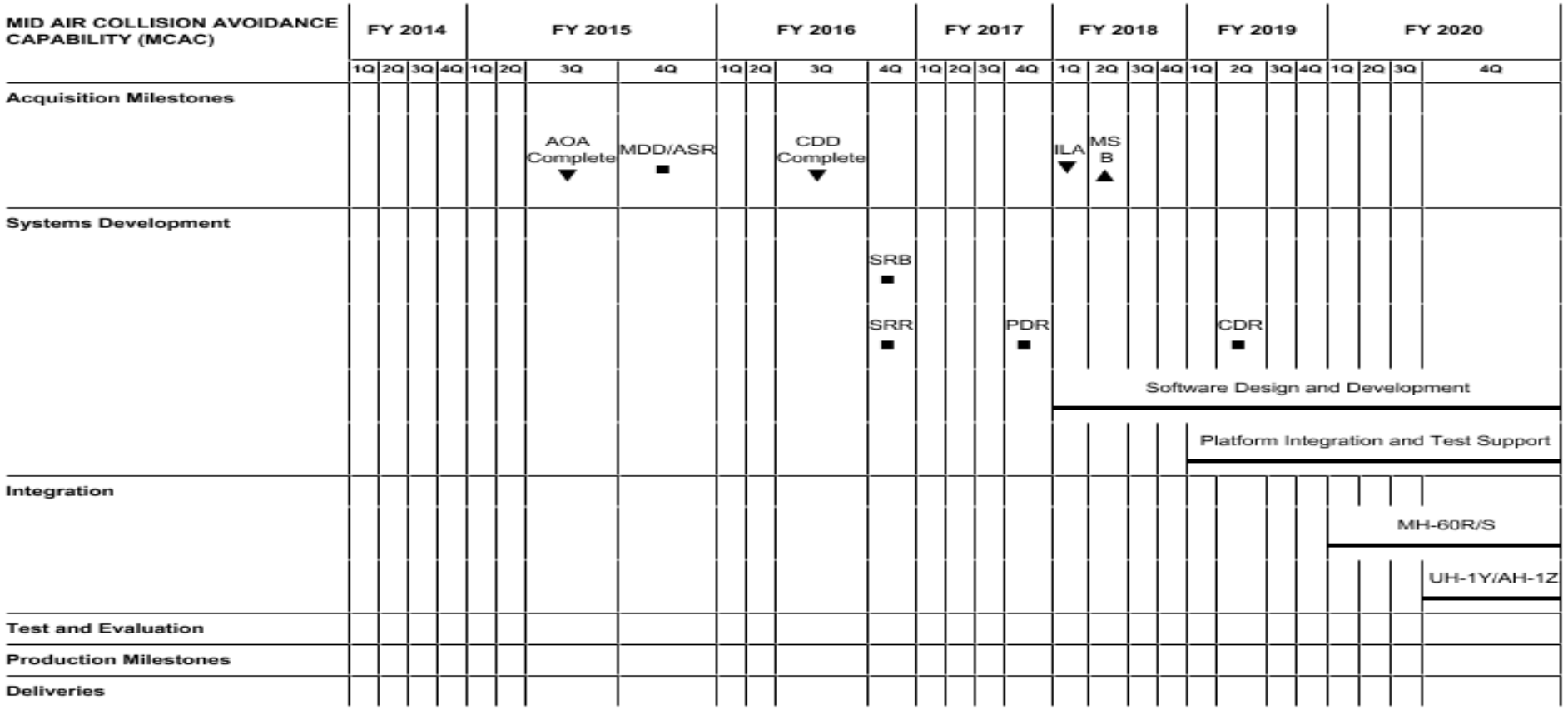
2016PB - 0604215N - 0572

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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2016PB - 0604215N - 0572

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
COMMUNICATION, NAVIGATION, SURVEILLANCE/AIR TRAFFIC MGMT (CNS/ATM)				
Systems Development: Evaluate ADS-B (Out) technologies and develop solutions to support platform integration	1	2014	1	2014
Systems Development: Evaluate ADS-B (Out) technologies and develop solutions to support platform integrations	1	2016	4	2018
Systems Development: Develop CNS/ATM Common Component to support RNP RNAV developmental platform requirements	1	2014	4	2018
Test and Evaluation: Integration/Certification of 8.33 kHz, MODE S, Reduced Vertical Separation Minimums (RVSM), RNP/RNAV, and ADS-B (Out): Integration/Cert 8.33 kHz, MODE S, RVSM, RNP RNAV P-8	1	2014	2	2014
Test and Evaluation: Integration/Certification of 8.33 kHz, MODE S, Reduced Vertical Separation Minimums (RVSM), RNP/RNAV, and ADS-B (Out): Integration/Cert 8.33 kHz, MODE S, RVSM, RNP RNAV CH-53K	1	2016	4	2018
Test and Evaluation: Integration/Certification of 8.33 kHz, MODE S, Reduced Vertical Separation Minimums (RVSM), RNP/RNAV, and ADS-B (Out): Integration/Cert 8.33 kHz, MODE S, RVSM, RNP RNAV	1	2014	4	2020
TACTICAL COMMUNICATIONS (TACCOM)				
Systems Development: GEN 5 Integrated Waveform Satellite Communications (SATCOM) S/W Development Phase 2	2	2015	3	2018
Systems Development: GEN 5 Crypto Algorithm Assessment/Development	1	2014	4	2014
Systems Development: GEN 5 SATCOM P3I S/W Assessment/Development	1	2014	4	2015
Systems Development: Joint Precision Approach Landing System (S/W) Integration	4	2015	3	2018
Systems Development: Crypto Engine Design	1	2016	2	2019
Systems Development: MIL-Standard Evolution (VMF)	1	2020	4	2020
Systems Development: Crypto Modernization (Suite B)	1	2020	4	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Test and Evaluation: GEN 5 JITC Certification2	4	2014	4	2014
Test and Evaluation: GEN 5 JTIC Certification3	1	2016	1	2016
Test and Evaluation: GEN 5 JITC Certification4	4	2016	4	2016
Test and Evaluation: GEN 5 JITC Certification5	1	2019	1	2019
Production Milestones: GEN 5 Evol S/W Release5	1	2015	1	2015
Production Milestones: GEN 5 Evol S/W Release6	1	2016	1	2016
Production Milestones: GEN 5 Evol S/W Release7	1	2017	1	2017
Production Milestones: GEN 5 Evol S/W Release8	1	2019	1	2019
GROUND PROXIMITY WARNING SYSTEM/TERRAIN AWARENESS WARNING SYSTEM (GPWS/TAWS)				
Acquisition Milestones: Milestones: H-60 TAWS II MS B	3	2014	3	2014
Acquisition Milestones: Milestones: H-60 TAWS II MS C	1	2018	1	2018
Systems Development: H-60 TAWS II Software Development	1	2014	4	2015
Systems Development: V-22 TAWS II Reqts Dev	3	2017	2	2018
Systems Development: V-22 TAWS II SW Dev	3	2018	4	2019
Test and Evaluation: Developmental Testing: H-1 GPWS DT	1	2014	1	2015
Test and Evaluation: Developmental Testing: H-60 TAWS II DT (Phase I and II)	3	2016	3	2017
Test and Evaluation: Developmental Testing: V-22 TAWS II DT	1	2020	4	2020
MILITARY FLIGHT OPERATION QUALITY ASSURANCE (MFOQA)				
Acquisition Milestones: Milestones: Milestone C (MS C)	2	2014	2	2014
Acquisition Milestones: Milestones: IOC	2	2014	2	2014
Acquisition Milestones: Milestones: Phase 2 Fielding Decision	4	2015	4	2015
Systems Development: Reviews: Phase 2 Req Dev	1	2014	1	2014
Systems Development: Reviews: Phase 2 Sys Integration	2	2014	1	2015
Systems Development: Flight Visualization and Data Analysis (FVDA) S/W Modules: Phase 2 Mod	2	2014	2	2014
Systems Development: Product Team: Phase 2 Mod	2	2014	2	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Test and Evaluation: MH-53R/S, M/CH-53E, AH-1Z, UH-1Y Testing: Phase 2 Test	2	2015	3	2015
Test and Evaluation: Reviews: Phase 2 TRR	1	2015	1	2015
Production Milestones: Production Fielding: Phase 1 Fielding	2	2014	4	2015
Deliveries: F/A-18: 1 Squadron R&D	2	2014	2	2014
Deliveries: H-60R/S: 1 Squadron R&D	4	2015	4	2015
Deliveries: CH-53E: 1 Squadron R&D	4	2015	4	2015
Deliveries: AH-1Z, UH-1Y: 1 Squadron R&D	4	2015	4	2015
COLLABORATIVE WARFARE (CW)				
Acquisition Milestones: Netted Sensors CONOPS, Standards and Architectures/ Requirements Development: Netted Sensors CONOPS, Standards, and Architectures/ Requirements Development	1	2014	4	2020
Acquisition Milestones: Naval Aviation Tactical Networking Requirements: Naval Aviation Tactical Networking Requirements	1	2014	4	2020
Acquisition Milestones: Netted Sensors Demonstrations: Trident Warrior 15	1	2014	3	2015
Acquisition Milestones: Capabilities-Based Assessment: Tactical Networking Requirements R3B	2	2014	2	2014
ADVANCED DIGITAL DATA SET (ADDS)				
Systems Development: NSA Information Assurance: NSA Effort - F/A-18	1	2014	4	2014
Systems Development: JMPS Integration: JMPS Integration - F/A-18	1	2014	4	2014
Systems Development: AME Integration: AME Integration - F/A-18	1	2014	4	2014
Systems Development: Aircraft Integration/Logistics Support: Aircraft Integration/ Logistics Support - F/A-18	1	2014	4	2014
Systems Development: Design Reviews / Certifications: CDR - F/A-18	2	2014	2	2014
Systems Development: Design Reviews / Certifications: TRR - F/A-18	4	2014	4	2014
MID AIR COLLISION AVOIDANCE CAPABILITY (MCAC)				
Acquisition Milestones: ILA	1	2018	1	2018
Acquisition Milestones: AOA Complete	3	2015	3	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Milestones: CDD Complete	3	2016	3	2016
Acquisition Milestones: MDD/ASR	4	2015	4	2015
Acquisition Milestones: MS B	2	2018	2	2018
Systems Development: SRB	4	2016	4	2016
Systems Development: SRR	4	2016	4	2016
Systems Development: PDR	4	2017	4	2017
Systems Development: CDR	2	2019	2	2019
Systems Development: Software Design and Development	1	2018	4	2020
Systems Development: Platform Integration and Test Support	1	2019	4	2020
Integration: MH-60R/S	1	2020	4	2020
Integration: UH-1Y/AH-1Z	4	2020	4	2020
AVIONICS COMPONENT IMPROVEMENT PROGRAM (AvCIP)				
Acquisition Milestones: Funding Allocation: Funding Allocation 14	1	2014	1	2014
Acquisition Milestones: Funding Allocation: Funding Allocation 15	1	2015	1	2015
Acquisition Milestones: Funding Allocation: Funding Allocation 16	1	2016	1	2016
Acquisition Milestones: Funding Allocation: Funding Allocation 17	1	2017	1	2017
Acquisition Milestones: Funding Allocation: Funding Allocation 18	1	2018	1	2018
Acquisition Milestones: Funding Allocation: Funding Allocation 19	1	2019	1	2019
Acquisition Milestones: Funding Allocation: Funding Allocation 20	1	2020	1	2020
Acquisition Milestones: Proposal Collection: Proposal Collection 14	1	2014	2	2014
Acquisition Milestones: Proposal Collection: Proposal Collection 15	1	2015	2	2015
Acquisition Milestones: Proposal Collection: Proposal Collection 16	1	2016	2	2016
Acquisition Milestones: Proposal Collection: Proposal Collection 17	1	2017	2	2017
Acquisition Milestones: Proposal Collection: Proposal Collection 18	1	2018	2	2018
Acquisition Milestones: Proposal Collection: Proposal Collection 19	1	2019	2	2019
Acquisition Milestones: Proposal Collection: Proposal Collection 20	1	2020	2	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 0572 / *JT Service/NV Std Avionics CP/SB*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 14	2	2014	2	2014
Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 15	2	2015	2	2015
Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 16	2	2016	2	2016
Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 17	2	2017	2	2017
Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 18	2	2018	2	2018
Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 19	2	2019	2	2019
Acquisition Milestones: Proposal Evaluation: Proposal Evaluation 20	2	2020	2	2020
Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 14	3	2014	3	2014
Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 15	3	2015	3	2015
Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 16	3	2016	3	2016
Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 17	3	2017	3	2017
Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 18	3	2018	3	2018
Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 19	3	2019	3	2019
Acquisition Milestones: Proposal Prioritization and Selection: Proposal Prioritization and Selection 20	3	2020	3	2020
Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 14	3	2014	4	2014
Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 15	3	2015	4	2015
Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 16	3	2016	4	2016
Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 17	3	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 0572 / *JT Service/NV Std Avionics CP/SB*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 18	3	2018	4	2018
Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 19	3	2019	4	2019
Acquisition Milestones: Contract Establishment & Execution Plan: Contract Establishment & Execution Plan 20	3	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604215N / *Standards Development*	Project (Number/Name) 1857 / *Calibration Standards*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1857: *Calibration Standards*	10.734	1.830	1.582	1.653	-	1.653	1.692	1.712	1.751	1.786	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

OPNAV sponsored (by instruction), Navy-wide program which addresses Metrology related RDT&E issues for navy weapon systems, shipboard platforms, Naval Air, and Fleet Ground Marines. It supports development of calibration standards (equipment, procedures and technical data) required to resolve Metcal related safety, obsolescence, new and emerging technology support and cost reduction issues. It funds Navy unique and lead service responsibilities in DoD and Joint Services Metrology Research Programs to develop calibration solutions. The line supports development of measurement requirements to verify performance of all test systems used to validate the operation of Navy weapon Systems with calibration standards traceable to the National Institute of Standards and Technology to calibrate, sustain and ensure performance accuracy.

This program also provides benefits and efficiencies in a joint collaborative environment within the Tri-Services. Projects are identified and defined so that they will meet the universal requirement. Development efforts are integrated in order to achieve the common capabilities required at minimum cost. This is also a regular and common business practice within the Navy Metrology Community where R&D efforts are communicated and integrated into the multiple testing and Monitoring Systems. This is done in support of Program Managers, Sponsors, and Principle Executive officers. As a result, common requirements are established, duplication of efforts are eliminated, and best value, high quality Metcal products are produced for the Navy.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Calibration Standards	1.830	1.582	1.653	-	1.653
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
($.632) Transition calibration standards in support of electro optical standards (hardware) in support of safety of flight operations.					
($.867) Continue development of calibration standards (hardware) in support of chemical and biological detection systems (chemical warfare agent detection systems).					
($.331) Continue development of analytical metrology (processes) in support of automated interval and uncertainty analysis.					
FY 2015 Plans:					
($.907) Continue development calibration standards in support of electro optical standards (hardware) in support of safety of flight operations.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
($.428) Continue development of calibration standards (hardware) in support of Physical Mechanical standards in support of Shipboard Flight Operations and NAVAIR Oxygen systems. ($.247) Continue development of analytical metrology (processes) in support of automated interval and uncertainty analysis. ***FY 2016 Base Plans:*** ($1.287) Continue development calibration standards in support of electro optical standards (hardware) in support of safety of flight operations. ($.256) Continue development of calibration standards (hardware) in support of Physical Mechanical standards in support of Shipboard Flight Operations and NAVAIR Oxygen systems. ($.110) Continue development of analytical metrology (processes) in support of automated interval and uncertainty analysis. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.830	1.582	1.653	-	1.653

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Funds provide for in-service engineering initiation of metrology research and developmental efforts of unique non-commercial hardware standards in the development of six key thrust technological areas which correspond to Physical Mechanical, Electro-Optical, Analytical Metrology, Electrical/Electronic systems, Chembio Defense, Microwave/Millimeter wave . These standards will ensure measurement accuracy in advanced and emerging combat weapon systems and associated test equipment. These hardware test standards will also provide for cost effective and efficient system maintenance and calibration measurements that reduce wrong test decisions and will result in lower maintenance cost and higher system performance reliability.

E. Performance Metrics

The U.S. Navy Metrology RDT&E Program will transition 1 project during FY16 in the technology area of Analytical metrology in new calibration hardware and processes. The Program will continue the research and development of 3 projects in progress in the technology areas of Physical Mechanical and Electro Optical for the

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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purpose of ensuring measurement accuracy in new emerging technology measurement requirements of Navy weapon systems. Success measures will be articulated through program goals and a balance score card strategy system.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	NSWC Corona : Corona, CA	4.996	0.322	Mar 2014	-		0.093	Oct 2015	-		0.093	Continuing	Continuing	Continuing
		Subtotal	4.996	0.322		-		0.093		-		0.093	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	WR	NSWC Corona : Corona, CA	1.716	0.200	Dec 2013	0.151	Oct 2014	0.271	Oct 2015	-		0.271	-	2.338	-
Government Engineering Support	WR	NSWC Corona : Corona, CA	3.860	1.283	Oct 2013	1.416	Oct 2014	1.274	Oct 2015	-		1.274	-	7.833	-
Defense Acquisition Workforce	Various	Various : Various	0.007	-		-		-		-		-	-	0.007	-
Travel	WR	NSWC Corona : Corona, CA	0.155	0.025	Oct 2013	0.015	Oct 2014	0.015	Oct 2015	-		0.015	-	0.210	-
		Subtotal	5.738	1.508		1.582		1.560		-		1.560	-	10.388	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	10.734	1.830		1.582		1.653		-		1.653	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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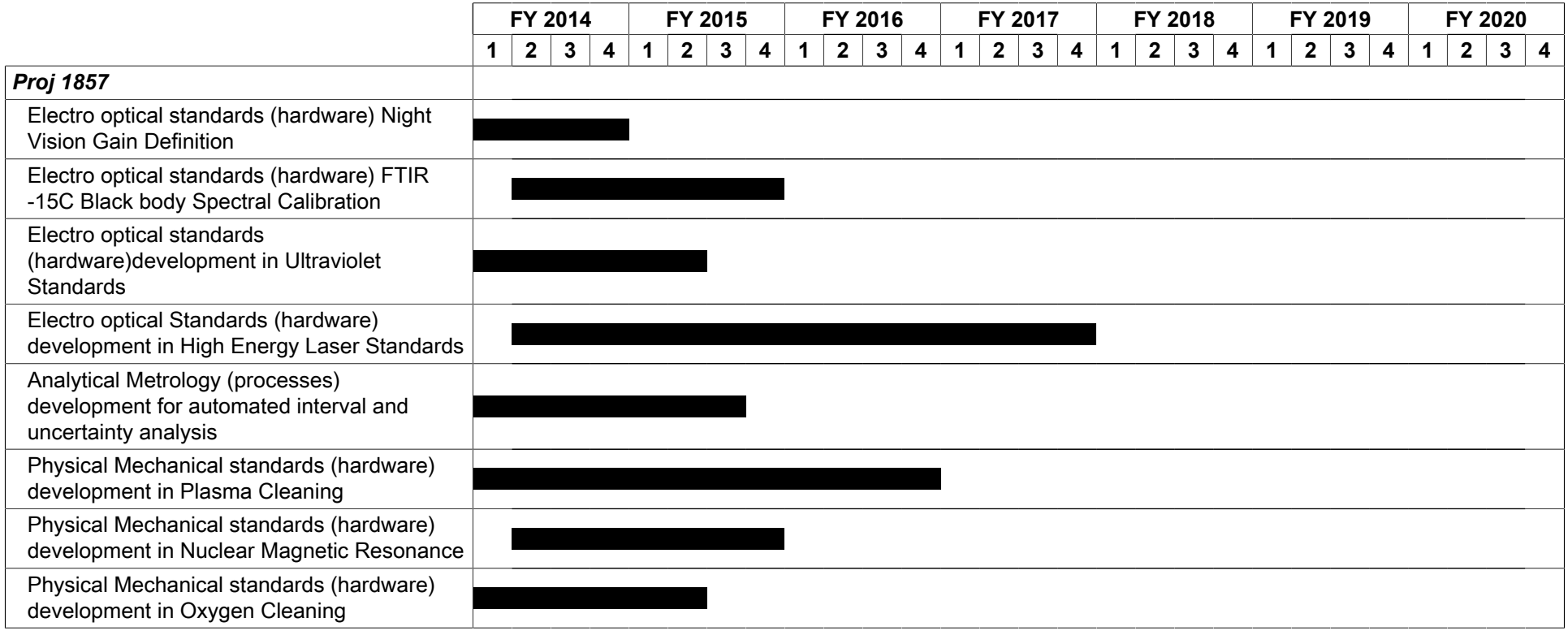


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 1857 / *Calibration Standards*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1857				
Electro optical standards (hardware) Night Vision Gain Definition	1	2014	4	2014
Electro optical standards (hardware) FTIR -15C Black body Spectral Calibration	2	2014	4	2015
Electro optical standards (hardware)development in Ultraviolet Standards	1	2014	2	2015
Electro optical Standards (hardware) development in High Energy Laser Standards	2	2014	4	2017
Analytical Metrology (processes) development for automated interval and uncertainty analysis	1	2014	3	2015
Physical Mechanical standards (hardware) development in Plasma Cleaning	1	2014	4	2016
Physical Mechanical standards (hardware) development in Nuclear Magnetic Resonance	2	2014	4	2015
Physical Mechanical standards (hardware) development in Oxygen Cleaning	1	2014	2	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604215N / *Standards Development*	Project (Number/Name) 2311 / *Stores Planning and Weaponeering Module*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2311: *Stores Planning and Weaponeering Module*	147.198	11.956	9.305	10.941	-	10.941	13.125	12.101	11.874	12.120	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project 2311, Stores Planning and Weaponeering Module: The Naval Aircraft Weaponeering Components project, now referred to as the Weaponeering and Stores Planning (WASP) components, are integrated software products that allow aircrew to determine the best combinations of weapons and delivery conditions to achieve the desired level of target damage, eliminate weapon delivery solutions that violate aircraft Type/Model/Series (T/M/S) specific safety-of-flight envelopes, and perform detailed weapons employment planning. WASP is approved by Air Warfare Division (N98) as a flight clearance implementation system for the F/A-18 A, A+, B, C, D, D (RC), E, F, EA-18G; potential support for other platforms, to include F-35. WASP components will alert pilots if their planned weapon release conditions meet flight clearance limits, will result in bomb-to-bomb collisions, bomb-to-aircraft collisions, aircraft overstress, or excessive risk of aircraft loss/damage in the event of fuze early bursts. Weapon employment planning is fundamental to the Joint Capability Area of Force Application and joint mission areas of Strike and Amphibious Warfare. WASP provides the Navy and Marine Corp with weaponeering capabilities that are critical requirements for Interdiction, Armed Reconnaissance and Close Air Support mission planning. Therefore, WASP product availability is critical to successful employment of the Joint Mission Planning System (JMPS) for the F/A-18 A-F and EA-18G. The WASP product encompasses a multitude of Government Furnished Information software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators). WASP products will require updates as emergent requirements for new aircraft T/M/S, stores and weapons are approved, and new flight clearances and flight restrictions are issued by Naval Air Systems Command Headquarters (NAVAIRSYSCOM).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Product Development	6.173	3.905	4.325	-	4.325
Articles:	-	-	-	-	-
Description: Includes associated system engineering design, development, installation, integration and software development for WASP components V3.0A, V3.1, V3.1A, V3.1B, V3.1C, V3.1D, V3.2, V3.2A, V3.2B, V3.3 to support F/A-18 A-F; and V3.1 and later to support EA-18G. Naval Air Warfare Center Weapons Division (NAWCWD), Joint Software Support Activity (JSSA) will develop and maintain the AV-8B Weapons and Release Planning (WARP) tool. Define requirements to integrate WASP components into the JMPS. Provide domain engineering support for weapons separation, aircraft loads, flutter, fuzing and safe escape for application to WASP. Provide analysis of new requirements, allocation of requirements, design oversight, and life cycle management of the WASP program. Develop new aircraft configuration, aircraft loading, weapon optimization, store release and delivery planning components for F/A-18 A-F and EA-18G new flight clearances and flight restrictions issued by NAVAIRSYSCOM. Provide configuration management, system administration, quality					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 2311 / *Stores Planning and Weaponeering Module*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
assurance, documentation, metrics and software risk management for WASP. Acquire, integrate and modify numerous Government Furnished Information (GFI) software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators, etc.) that are used for the WASP software development. Integrate WASP with Joint Standoff Weapon/Joint Direct Attack Munitions/Standoff Land-Attack Missile - Expanded Response and other weapons mission planning systems as required. ***FY 2014 Accomplishments:*** Released V3.0 to the Fleet. Continued development and release of V3.1. Developed and released multiple database updates. Began development of V3.2. ***FY 2015 Plans:*** Continue V3.2 development, begin development of V3.3, and release multiple database updates. ***FY 2016 Base Plans:*** Complete development of V3.3, and release multiple database updates. Begin V4.0 development which incorporates planned architectural and usability improvements. ***FY 2016 OCO Plans:*** N/A					
Title: Test and Evaluation (T&E) ***Articles:*** ***Description:*** Provide test and evaluation for unit and system level testing; functional qualification testing; safety of flight certification testing; integration and standards compliance testing for WASP versions V3.0A, V3.1, V3.1A, V3.1B, V3.1C, V3.1D V3.2, V3.2A, V3.2B. Provide Joint Mission Planning System Mission Planning Environment Integration test support. Provide testing and test support to ensure all (to include internally developed software, externally developed GFI) components comply with Department of Navy (DoN) and Department of Defense (DoD) software mandates and directives. These include Integrated Shipboard Network System IT-21, DoD Information Assurance Certification and Accreditation Process, Navy Marine Corps Intranet (NMCI) and DoD Information Technology Portfolio Repository. All Fleet released software must comply with DoN and DoD software directives or will not be allowed to run on ship Local Area Networks or NMCI. ***FY 2014 Accomplishments:***	2.552 -	2.109 -	3.286 -	- -	3.286 -

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 2311 / *Stores Planning and Weaponeering Module*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Completed test and evaluation of WASP V3.1 and multiple database updates. Analyzed test requirements for V3.2. ***FY 2015 Plans:*** Complete test and evaluation of WASP V3.2 in order to release to fleet in FY16. Complete test and evaluation of multiple database updates. Analyze test requirements for V3.3. ***FY 2016 Base Plans:*** Complete test and evaluation of WASP major V3.3 in order to release to fleet in FY17. Complete test and evaluation of multiple database updates. Analyze test requirements. ***FY 2016 OCO Plans:*** N/A					
Title: Program Management/Systems Engineering	3.231	3.291	3.330	-	3.330
Articles:	-	-	-	-	-
Description: Provide program management and systems engineering support, which includes requirements definition and analysis, compliance with Naval Air Systems Command systems engineering technical review processes, Weaponeering and Stores Planning (WASP) acquisition documentation development and support, cost, schedule and performance management, contracting support (providing contract administration, preparing contract packages for award), compliance with external directives and providing financial support (accept, obligate, commit, and track funding). Provide travel for WASP Government personnel. Continue performing project management support for this program throughout the Future Years Defense Program/Plan. ***FY 2014 Accomplishments:*** Continued project management and systems engineering support to the WASP for future releases of WASP to the fleet. Additional support required for multiple database releases. ***FY 2015 Plans:*** Continue project management and systems engineering support to the WASP for future releases of WASP to the fleet. Additional support will be required for multiple database releases. ***FY 2016 Base Plans:*** Continue project management and systems engineering support to the WASP for future releases of WASP to the fleet. Additional support will be required for multiple database releases. ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 2311 / *Stores Planning and Weaponeering Module*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	11.956	9.305	10.941	-	10.941

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTE/3858,5302,5380: *Air Force Mission Planning Systems*	62.432	60.679	65.701	-	65.701	83.246	82.894	84.798	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

Weaponeering and Stores Planning (WASP) products, delivered annually, were developed in-house by NAVAIR consisting of Naval Air Warfare Center Aircraft Division and Naval Air Warfare Center Weapons Division engineers and support contractors. The team has now migrated to a smaller government team that provides functional expertise in aircraft safety-of-flight (air-vehicle stores compatibility, weapons separation, aircraft aerodynamic flutter, ground/flight loads, authorized fuze arm times, aircraft safe escape), guided weapons employment and weapons effects against targets, with the majority of the software development conducted by various contractors. The Government, engineering, test, and support teams (test facilities, functional qualification testing and certification/accreditation test) are supplemented with contractor labor.

E. Performance Metrics

Average time to plan a flight: Threshold value is < 1 hour average time to plan a flight that includes full aircraft loadout and weapons delivery safe escape planning. Objective value is < 15 minutes average time to plan a flight that includes full aircraft loadout and weapons delivery safe escape planning. End product is a pilot's z-diagram knee board card.

Interoperability: Threshold value is 100% stand alone value.
Objective value is 100% stand alone value.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 2311 / *Stores Planning and Weaponeering Module*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development (Government Furnished Information, Occupancy (OCC))	WR	Naval Air Warfare Center Aircraft Division NAWCAD : Patuxent River, MD	17.016	0.030	Nov 2013	-		-		-		-	-	17.046	-
Product Development	WR	Air Force Seek Eagle : Eglin Air Force Base, FL	0.229	0.081	Nov 2013	0.082	Jan 2015	0.081	Jan 2016	-		0.081	Continuing	Continuing	Continuing
Primary Software Development	C/CPFF	DCS Corp : Alexandria, VA	6.936	4.553	Apr 2014	3.161	Jan 2015	3.765	Jan 2016	-		3.765	-	18.415	18.415
Product Development - Weapons and Release Planning (WARP)	WR	Naval Air Warfare Center Weapons Division NAWCWD : China Lake, CA	1.937	-		-		-		-		-	-	1.937	-
SEAL Software Development	C/CPFF	ManTech : Various	1.022	0.517	Nov 2013	0.662	Jan 2015	0.479	Jan 2016	-		0.479	Continuing	Continuing	Continuing
Prior year Prod Dev cost no longer funded in Future Years Defense Program/ Plan	Various	Various : Various	64.207	-		-		-		-		-	-	64.207	-
		Subtotal	91.347	5.181		3.905		4.325		-		4.325	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation Civilian & OCC	WR	NAWCAD : Patuxent River, MD	20.262	1.350	Nov 2013	1.077	Nov 2014	2.254	Nov 2015	-		2.254	Continuing	Continuing	Continuing
Test & Evaluation MANTECH & WYLE	C/CPFF	Various : Various	10.867	1.006	Nov 2013	1.032	Jan 2015	1.032	Jan 2016	-		1.032	-	13.937	13.937
Prior Year T&E costs no longer funded in Future Years Defense Program/ Plan (FYDP)	Various	Various : Various	0.377	-		-		-		-		-	-	0.377	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 2311 / *Stores Planning and Weaponeering Module*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	31.506	2.356		2.109		3.286		-		3.286	-	-	-

Management Services ($ in Millions)

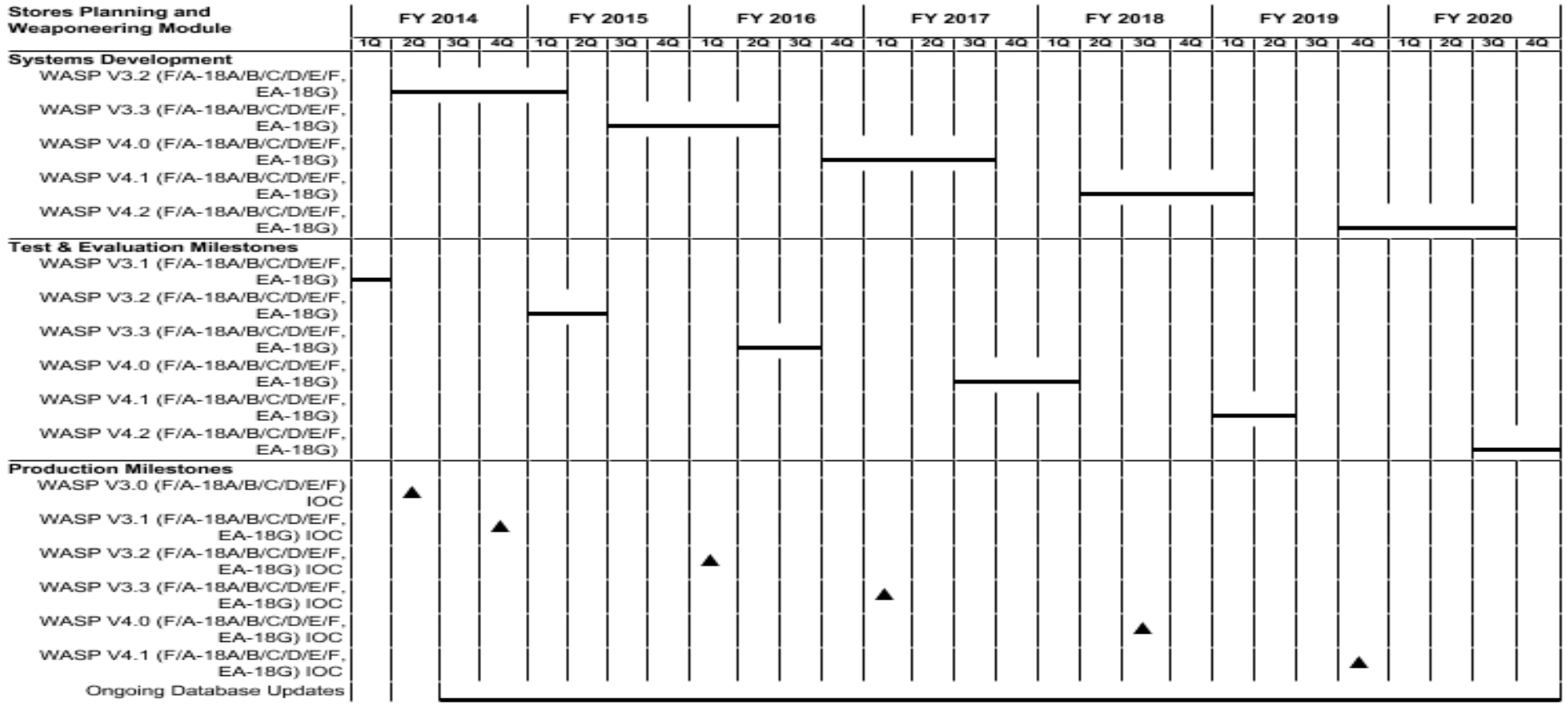
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support Tecelote, shared costs, Materials	WR	Naval Air Warfare Center Aircraft Division NAWCAD : Patuxent River, MD	9.592	0.440	Nov 2013	0.584	Nov 2014	0.578	Feb 2016	-		0.578	Continuing	Continuing	Continuing
Government Engineering Support Civilian Sys Eng	WR	NAWCAD : Patuxent River, MD	6.751	1.900	Nov 2013	0.821	Nov 2014	0.875	Nov 2015	-		0.875	Continuing	Continuing	Continuing
Program Management Support Brandes & MANTECH	Various	Various : Various	1.874	0.284	Feb 2014	0.289	Feb 2015	0.289	Feb 2016	-		0.289	-	2.736	2.736
Government Engineering Support: Guided Weapons	WR	Naval Air Warfare Center Weapons Division NAWCWD : China Lake, CA	1.133	0.019	Nov 2013	0.020	Nov 2014	0.023	Nov 2015	-		0.023	Continuing	Continuing	Continuing
Travel	WR	NAWCAD : Patuxent River, MD	1.294	0.030	Nov 2013	0.015	Nov 2014	0.015	Nov 2015	-		0.015	Continuing	Continuing	Continuing
Systems Engineering Support	Various	Wyle : Huntsville, AL	2.841	1.541	Nov 2013	1.350	Dec 2014	1.550	Dec 2015	-		1.550	-	7.282	7.282
Govt Engineering Support: Mission Planning Environment Integration	WR	NAWCWD : Point Mugu, CA	0.197	0.205	Jan 2014	0.212	Jan 2015	-		-		-	-	0.614	-
Prior year Mgmt costs no longer funded in FYDP	Various	Various : Various	0.663	-		-		-		-		-	-	0.663	-
		Subtotal	24.345	4.419		3.291		3.330		-		3.330	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604215N / *Standards Development*	Project (Number/Name) 2311 / *Stores Planning and Weaponeering Module*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	147.198	11.956		9.305		10.941		-		10.941	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 2311 / *Stores Planning and Weaponeering Module*



2016OSD - 0604215N - 2311

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 2311 / *Stores Planning and Weaponeering Module*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Stores Planning and Weaponeering Module				
Systems Development: WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G):	2	2014	1	2015
Systems Development: WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G):	3	2015	2	2016
Systems Development: WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G):	4	2016	3	2017
Systems Development: WASP V4.1 (F/A-18A/B/C/D/E/F, EA-18G):	2	2018	1	2019
Systems Development: WASP V4.2 (F/A-18A/B/C/D/E/F, EA-18G):	4	2019	3	2020
Test & Evaluation Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F, EA-18G): Test and Evaluation	1	2014	1	2014
Test & Evaluation Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G): Test and Evaluation	1	2015	2	2015
Test & Evaluation Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G): Test and Evaluation	2	2016	3	2016
Test & Evaluation Milestones: WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G): Test and Evaluation	3	2017	1	2018
Test & Evaluation Milestones: WASP V4.1 (F/A-18A/B/C/D/E/F, EA-18G): Test and Evaluation	1	2019	2	2019
Test & Evaluation Milestones: WASP V4.2 (F/A-18A/B/C/D/E/F, EA-18G): Test and Evaluation	3	2020	4	2020
Production Milestones: WASP V3.0 (F/A-18A/B/C/D/E/F) IOC:	2	2014	2	2014
Production Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F, EA-18G) IOC:	4	2014	4	2014
Production Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F, EA-18G) IOC:	1	2016	1	2016
Production Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F, EA-18G) IOC:	1	2017	1	2017
Production Milestones: WASP V4.0 (F/A-18A/B/C/D/E/F, EA-18G) IOC:	3	2018	3	2018
Production Milestones: WASP V4.1 (F/A-18A/B/C/D/E/F, EA-18G) IOC:	4	2019	4	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 2311 / *Stores Planning and Weaponeering Module*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Milestones: Ongoing Database Updates:	3	2014	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604215N / *Standards Development*				Project (Number/Name) 2312 / *Common Helicopters*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
2312: *Common Helicopters*	15.408	0.524	0.559	0.575	-	0.575	0.667	0.679	0.693	0.707	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Automated mission planning systems to date have focused on developing planning capabilities for fixed-wing aircraft, while the unique planning requirements for helicopters have not been fully addressed. The unique and enhanced automated mission planning requirements that must be developed and implemented for helicopters include: data loading, an enhanced route editor (serpentine routing, hover), manipulation of higher fidelity (smaller scale) maps and imagery, enhanced performance tools (performance in and out of ground effect, performance degradation due to atmospheric conditions & elevation), and enhanced fidelity of landing zone, target zone, and threat analyses. The following type/model/series aircraft are supported by this PE: AH-1W/Z, UH-1N/Y, H-46/E, H-53D/E, H-60B/F/H/R/S and V-22. Common helicopter functionality will be developed for implementation in Joint Mission Planning System (JMPS).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Common Helicopters	0.524	0.559	0.575	-	0.575
Articles:	-	-	-	-	-
Description: Development of Common Helicopter functionality and integration with JMPS Framework Versions 1.2.4, 1.3.5 and 64 bit Operating System. Common Components include Common Mission Data Loader (CMDL), Weapon Employment Zone Overlays Tool (WEZOT) and Point Selection Tool (PST). ***FY 2014 Accomplishments:*** Developed a Search Pattern Tool and WEZOT functionality to display weapon employment zone overlays for the Advanced Precision Kill Weapons System and Joint Air-to-Ground Missile for JMPS. Developed CMDL and WEZOT to operate with next JMPS FW and 64 bit Operating System. ***FY 2015 Plans:*** Continue the development of the CMDL, WEZOT and PST to operate with next JMPS FW and 64 bit Operating System. ***FY 2016 Base Plans:*** Continue the development of the CMDL, WEZOT and PST to operate with next JMPS FW and 64 bit Operating System. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.524	0.559	0.575	-	0.575

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 2312 / *Common Helicopters*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTE/3858,5302,5380: *Air Force Mission Planning Systems*	62.432	60.679	65.701	-	65.701	83.246	82.894	84.798	-	Continuing	Continuing
• 0604231N/2213: *Mission Planning*	19.883	26.097	47.733	-	47.733	24.338	22.071	22.282	22.759	Continuing	Continuing

Remarks

D. Acquisition Strategy

Not Applicable.

E. Performance Metrics

Export Mission Data to Data Transfer Device: Threshold value is < 12 minutes to transfer navigation, communication, weapon system initialization settings and intelligence data.

Interoperability: Threshold value is 100% of top level Information Exchange Requirements (IERs)designated critical will be satisfied. Objective value is 100% of top level IERs will be satisfied.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604215N / *Standards Development*	Project (Number/Name) 2312 / *Common Helicopters*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Software Development	C/CPFF	Joint Technology Engineering Inc. : Valparaiso, FL	3.381	0.524	Jan 2014	0.559	Jan 2015	0.575	Jan 2016	-		0.575	2.091	7.130	7.130
Prior year Prod Dev costs no longer funded in FYDP	Various	Various : Various	11.040	-		-		-		-		-	-	11.040	-
		Subtotal	14.421	0.524		0.559		0.575		-		0.575	2.091	18.170	-

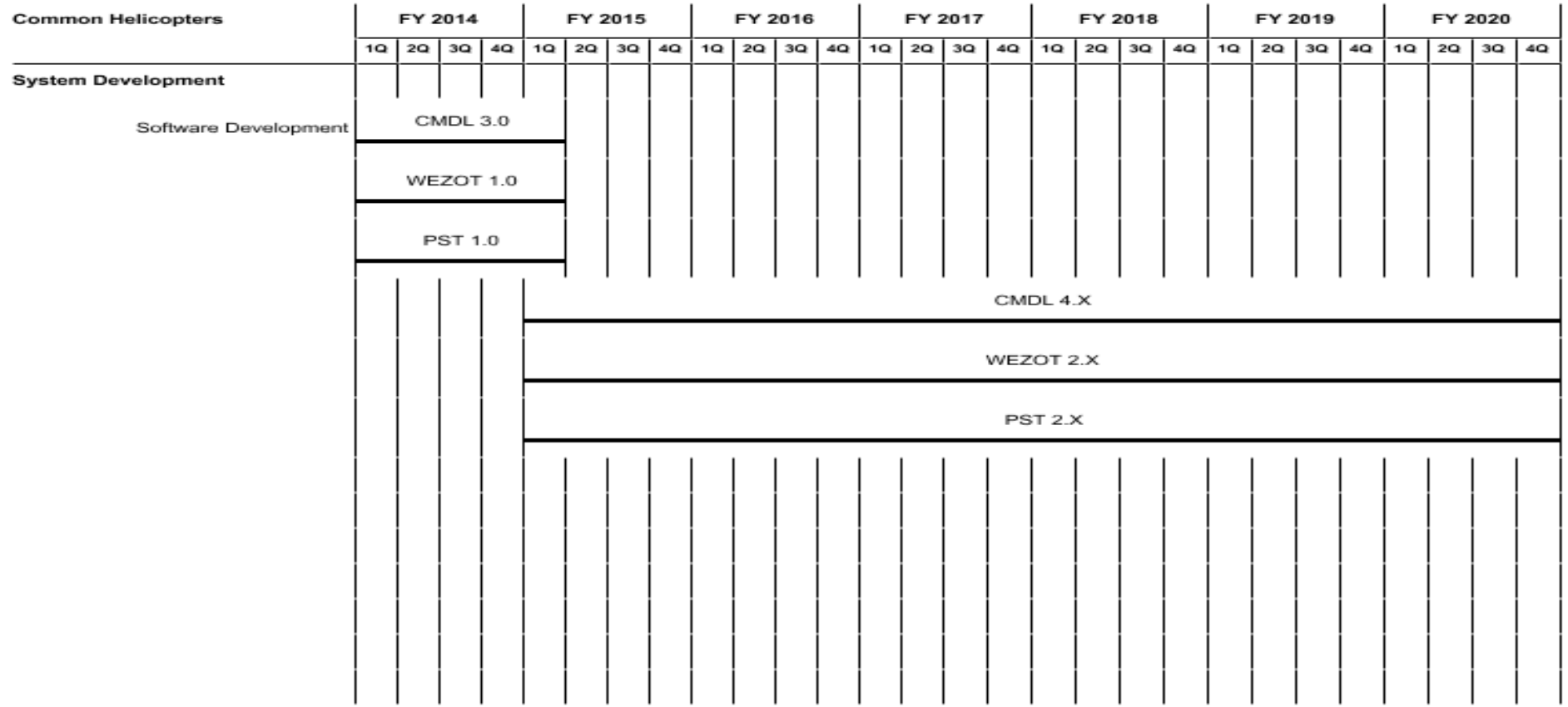
Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior year T&E costs no longer funded in FYDP	Various	Various : Various	0.987	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.987	-		-		-		-		-	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	15.408	0.524		0.559		0.575		-		0.575	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 2312 / *Common Helicopters*



2016OSD - 0604215N - 2312

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604215N / *Standards Development*	**Project (Number/Name)** 2312 / *Common Helicopters*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Common Helicopters				
System Development: Software Development: Common Mission Data Loader (CMDL) 3.0	1	2014	1	2015
System Development: Software Development: Weapons Employment Zone Overlay Tool (WEZOT) 1.0	1	2014	1	2015
System Development: Software Development: Point Selection Tool (PST)	1	2014	1	2015
System Development: Software Development: CMDL 4.X	1	2015	4	2020
System Development: Software Development: WEZOT 2.X	1	2015	4	2020
System Development: Software Development: PST 2.X	1	2015	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604216N *I Multi-Mssn Helicopter Upgrade Dev*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	1,524.591	20.365	11.434	21.358	-	21.358	6.224	5.702	2.630	2.695	Continuing	Continuing
1707: *MH-60R Development*	1,524.591	20.365	11.434	21.358	-	21.358	6.224	5.702	2.630	2.695	Continuing	Continuing
MDAP/MAIS Code: 191												

Note

The Instrument Landing System (ILS) is a New Start in FY 2016. Multifunctional Information Distribution System (MIDS)-Low Volume Terminal (LVT) Block Upgrade 2 (BU2) is not a New Start in FY 2016. This work was commenced under PE 0205604N Tactical Data Link, Project Unit 3020 MIDS/JTRS.

A. Mission Description and Budget Item Justification

This Program Element includes funding for the development and support of future systems and improvements to current systems of the MH-60R. The MH-60R multi-mission helicopter provides battle group protection and adds significant capability in coastal littorals and regional conflicts. The MH-60R represents a significant avionics improvement to the H-60 series helicopters by enhancing primary mission areas of undersea warfare and surface warfare which includes the fast attack craft/fast in-shore attack craft threat response capabilities. Secondary mission areas include search and rescue, vertical replenishment, naval surface fire support, logistics support, personnel transport and medical evacuation.

FY 2016 budget request funds advanced precision kill weapon system, ILS, integration of MIDS-LVT BU2 into the MH-60R, and helicopter infrared suppression system efforts. Efforts include product development, government engineering, integrated logistics support, modeling and simulation and developmental and operational testing.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	17.565	11.434	22.908	-	22.908
Current President's Budget	20.365	11.434	21.358	-	21.358
Total Adjustments	2.800	-	-1.550	-	-1.550
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.200	-			
• SBIR/STTR Transfer	-0.400	-			
• Program Adjustments	-	-	2.000	-	2.000
• Rate/Misc Adjustments	-	-	-3.550	-	-3.550

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604216N *I Multi-Mssn Helicopter Upgrade Dev*

Change Summary Explanation

The FY 2016 funding request was reduced by $3.367 million to account for the availability of prior year execution balances.

Technical: MH-60R is the lead platform for integration of the Multifunctional Information Distribution System (MIDS)-Low Volume Terminal (LVT) Block Upgrade 2 (BU2). Funding has been added in FY 2016 to complete modeling and simulation activities in support of the MIDS-LVT BU2.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604216N / *Multi-Mssn Helicopter Upgrade Dev*	Project (Number/Name) 1707 / *MH-60R Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1707: *MH-60R Development*	1,524.591	20.365	11.434	21.358	-	21.358	6.224	5.702	2.630	2.695	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

The Instrument Landing System (ILS) is a New Start in FY 2016. Multifunctional Information Distribution System (MIDS)-Low Volume Terminal (LVT) Block Upgrade 2 (BU2) is not a New Start in FY 2016. This work was commenced under PE 0205604N Tactical Data Link, Project Unit 3020 MIDS/JTRS.

A. Mission Description and Budget Item Justification

The primary mission areas of the MH-60R include anti-submarine warfare and surface warfare which includes the Fast Attack Craft/Fast In-shore Attack Craft (FAC/FIAC) threat response capabilities. Secondary mission areas include search and rescue, vertical replenishment, naval surface fire support, logistics support, personnel transport and medical evacuation. The MH-60R is post-Milestone III; executing Pre-planned Product Improvements (P3I) to air vehicle and mission systems. P3I includes upgrades to communication, navigation, identification friend or foe, multi-spectral targeting system/forward looking infrared radar, automatic radar periscope detection and discrimination, weapons, data link, safety, maintenance, airframe and mission planning systems. Advanced Precision Kill Weapon System (APKWS) and Helicopter Infrared Suppression System (HIRSS) integration will support surface warfare and maritime interdiction operations by providing forward firing weapons, which includes rockets and anti-swarm weapons, by addressing the FAC/FIAC threat. Infrared suppression systems reduce susceptibility to infrared missile threats and have been incorporated onto other H-60 type/model/series, including MH-60S and HH-60H. Reducing MH-60R vulnerability to infrared threats addresses the strategic goal of long-term sustainment of the force. MH-60R aircraft currently have no system for engine exhaust suppression. ILS provides precision approach capability ashore and to supplement currently available Precision Approach Radar (PAR) controlled approaches. The PAR is the only precision approach available to the MH-60R and is slated to be replaced by joint precision approach landing system. Very high frequency omnidirectional radio range navigation capability included with the ILS system provides instrument navigation after disestablishment of tactical air command and navigation system in the continental United States. MH-60R is the lead platform for integration of the MIDS-LVT BU2. Additionally, a service life assessment program, trade studies and analysis, and efforts to develop and qualify components to replace obsolete system components on the MH-60R will be conducted.

FY 2016 budget request funds APKWS, ILS, integration of MIDS-LVT BU2 into the MH-60R, and HIRSS efforts. Efforts include product development, government engineering, integrated logistics support, modeling and simulation and developmental and operational testing.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Avionics H/W and S/W Development	15.300	7.694	5.738	-	5.738
Articles:	-	-	-	-	-
Description: Supports aircraft integration, problem investigation and resolution, lab management and upgrades, hardware investigations, and repairs in support of the test program. Provides for integrated logistics support and					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604216N / *Multi-Mssn Helicopter Upgrade Dev*	**Project (Number/Name)** 1707 / *MH-60R Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
program management board support and subvendor support. Avionics hardware and software development and integration to include: Pre-planned Product Improvements (P3I) and automatic radar periscope detection and discrimination. Advanced Precision Kill Weapon System (APKWS), and Helicopter Infrared Supression System (HIRSS) address the Fast Attack Craft/Fast In-shore Attack Craft (FAC/FIAC) threat. Conduct FAC/ FIAC demonstration utilizing anti-swarm weapon. Instrument Landing System (ILS) provides precision approach cabability. ***FY 2014 Accomplishments:*** Commenced APKWS development to address FAC/FIAC threat. ***FY 2015 Plans:*** Continue APKWS development and commence HIRSS development to address FAC/FIAC threat. ***FY 2016 Base Plans:*** Continue HIRSS development and commence ILS activities. ***FY 2016 OCO Plans:*** N/A					
Title: Engineering and Logistics	1.605	2.237	5.704	-	5.704
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided engineering specialists, Integrated Logistics Support, Government Furnished Equipment, Support Equipment, Program Management, Contract Support Services, and travel to support mission avionics P3I. Commenced APKWS engineering and logistics efforts. ***FY 2015 Plans:*** Continue to provide engineering specialists, Integrated Logistics Support, Government Furnished Equipment, Support Equipment, Program Management, Contract Support Services, and travel to support APKWS and commence HIRSS engineering and logistics efforts. ***FY 2016 Base Plans:*** Continue to provide engineering specialists, integrated logistics support, government furnished equipment, support equipment, program management, contract support services, and travel to support APKWS and HIRSS,					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604216N / *Multi-Mssn Helicopter Upgrade Dev*	**Project (Number/Name)** 1707 / *MH-60R Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
and commence ILS engineering efforts and multifunctional information distribution system - low volume terminal block upgrade 2 modeling and simulation efforts. ***FY 2016 OCO Plans:*** N/A					
Title: Test and Evaluation	3.460	1.503	9.916	-	9.916
Articles:	-	-	-	-	-
FY 2014 Accomplishments: FY 2014 Accomplishments: Continued to provide MH-60R Mission testing. Commenced Advanced Precision Kill Weapon System (APKWS) test and evaluation efforts. ***FY 2015 Plans:*** Continue APKWS test and evaluation efforts. ***FY 2016 Base Plans:*** Continue APKWS test and evaluation efforts. Commence Instrument Landing System (ILS) test and evaluation efforts and commence multifunctional Information distribution system-low volume terminal block upgrade 2 modeling and simulation activities. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	20.365	11.434	21.358	-	21.358

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN-1 BLI:018200: *MH-60R*	779.653	983.387	969.991	-	969.991	69.052	-	-	-	-	11,260.736
• APN-6 BLI:060510: *MH-60R spares*	0.304	-	0.069	-	0.069	-	-	-	-	-	299.476
• APN-5 BLI:053000: *SH60 Series*	53.855	46.563	53.132	-	53.132	65.810	71.913	96.680	74.842	Continuing	Continuing

Remarks

APN-5 BLI:053000 reflects funding from OSIP 001-06 and prior year funding from OSIPs 005-12 and 001-06 only.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604216N / *Multi-Mssn Helicopter Upgrade Dev*	**Project (Number/Name)** 1707 / *MH-60R Development*

D. Acquisition Strategy

APKWS, ILS, and helicopter infrared suppression system will be developed using cost plus incentive fee type contracts.

E. Performance Metrics

Successfully support developmental and operation test activities to qualify aircraft modifications/upgrades.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604216N / *Multi-Mssn Helicopter Upgrade Dev*	**Project (Number/Name)** 1707 / *MH-60R Development*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw/SW Dev, Advanced Precision Kill Weapon System (APKWS)	SS/CPIF	Lockheed Martin : Owego, NY	0.000	5.700	Sep 2014	3.684	Jun 2015	-		-		-	-	9.384	5.700
Primary Hdw Dev. APKWS	SS/CPIF	Sikorsky : Stratford, CT	0.000	6.400	Jun 2014	3.540	Jun 2015	-		-		-	-	9.940	9.940
Primary SW Dev. Fast Attack Craft/Fast In-Shore Attack Craft (FAC/FIAC) demo	SS/BOA	Lockheed Martin : Owego, NY	0.000	1.213	Jul 2014	-		-		-		-	-	1.213	-
Primary SW Dev. FAC/ FIAC demo	WR	Redstone Aresenal : Huntsville, AL	0.000	1.987	Sep 2014	-		-		-		-	-	1.987	-
Primary Hdw/SW Dev, Helicopter Infrared Suppression System	SS/CPIF	Sikorsky : Stratford, CT	0.000	-		0.470	Mar 2015	1.670	Mar 2016	-		1.670	5.820	7.960	7.960
Primary Hdw/SW Dev, Instrument Landing System	SS/CPFF	Lockheed Martin : Owego, NY	0.000	-		-		4.068	Jun 2016	-		4.068	-	4.068	4.500
Prior year Product Dev Cost no longe funded in the FYDP	Various	Various : Various	1,154.255	-		-		-		-		-	-	1,154.255	-
		Subtotal	1,154.255	15.300		7.694		5.738		-		5.738	5.820	1,188.807	-

Remarks

FAC/FIAC demonstration in FY 2014 is being conducted with anti-swarm weapon.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support, Projects commencing prior to FY16	WR	NAWC AD : Patuxent River, MD	9.625	0.909	Nov 2013	2.175	Nov 2014	3.498	Nov 2015	-		3.498	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604216N / *Multi-Mssn Helicopter Upgrade Dev*	**Project (Number/Name)** 1707 / *MH-60R Development*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government eng spt, Projects commencing prior to FY16	Various	Various : Various	0.195	0.650	Nov 2013	-		-		-		-	-	0.845	-
Government eng spt, ILS	Various	Various : Various	0.000	-		-		1.969	Nov 2015	-		1.969	Continuing	Continuing	Continuing
Government eng spt, Multifunctional Information Distribution System (MIDS)-Low Volume Terminal (LVT) Block Upgrade 2 (BU2)	WR	NAWC AD : Patuxent River, MD	0.000	-		-		0.178	Nov 2015	-		0.178	-	0.178	-
Prior year support cost no longer funded in the FYDP	Various	Various : Various	146.840	-		-		-		-		-	-	146.840	-
		Subtotal	156.660	1.559		2.175		5.645		-		5.645	-	-	-

Remarks

1. Commencing in FY 2016 support costs will be broken out by individual project. FY 2016 increase in government engineering support is required to commence efforts for the ILS and MIDS-LVT BU2.
2. FY 2014 & FY 2015 costs for government engineering support for projects commencing prior to FY 2016 include automatic radar periscope detection and discrimination and advanced precision kill weapon system.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (DT&E), Projects commencing prior to FY16	WR	NAWC AD : Patuxent River, MD	148.758	2.263	Nov 2013	1.028	Nov 2014	1.000	Nov 2015	-		1.000	1.800	154.849	-
Operation Test & Evaluation (OT&E),Projects commencing prior to FY16	WR	COMOPTEVFOR : Norfolk, VA	14.134	1.197	Nov 2013	0.475	Nov 2014	2.412	Nov 2015	-		2.412	1.200	19.418	-
DT&E, Instrument Landing System (ILS)	WR	NAWC AD : Patuxent River, MD	0.000	-		-		3.074	Nov 2015	-		3.074	0.840	3.914	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604216N / *Multi-Mssn Helicopter Upgrade Dev*	**Project (Number/Name)** 1707 / *MH-60R Development*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DT&E, MIDS LVT BU2	WR	NAWC AD : Patuxent River, MD	0.000	-		-		1.822	Nov 2015	-		1.822	-	1.822	-
OT&E,ILS	WR	COMOPTEVFOR : Norfolk, VA	0.000	-		-		1.608	Nov 2015	-		1.608	0.283	1.891	-
Prior year T&E costs no longer funded in the FYDP	Various	various : various	11.688	-		-		-		-		-	-	11.688	-
		Subtotal	174.580	3.460		1.503		9.916		-		9.916	4.123	193.582	-

Remarks

1. Commencing in FY 2016 test and evaluation costs will be broken out by individual project. FY 2016 increase in test and evaluation supports commencement of Advanced Precision Kill Weapon System (APKWS) operational test (OT) activities, Instrument Landing System developmental test (DT) and OT activities, and Multifunctional Information Distribution System-Low Volume Terminal Block Upgrade 2 modeling and simulation efforts.
2. FY 2014 & FY 2015 costs for DT and OT projects commencing prior to FY 2016 include automatic radar periscope detection and discrimination and APKWS.

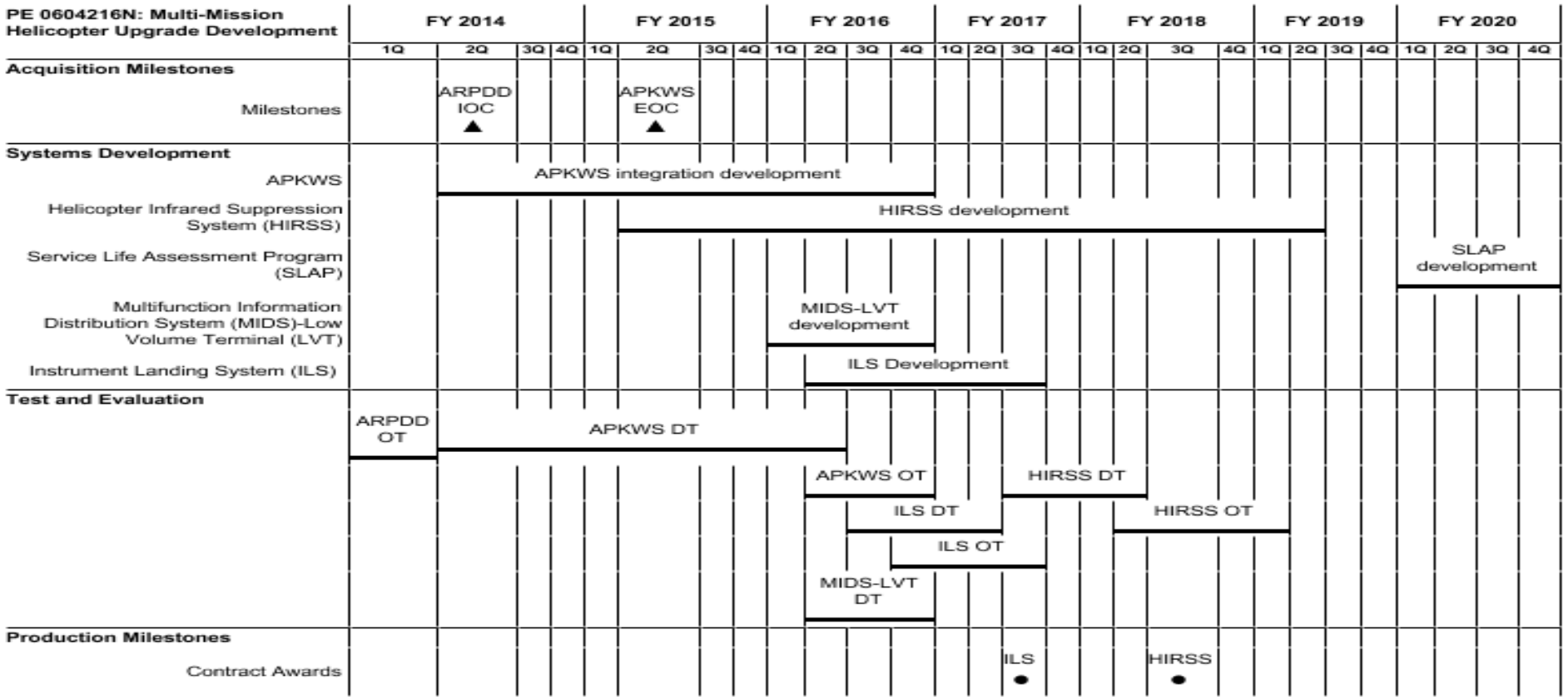
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	NAWC AD : Patuxent River, MD	4.840	0.046	Nov 2013	0.062	Nov 2014	0.059	Nov 2015	-		0.059	0.174	5.181	-
Prior year Mgmt Serv cost no longer funded in the FYDP	Various	Various : Various	34.256	-		-		-		-		-	-	34.256	-
		Subtotal	39.096	0.046		0.062		0.059		-		0.059	0.174	39.437	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,524.591	20.365		11.434		21.358		-		21.358	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604216N / *Multi-Mssn Helicopter Upgrade Dev*	**Project (Number/Name)** 1707 / *MH-60R Development*



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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604216N / *Multi-Mssn Helicopter Upgrade Dev*	**Project (Number/Name)** 1707 / *MH-60R Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
PE 0604216N: Multi-Mission Helicopter Upgrade Development				
Acquisition Milestones: Milestones: Automatic Radar Periscope Detection & Discrimination (ARPDD) IOC	2	2014	2	2014
Acquisition Milestones: Milestones: Advanced Precision Kill Weapon System (APKWS) EOC	2	2015	2	2015
Systems Development: APKWS: APKWS integration development	2	2014	4	2016
Systems Development: Helicopter Infrared Suppression System (HIRSS): HIRSS development	2	2015	2	2019
Systems Development: Service Life Assessment Program (SLAP): SLAP development	1	2020	4	2020
Systems Development: Multifunction Information Distribution System (MIDS)-Low Volume Terminal (LVT): Block Upgrade 2 Integration	1	2016	4	2016
Systems Development: Instrument Landing System (ILS): ILS integration	2	2016	3	2017
Test and Evaluation: ARPDD OT	1	2014	1	2014
Test and Evaluation: APKWS DT	2	2014	2	2016
Test and Evaluation: APKWS OT	2	2016	4	2016
Test and Evaluation: HIRSS DT	3	2017	2	2018
Test and Evaluation: HIRSS OT	2	2018	1	2019
Test and Evaluation: ILS DT	3	2016	2	2017
Test and Evaluation: ILS OT	4	2016	3	2017
Test and Evaluation: MIDS-LVT DT	2	2016	4	2016
Production Milestones: Contract Awards: HIRSS Kit	3	2018	3	2018
Production Milestones: Contract Awards: ILS Kit	3	2017	3	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604218N *I Air/Ocean Equipment Engineering*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	75.298	3.915	2.164	4.515	-	4.515	2.156	2.600	3.192	3.260	Continuing	Continuing
2345: *Fleet METOC Equipment*	54.977	2.542	1.224	3.379	-	3.379	0.923	1.356	1.939	1.980	Continuing	Continuing
2346: *METOC Sensor Engineering*	20.321	1.373	0.940	1.136	-	1.136	1.233	1.244	1.253	1.280	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Air/Ocean Equipment Engineering (AOEE) Program Element provides new capabilities to support naval combat forces. This program engineers and developmentally tests organic and remote sensors, communication interfaces, and processing and display devices. This equipment is engineered to measure, ingest, store, process, distribute and display conditions of the physical environment that are essential to the optimum employment and performance of naval warfare systems. AOEE also engineers capabilities for shipboard and shore-based tactical systems. A major Area of focus for the AOEE program is to provide the engineering development of specialized equipment and measurement capabilities that are intended to monitor specific conditions of the physical environment in hostile and remote areas in response to fleet demand signals for increased sensing capability and capacity to support battlespace collections and prediction on short to intermediate time scales. With such capabilities, the war fighters' situational awareness of the operational effects of the physical environment are made more certain.

Major emphasis is on the Meteorological and Oceanographic Future Mission Capabilities (METOC FMC) project.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	4.026	2.164	2.526	-	2.526
Current President's Budget	3.915	2.164	4.515	-	4.515
Total Adjustments	-0.111	-	1.989	-	1.989
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.111	-			
• Program Adjustments	-	-	32.299	-	32.299
• Rate/Misc Adjustments	-	-	-30.310	-	-30.310

Change Summary Explanation

The FY 2016 funding request was reduced by $0.2 million to account for the availability of prior year execution balances.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604218N *I Air/Ocean Equipment Engineering*

Technical: The Littoral Battlespace Sensing Unmanned Undersea Vehicles (LBS-UUV) program's primary focus has shifted from the Engineering and Manufacturing Development phase to the Production phase.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2345 / *Fleet METOC Equipment*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2345: *Fleet METOC Equipment*	54.977	2.542	1.224	3.379	-	3.379	0.923	1.356	1.939	1.980	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the engineering and manufacturing development of sensors, communication interfaces, processing and display meteorological and oceanographic (METOC) equipment. This equipment is designed to provide future mission capabilities for war fighters to measure, ingest, store, process, distribute and display METOC parameters and derived products.

This project also exploits new government off-the-shelf /commercial off-the-shelf technologies, tactical sensors and web enablement for the Navy's computer-based tactical shipboard and shore capability used to predict and assess the operational effects of the physical environment on the performance of platforms, weapons and sensor systems. This project includes development of warfare specific mission planning modules to support unmanned systems with integration of data from environmental and tactical sensor systems, model forecast information and Geospatial Information & Services Databases. This project also supports development of autonomous environmental sensing systems for situational awareness and tactical decision aid/mission planner support, as well as iridium and advanced satellite communication integration in METOC sensor, vehicle control and mission planning systems that will be required to achieve Chief of Naval Operation objectives for information dominance and decision superiority.

Major emphasis areas include the Meteorological and Oceanographic Future Mission Capabilities (METOC FMC) project and the Environmental Satellite Receiver Processor (ESRP) (comprised of AN/SMQ-11 (sea and shore configuration) and AN/FMQ-17 (shore configuration)) program.

FY 2016 request provides for the continued development of advanced software tools for METOC asset allocation, METOC decision support software applications and interfaces to tactical and strategic decision aids along with component and prototype efforts associated with acquiring environmental data, and the development of an end-to-end methodology to collect, fuse, and integrate these data into Navy and DoD networks and command and control nodes, and continue the development to support infrastructure for advanced global and regional prediction systems. Begin the Dual Band Radar design and development efforts for the new weather radar software for CVN 78 class ships.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)	2.008	0.839	2.951	-	2.951
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued advanced software tools development for METOC asset allocation, METOC decision support software applications, and interfaces to tactical and strategic decision aids along with component and prototype					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2345 / *Fleet METOC Equipment*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
efforts associated with acquiring environmental data. Continued development of an end-to-end methodology to collect, fuse, and integrate these data into Navy and DoD networks and command & control nodes. Continued development of support infrastructure for advanced global & regional METOC prediction systems. ***FY 2015 Plans:*** Continue advanced METOC infrastructure development for METOC decision support software applications and interfaces to tactical and strategic decision aids along with component and prototype efforts associated with acquiring environmental data. Continue development of an end-to-end methodology to collect, fuse, and integrate these data into Navy and DoD networks and command & control nodes. Continue development of support infrastructure for advanced global & regional METOC prediction systems. ***FY 2016 Base Plans:*** Continue advanced METOC infrastructure development for METOC decision support software applications and interfaces to tactical and strategic decision aids along with component and prototype efforts associated with acquiring environmental data. Continue development of an end-to-end methodology to collect, fuse, and integrate these data into Navy and DoD networks and command & control nodes. Continue development of support infrastructure for advanced global & regional METOC prediction systems. Begin the Dual Band (air surveillance) Radar design and development for the new weather radar processing and display software for CVN 78 class ships. ***FY 2016 OCO Plans:*** N/A					
Title: Littoral Battlespace Sensors - Unmanned Undersea Vehicle (LBS-UUV)	0.232	0.145	0.138	-	0.138
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted Littoral Battlespace Sensing - Gliders (LBS-G) and Littoral Battlespace Sensors - Autonomous Undersea Vehicles (LBS-AUV) engineering design and feasibility studies. Developed system upgrades via ECPs, and corrected identified software and/or hardware deficiencies. Continued investigative efforts on enhanced AUV autonomy, Glider Operations Center (GOC) automation, communications improvements, and battery redesign. ***FY 2015 Plans:*** Conduct LBS-G and LBS-AUV engineering design and feasibility studies as required. Develop system upgrades via Engineering Change Proposals (ECPs), and correct any identified software and/or hardware deficiencies					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2345 / *Fleet METOC Equipment*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
as required. Continue efforts on enhanced AUV autonomy GOC automation, battery redesign, and others as directed. Complete communications enhancements investigation and some sub-elements of the GOC automation task (Batch File, Storm Mode, and Autonomous Abort Handling). ***FY 2016 Base Plans:*** Conduct LBS-G and LBS AUV engineering design studies as required. Develop system upgrades via ECPs and correct any identified software and/or hardware deficiencies as required. Continue efforts on AUV autonomy. Continue GOC automation efforts and battery redesign investigations. Begin investigating next generation propulsion technologies such as the Hybrid Thruster, battery chemistry, thermal engines, and universal buoyancy engines for potential system upgrades as directed. ***FY 2016 OCO Plans:*** N/A					
Title: Environmental Satellite Receiver Processor (ESRP)	0.302	0.240	0.290	-	0.290
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued to develop and test annual hardware and software upgrades to integrate new METOC Satellite Sensors available in the GOES and the POES. Continued integration of ESRP systems in support of JPSS. Overall program efforts included investigation of emerging technologies through study, development and associated testing for feasibility of program insertion. ***FY 2015 Plans:*** Continue to develop and test annual hardware and software upgrades to integrate new METOC Satellite Sensors available in the GOES and the POES. Continue integration of ESRP systems in support of JPSS, and European Meteorology Satellites (EUMETSAT). Overall program efforts include investigation of emerging technologies through study, development and associated testing for feasibility of program insertion. ***FY 2016 Base Plans:*** Continue to develop and test annual hardware and software upgrades to integrate new METOC Satellite Sensors available in the GOES and the POES. Continue integration of ESRP systems in support of JPSS, and European Meteorology Satellites (EUMETSAT). Overall program efforts include investigation of emerging technologies through study, development and associated testing for feasibility of program insertion. ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2345 / *Fleet METOC Equipment*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	2.542	1.224	3.379	-	3.379

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/4226: *Meteorological Equipment*	19.118	12.825	15.090	-	15.090	13.397	12.992	13.342	13.132	Continuing	Continuing
• RDTEN/0603207N/2341: *METOC Data Acquisition*	6.146	2.518	3.763	-	3.763	4.797	5.321	5.211	5.315	Continuing	Continuing
• RDTEN/0603207N/2342: *METOC Data Assimilation and MOD*	9.942	4.937	8.168	-	8.168	9.372	9.430	10.107	10.290	Continuing	Continuing
• RDTEN/0604218N/2346: *METOC Sensor Engineering*	1.373	0.940	1.136	-	1.136	1.233	1.244	1.253	1.280	Continuing	Continuing

Remarks

D. Acquisition Strategy

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to Naval Research Laboratories and miscellaneous contractors, with management oversight by the Program Executive Officer for Command, Control, Communications, Computers and Intelligence.

E. Performance Metrics

Goal: Develop and engineer equipment to acquire meteorological and oceanographic (METOC) data in order to improve the accuracy of global and regional scale Meteorological and Oceanographic forecast models.

Metric: Tasks will address no less than 75% of applicable capability gaps and requirements, as identified by Resource and Requirements Sponsor(s). As tasks relate to exploitation of fleet sensors for METOC data (Through-the-Sensor), no less than 80% of approved initiatives will have a cost, schedule, performance and transition risk analysis completed within the past 12 months.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2345 / *Fleet METOC Equipment*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
METOC Future Mission Capabilities	WR	Naval Research Laboratory : Monterey, CA	20.145	1.473	Nov 2013	0.709	Nov 2014	0.731	Nov 2015	-		0.731	Continuing	Continuing	Continuing
METOC Future Mission Capabilities	WR	SPAWAR System Centers : California, South Carolina	7.521	-		-		-		-		-	-	7.521	7.521
METOC Future Mission Capabilities	C/CPFF	RAYTHEON : Massachusetts	2.559	-		-		-		-		-	-	2.559	2.559
METOC Future Mission Capabilities	Various	Various : Various	18.623	-		-		-		-		-	-	18.623	18.623
METOC Future Mission Capabilities	C/CPFF	University of WA : Washington	0.590	-		-		-		-		-	Continuing	Continuing	Continuing
Littoral Battlespace Sensing - Gliders	C/CPIF	Teledyne Brown Engineering : Alabama	0.359	0.117	Mar 2014	0.073	Mar 2015	0.069	Mar 2016	-		0.069	Continuing	Continuing	Continuing
METOC Future Mission Capabilities	C/FP	SAIC : Virginia	1.020	0.335	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Littoral Battlespace Sensing - Autonomous Undersea Vehicle	C/FP	Hydroid : Pocasset, MA	0.479	0.115	Feb 2014	0.072	Feb 2015	0.069	Feb 2016	-		0.069	Continuing	Continuing	Continuing
METOC ESRP	C/CPFF	RAYTHEON : Indianapolis	0.538	0.302	Feb 2014	0.240	Feb 2015	0.290	Feb 2016	-		0.290	Continuing	Continuing	Continuing
METOC Future Mission Capabilities	C/CPFF	OWENS : New Jersey	0.000	0.200	Jul 2014	0.130	Feb 2015	0.134	Feb 2016	-		0.134	-	0.464	-
METOC Future Mission Capabilities (DBR)	TBD	Unknown : Unknown	0.000	-		-		2.086	Nov 2015	-		2.086	-	2.086	-
		Subtotal	51.834	2.542		1.224		3.379		-		3.379	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2345 / *Fleet METOC Equipment*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
METOC Future Mission Capabilities	C/CPFF	SSA/CSC : MISC	1.312	-		-		-		-		-	-	1.312	-
Littoral Battlespace Sensing - Autonomous Undersea Vehicle	C/FP	SAIC : Virginia	0.617	-		-		-		-		-	-	0.617	-
Littoral Battlespace Sensing - Autonomous Undersea Vehicle	C/FP	SPAWAR System Centers : San Diego, CA	0.150	-		-		-		-		-	-	0.150	-
		Subtotal	2.079	-		-		-		-		-	-	2.079	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	WR	OPTEVFOR : Virginia	0.424	-		-		-		-		-	-	0.424	-
Littoral Battlespace Sensing - Unmanned Undersea Vehicle	WR	NSWC Carderock : Maryland	0.150	-		-		-		-		-	-	0.150	-
METMF R NEXGEN	C/FP	Smiths Detection : Rhode Island	0.090	-		-		-		-		-	-	0.090	-
		Subtotal	0.664	-		-		-		-		-	-	0.664	-

Management Services ($ in Millions)

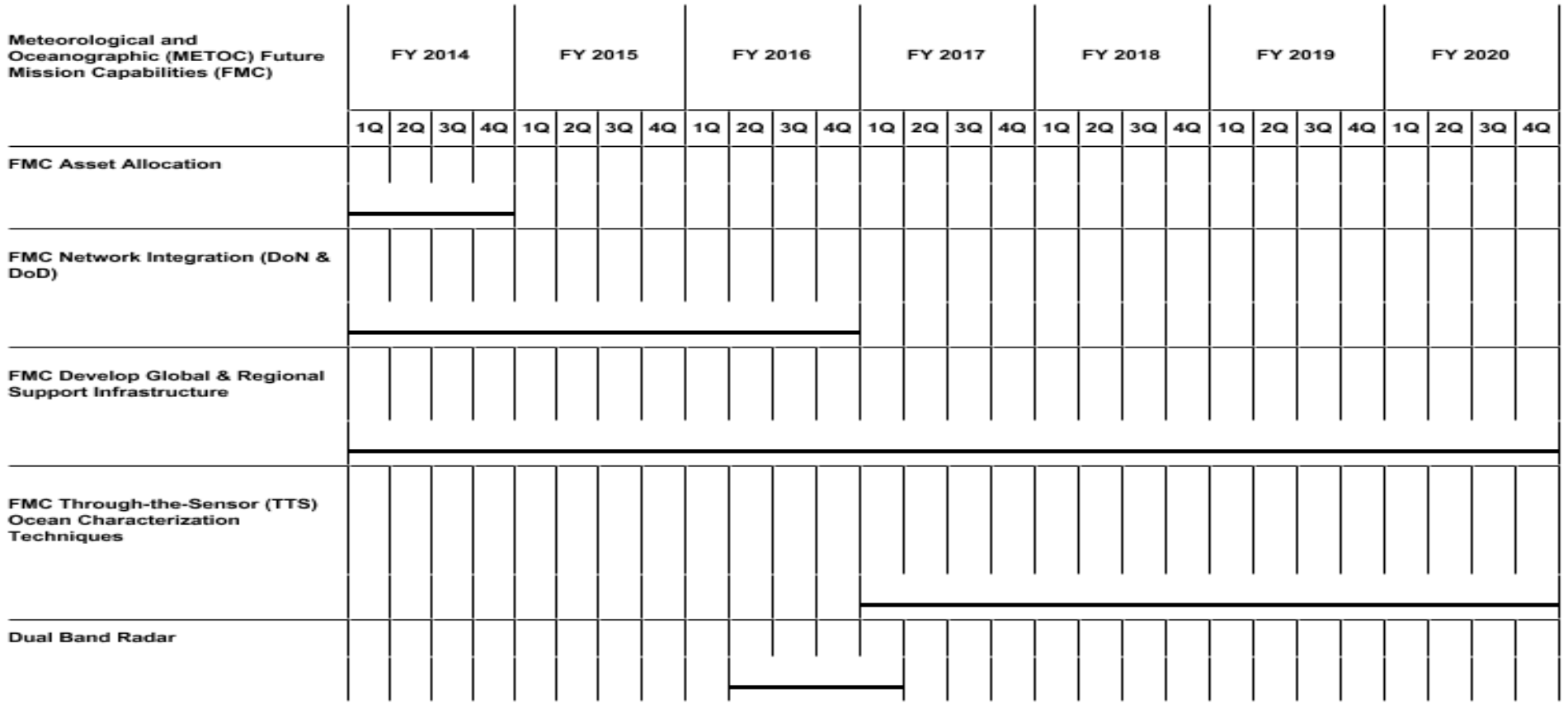
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Services	C/CPFF	SAIC : Virginia	0.400	-		-		-		-		-	-	0.400	0.400
		Subtotal	0.400	-		-		-		-		-	-	0.400	0.400

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2345 / *Fleet METOC Equipment*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	54.977	2.542		1.224		3.379		-		3.379	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2345 / *Fleet METOC Equipment*



2016DON - 0604218N - 2345

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2345 / *Fleet METOC Equipment*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)				
FMC Asset Allocation:	1	2014	4	2014
FMC Network Integration (DoN & DoD):	1	2014	4	2016
FMC Develop Global & Regional Support Infrastructure:	1	2014	4	2020
FMC Through-the-Sensor (TTS) Ocean Characterization Techniques: FY17-20	1	2017	4	2020
DBR Design and Development:	2	2016	1	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2346 / *METOC Sensor Engineering*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2346: *METOC Sensor Engineering*	20.321	1.373	0.940	1.136	-	1.136	1.233	1.244	1.253	1.280	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement capabilities for obtaining near real-time, in-situ Meteorological and Oceanographic (METOC) data in hostile, remote, and denied areas. The project's objectives are to engineer near-term future mission sensing capabilities that are intended to survive the harsh littoral and deep-strike environments and also to meet demanding requirements for timeliness and accuracy. Engineering is performed within this project to ensure that air and safety certification for deployment from fleet aircraft or ships is met and that the proper data formats are engineered for electronic communications transmissions, human interface displays, and inputs to predictive models.

The major area of emphasis is the METOC Future Mission Capabilities (FMC) project.

FY 2016 request provides for the continued development of advanced sensor system support technologies and techniques for sensor deployment, data processing and performance metrics to optimize sensor performance and continue to develop infrastructure to acquire, process and distribute METOC data and products.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)	1.373	0.940	1.136	-	1.136
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued system development and demonstration of METOC manned, unmanned and automated sensors (to include integration of environmental sensors into a larger environmental sensing strategy). Continued the development of advanced sensor system support technologies and techniques for sensor deployment, data processing and analysis to include performance metrics to optimize sensor performance. Assessed viability of sensors and subsystem sensors on unmanned and manned aircraft systems and autonomous undersea systems for collection of automated Meteorological and Oceanographic (METOC) data. Continued to develop infrastructure to acquire, process and distribute METOC data and products.					
FY 2015 Plans: Continue system development and demonstration of METOC manned, unmanned and automated sensors (to include integration of environmental sensors into a larger environmental sensing strategy). Continue the development of advanced sensor system support technologies and techniques for sensor deployment, data					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2346 / *METOC Sensor Engineering*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
processing and analysis to include performance metrics to optimize sensor performance. Continue to develop infrastructure to acquire, process and distribute METOC data and products. ***FY 2016 Base Plans:*** Continue development of METOC manned, unmanned and automated sensing technologies (to include integration of environmental sensors into a larger environmental sensing strategy). Continue the development of advanced sensor system support technologies and techniques for sensor deployment, data processing and analysis to include performance metrics to optimize sensor performance. Continue to develop infrastructure to acquire, process and distribute METOC data and products. Additionally, FY16 funding will assess new sensor capabilities. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.373	0.940	1.136	-	1.136

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTEN/0603207N/2341: *METOC DATA ACQUISITION*	6.146	2.518	3.763	-	3.763	4.797	5.321	5.211	5.315	Continuing	Continuing
• RDTEN/0603207N/2342: *METOC DATA ASSIMILATION AND MOD*	9.942	4.937	8.168	-	8.168	9.372	9.430	10.107	10.290	Continuing	Continuing
• RDTEN/0604218N/2345: *FLEET METOC EQUIPMENT*	2.542	1.224	3.379	-	3.379	0.923	1.356	1.939	1.980	Continuing	Continuing

Remarks

D. Acquisition Strategy

Acquisition and contracting strategies are to support engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement techniques for obtaining near real-time in-situ Meteorological and Oceanographic (METOC) data in denied or remote areas by providing funds to miscellaneous performers.

E. Performance Metrics

Goal: Develop and engineer unique sensors to acquire METOC data in order to improve the accuracy of global and regional scale meteorological and oceanographic forecast models.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2346 / *METOC Sensor Engineering*

Metric: Tasks will address no less than 75% of applicable capability gaps and requirements, as identified by Resource Sponsor and Type Commander(s). No less than 75% of sensor engineering initiatives will be informed by an Analysis of Alternatives or market study to assess the state of the technology.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604218N / *Air/Ocean Equipment Engineering*	Project (Number/Name) 2346 / *METOC Sensor Engineering*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	WR	Naval Research Laboratory : Monterey, CA	8.563	1.373	Nov 2013	0.640	Nov 2014	0.454	Nov 2015	-		0.454	Continuing	Continuing	Continuing
Product Development	Various	MISC : MISC	11.750	-		-		-		-		-	-	11.750	Continuing
Product Development	C/CPFF	University of Washington : Washington	0.000	-		-		0.113	Nov 2015	-		0.113	-	0.113	-
Product Development	WR	NSWC Carderock : Maryland	0.000	-		-		0.113	Nov 2015	-		0.113	-	0.113	-
Product Development	C/FP	SSC PAC : San diego, CA	0.000	-		0.300	Nov 2014	0.456	Nov 2015	-		0.456	-	0.756	-
		Subtotal	20.313	1.373		0.940		1.136		-		1.136	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Acquisition Workforce	C/CPFF	Not Specified : Not Specified	0.008	-		-		-		-		-	-	0.008	0.008
		Subtotal	0.008	-		-		-		-		-	-	0.008	0.008

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	20.321	1.373		0.940		1.136		-		1.136	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2346 / *METOC Sensor Engineering*

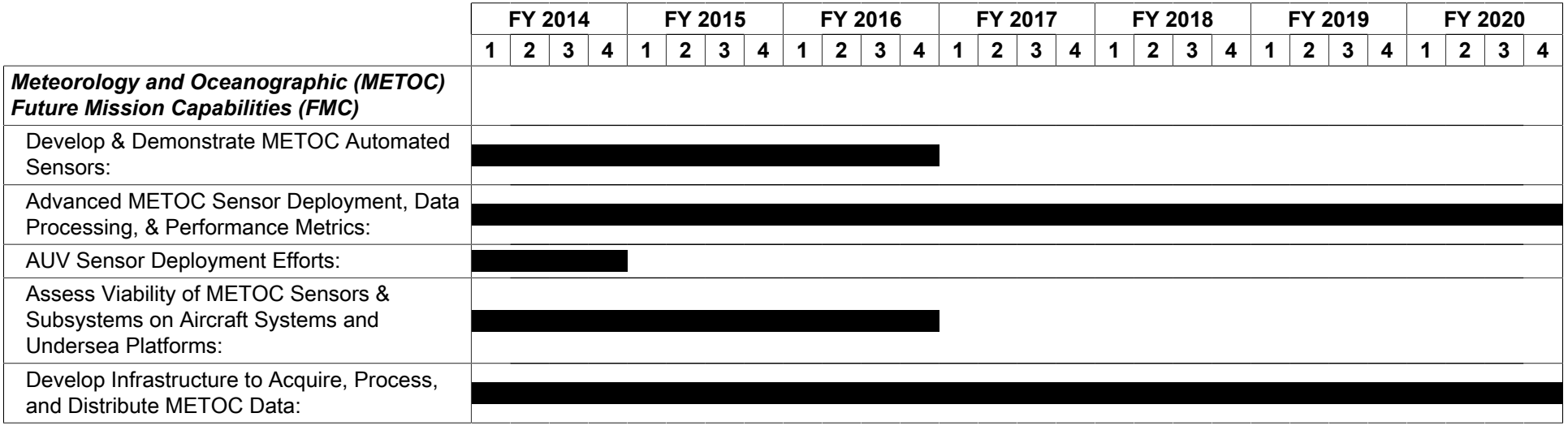


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604218N / *Air/Ocean Equipment Engineering*	**Project (Number/Name)** 2346 / *METOC Sensor Engineering*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Meteorology and Oceanographic (METOC) Future Mission Capabilities (FMC)				
Develop & Demonstrate METOC Automated Sensors:	1	2014	4	2016
Advanced METOC Sensor Deployment, Data Processing, & Performance Metrics:	1	2014	4	2020
AUV Sensor Deployment Efforts:	1	2014	4	2014
Assess Viability of METOC Sensors & Subsystems on Aircraft Systems and Undersea Platforms:	1	2014	4	2016
Develop Infrastructure to Acquire, Process, and Distribute METOC Data:	1	2014	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604221N *I P-3 Modernization Program*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	17.695	0.779	0.710	1.514	-	1.514	2.008	1.982	1.923	1.963	Continuing	Continuing
3016: *Fatigue Life Mgmt Program*	17.695	0.779	0.710	1.514	-	1.514	2.008	1.982	1.923	1.963	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program provides for P-3C aircraft systems development and test in subsurface and surface surveillance, search, detection, localization, classification, attack and communications in support of Sea Shield/Sea Power 21. The P-3C Sensor Integration project integrates advanced and future Anti-Submarine Warfare (ASW) and Anti-Surface Warfare (ASuW) sensors, weapons systems, and supporting technology into legacy P-3C systems and phased capabilities upgrades. The program also advances Air Acoustic Rapid Cots Insertion (ARCI) efforts by replacing legacy MIL-SPEC UYS-1 with increasingly open, Commercial Off The Shelf-based architecture. Also, P-3 Sensor Integration will expand software and hardware technology of P-3 systems to integrate additional sensor and processing capabilities, environmental prediction tools, tactical decision aides, color capabilities and communications to improve aircrew tactical proficiency and battlespace awareness. Sensor Integration is a continuous effort to integrate and test newly evolving ASW and ASuW technologies such as Improved Extended Echo Ranging and Multistatic Acoustic Coherent family of Multi-Static active systems, ARCI, Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. The Over the Horizon (OTH) Wideband system will provide the P-3C ASuW Improvement Program aircraft the capability to conduct OTH Satellite communications which will allow the on-station aircraft to transmit real-time sensitive acoustic intelligence data which will maximize enemy detections, tracking and engagement opportunities.

Fatigue Life Management Program is required to manage P-3/EP-3 inventory fatigue life and includes ongoing structural analysis, analyzing emergent structural issues, conducting engineering studies, assessing Fleet impact, and applying new technologies such as Non-Destructive Inspection techniques.

This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

The FY 2016 funding request was reduced by $244 thousand to account for the availability of prior year execution balances.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604221N *I P-3 Modernization Program*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	0.791	1.710	1.772	-	1.772
Current President's Budget	0.779	0.710	1.514	-	1.514
Total Adjustments	-0.012	-1.000	-0.258	-	-0.258
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.012	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-0.258	-	-0.258

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604221N / *P-3 Modernization Program*	Project (Number/Name) 3016 / *Fatigue Life Mgmt Program*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3016: *Fatigue Life Mgmt Program*	17.695	0.779	0.710	1.514	-	1.514	2.008	1.982	1.923	1.963	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Fatigue Life Management Program is required to manage P-3/EP-3 inventory fatigue life and includes ongoing structural analysis, analyzing emergent structural issues, conducting engineering studies, assessing Fleet impact, and applying new technologies such as Non-Destructive Inspection techniques.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: P-3/EP-3 Fatigue Life Management	0.779	0.710	1.514	-	1.514
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Fatigue Life Management Program: Managed P-3/EP-3 inventory fatigue life including conducting structural analysis, analyzing structural issues, conducting engineering studies, assessing Fleet impact. Researched, tested and applied new Fatigue Inspection techniques to the P-3/EP-3 Fleet.					
FY 2015 Plans: Fatigue Life Management Program: Manage P-3/EP-3 inventory fatigue life including conducting structural analysis, analyzing structural issues, conducting engineering studies, assessing Fleet impact. Research, test and apply new Fatigue Inspection techniques to the P-3/EP-3 Fleet.					
FY 2016 Base Plans: Fatigue Life Management Program: Manage P-3/EP-3 inventory fatigue life including conducting structural analysis, analyzing structural issues, conducting engineering studies, assessing Fleet impact. Research, test and apply new Fatigue Inspection techniques to the P-3/EP-3 Fleet.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.779	0.710	1.514	-	1.514

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0538: *P-3 Series*	36.530	2.823	3.067	-	3.067	2.980	3.045	3.146	3.207	-	4,919.524

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604221N / *P-3 Modernization Program*	**Project (Number/Name)** 3016 / *Fatigue Life Mgmt Program*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

The Fatigue Life Management Program leverages off of prior work done under P-3 Service Life Extension Program (2451). The Anti-Surface Warfare Improvement Program Operational Requirements Documents 355-88-94 was approved 30 March 94. Work will be performed by Lockheed Martin Aeronautical Systems and other industry participants along with the Naval Air Systems Command Structural Engineering Dept, AIR-4.3. This program supports the 7 June 2003 CNO approved P-3/EP-3 Sustainment Bridge to Multi-Mission Maritime Aircraft.

E. Performance Metrics

Successful application of system engineering processes.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604221N / *P-3 Modernization Program*	Project (Number/Name) 3016 / *Fatigue Life Mgmt Program*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	C/CPIF	LM : Marietta, GA	9.499	0.605	Jun 2014	0.311	Jan 2015	0.892	Jan 2016	-		0.892	2.684	13.991	13.991
		Subtotal	9.499	0.605		0.311		0.892		-		0.892	2.684	13.991	13.991

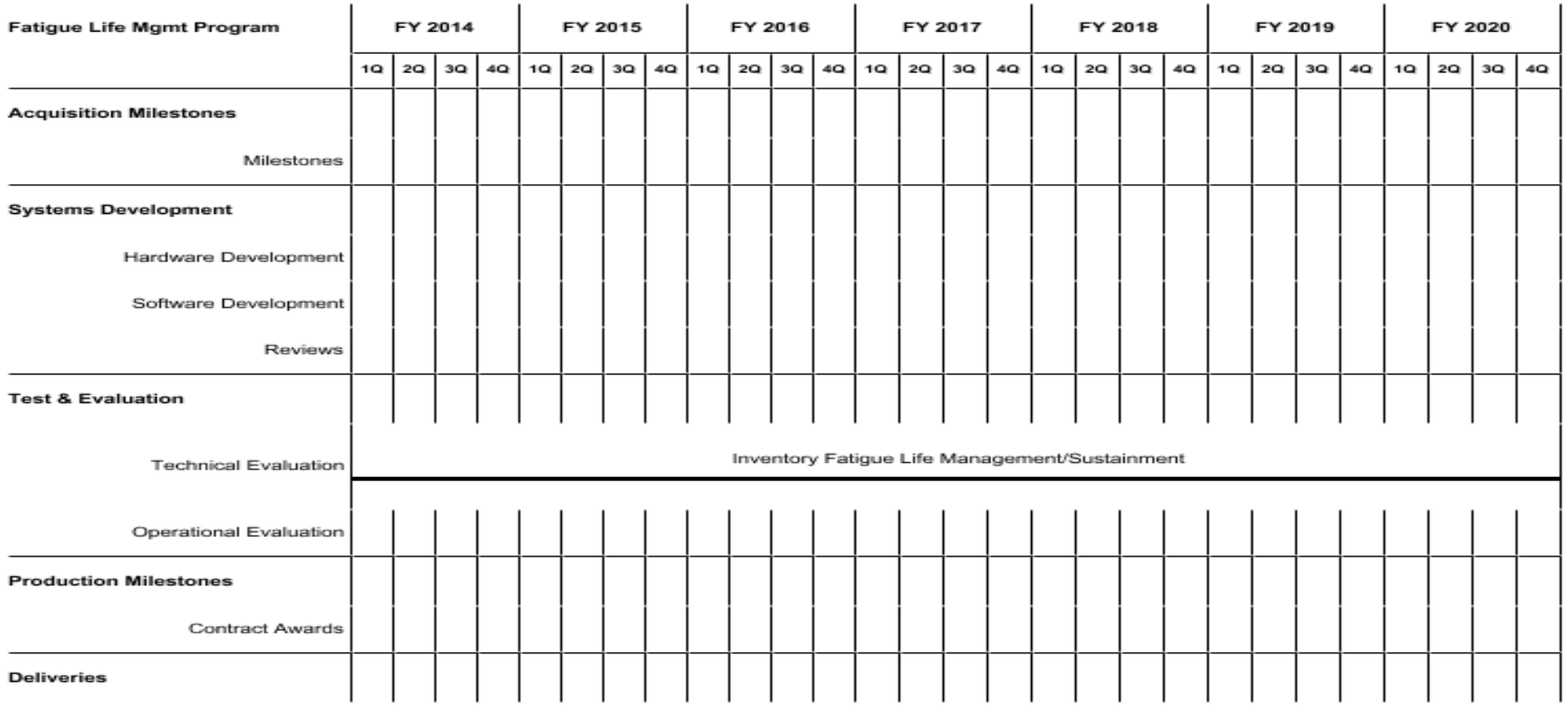
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NAWCAD : PAX RIVER, MD	7.093	0.131	Feb 2014	0.350	Nov 2014	0.582	Nov 2015	-		0.582	1.404	9.560	-
Travel	WR	NAWCAD : PAX RIVER, MD	0.833	0.043	Oct 2013	0.049	Oct 2014	0.040	Oct 2015	-		0.040	Continuing	Continuing	Continuing
Prior Year costs no longer funded in FYDP	Various	Various : Various	0.270	-		-		-		-		-	-	0.270	-
		Subtotal	8.196	0.174		0.399		0.622		-		0.622	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	17.695	0.779		0.710		1.514		-		1.514	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604221N / *P-3 Modernization Program*	**Project (Number/Name)** 3016 / *Fatigue Life Mgmt Program*



2016PB - 0604221N - 3016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604221N / *P-3 Modernization Program*	**Project (Number/Name)** 3016 / *Fatigue Life Mgmt Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Fatigue Life Mgmt Program				
Test & Evaluation: Technical Evaluation: Inventory Fatigue Life Management/ Sustainment	1	2014	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604230N *I Warfare Support System*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	46.387	9.630	9.094	5.875	-	5.875	12.269	11.124	9.813	10.013	Continuing	Continuing
3326: *NIWO Rapid Capabilities Development for CIC*	10.021	3.971	4.994	2.373	-	2.373	6.763	6.308	5.381	5.493	Continuing	Continuing
4011: *Naval Coastal Warfare Surv and C4I Sys*	35.009	3.694	3.340	2.944	-	2.944	3.778	3.721	3.605	3.677	Continuing	Continuing
9C86: *Combatant Craft Replacement*	1.357	1.965	0.760	0.558	-	0.558	1.728	1.095	0.827	0.843	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Navy Expeditionary project supports the Navy Expeditionary Combat Command (NECC) mission to detect, deter or interdict potential threats to DoN assets using agile, modular and scalable technology. NECC will develop and deploy adaptive force packages (AFPs) tailored for the specific missions to achieve greater efficiency and combat readiness. NECC units have a number of current and future Command, Control, Communications, Computers & Intelligence (C4I) technological requirements for Tactical/Command Operations Center, vehicles, craft, personnel capabilities and SATCOM availability. Each NECC operation requires units to maintain effective command and control, develop and display a tactical picture, and share intelligence and current operational information with higher, adjacent, and subordinate headquarters. These capabilities must be interoperable with higher and adjacent echelons of command (to include coalition allies) as well as with supporting elements to include joint forces. Small, Medium and/or Large Scale Communication Systems (LSCS) are the C4I hub for the NECC Forces. LSCS suites are interoperable with joint systems and include communications HF, VHF, and UHF in all common modes with encrypted and clear voice and data, to include Tactical Data Link Network capability. The future of large scale communications assets such as Mobile Ashore Support Terminal (MAST), Ruggedized Deployable Satellite/Tactical Data Network (RDSAT/ TDN) and Deployable Expeditionary Network-Medium (DEXNet-M) supporting Surveillance Control Central, Expeditionary (ESCC) formerly Radar Sonar Surveillance Center (RSSC) will be converging to a common baseline, the Navy Enterprise Tactical Command and Control (NETC2). Next generation air, surface and subsurface surveillance systems, as well as enhanced C4I capabilities, are required to meet operational objectives. Future technologies are being evaluated as enabling capabilities to expand situational awareness, providing additional tactical decision aids to the local area commander. Future C4I research and development efforts will be identified within NECC's strategic Expeditionary Warfare Improvement Program (EXWIP) Integrated Priority Capability List (IPCL) priorities to increase agility, mobility and network security posture. Additional efforts will be driven by greater DoD initiatives, such as Joint Information Environment (JIE) Inc II, in order to maintain interoperability and drive down DoN enterprise costs.

The Expeditionary Warfare Decision System (EWDS) (formerly Tactically Integrated Sensors (TIS)) software constitutes an upgrade to the MAST-RSSC and is being executed as a separate Abbreviated Acquisition Program. The AAP will enable the deployment of a currently fielded Program of Record (POR) combat system (AN/ SQQ-34C) known as Tactically Integrated Sensors (TIS) to the CRF units. TIS system restores the acoustic surveillance capability that has been eroded from the current RSSC suite. Additionally, future mult-spectal technologies are being looked at as enabling capabilities to expand the situational awareness of the littoral region, providing additional tactical decision aids to the local area commander.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604230N *I Warfare Support System*

This funding supports the Identity Dominance System (IDS) as key enabler in support of the Joint Personnel Identity (JPI) program. OPNAV N957 conducted the NCW CBA and MES ICD. MESF forces have a mobile security mission that requires methodologies, procedures, equipment and the communications capacity to identify individuals who represent a potential threat as a means to deter and eliminate individuals from conducting asymmetric/non-traditional attacks upon friendly forces, high value assets and coastal areas that NCW is charged with protecting. The Vessel Boarding Search and Seizure (VBSS) teams conducting Expanded Maritime Interception Operations also have a similar requirement to identify individuals. The development of a device to support identity functions is captured in the Identity Dominance System Capability Development Document (IDS CDD). IDS will be used in the following environments: aboard ship and ashore in ports, the littorals and extended inland field environments worldwide. IDS will be employed in maritime and very austere ashore environments and carried by individuals who are part of ship boarding parties and dismounted patrols. These mission and environmental demands dictate a portable, lightweight, rugged, and reliable system with intuitive and user friendly features. IDS biometric modalities may differ by mission profile, requiring the authoritative response to the On-Scene Commander/Boarding Officer on whether to detain or further investigate an individual of interest.

Coastal Riverine Force will integrate and employ a variety of surface and air assets, special vehicles, weapons and appropriately trained personnel. Mission assets needed to support the operational capabilities will vary widely dependant on the Host Nations involved. The Riverine Squadron will deploy with inherent, but limited, force protection capabilities. The Modular Unmanned Scouting Craft Littoral (MUSCL), is man-portable "X-Class" Unmanned Surface Vehicle providing enhanced surveillance and reconnaissance capability to Naval Expeditionary Combat Command (NECC) Riverine forces.

This program provides efforts in support of the Navy Expeditionary Warfare Division (formerly known as Navy Irregular Warfare (IW) Office). It provides for the identification and assessment of available technologies to confront expeditionary challenges, including irregular warfare, urgent/emergent and unfulfilled needs of the warfighter. It provides for the validation and combat demonstration of identified technologies and/or packages of technologies to meet Oversea Contingency Operation (OCO) goals. It also provides funding necessary to attract additional investment and sustainment of demonstrated capabilities. The goal of the Navy Expeditionary Warfare Innovations Branch office is to: identify those requirements necessary to meet the immediate warfighter needs; integrate those existing unique and/or related capabilities that can best meet those warfighter needs; test those integrated capabilities; and then demonstrate in real time and/or during planned deployments all within an 8 month period.

Combatant Craft Replacements will provide second generation Riverine Multi Mission Craft that will replace in-service Riverine Patrol Boats (RPBs) and Riverine Assault Boats (RABs). Combatant Craft replacements will: conduct inland waterway patrol and interdiction to preserve the rivers for friendly use as lines of communications; deny the use of rivers and waterways to waterborne and immediate shore sited hostile forces by barrier and interdiction operations; and, with augmentation of ground and air forces, locate and destroy hostile forces within a riparian area. Specific mission and capabilities will be identified in an NECC developed/OPNAV N95 approved Initial Capabilities Document (ICD). RDT&E funding will fund feasibility studies and procurement of mock-ups and prototype craft to demonstrate capabilities prior to production craft procurement.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604230N *I Warfare Support System*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	9.725	9.094	9.351	-	9.351
Current President's Budget	9.630	9.094	5.875	-	5.875
Total Adjustments	-0.095	-	-3.476	-	-3.476
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.095	-			
• Program Adjustments	-	-	5.281	-	5.281
• Rate/Misc Adjustments	-	-	-8.757	-	-8.757

Change Summary Explanation

The FY 2016 funding request was reduced by -$3.9 million to account for the availability of prior year execution balances.

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604230N / *Warfare Support System*	Project (Number/Name) 3326 / *NIWO Rapid Capabilities Development for CIC*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3326: *NIWO Rapid Capabilities Development for CIC*	10.021	3.971	4.994	2.373	-	2.373	6.763	6.308	5.381	5.493	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program provides efforts in support for the Navy Expeditionary Warfare Branch (formerly known as Navy Irregular Warfare (IW) Office). Funding provides for the identification and assessment of available technologies to confront expeditionary challenges, including irregular warfare, urgent/emergent and unfulfilled needs of the warfighter. It provides for the validation and combat demonstration of identified technologies and/or packages of technologies to meet Oversea Contingency Operation (OCO) goals. It also provides funding necessary to attract additional investment and sustainment of demonstrated capabilities. The goal of the Navy Expeditionary Warfare Innovations Branch office is to: identify those requirements necessary to meet the immediate warfighter needs; integrate those existing unique and/or related capabilities that can best meet those warfighter needs; test those integrated capabilities; and then demonstrate in real time and/or during planned deployments all within an 8 month period. Those areas of capability to be investigated by the Expeditionary Warfare Innovations Branch include any or all of the following:

- Persistent Intelligence Surveillance Reconnaissance (ISR)
- Close-in, expeditionary ISR
- Conventional forces support to SOF
- Rotary wing support to SOF
- All source intelligence fusion
- Littoral precision strike capability
- Unmanned Vehicles (Undersea/Air/Surface/Ground vehicles for Mine/ISR/Strike/Surveillance/Detection/IED capabilities

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Navy Irregular Warfare	3.971	4.994	2.373	-	2.373
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Identify, assess, integrate and test available close-in expeditionary ISR and littoral precision strike technologies in support of the Navy Expeditionary Warfare missions,including Irregular Warfare, supporting the warfighter. Additional efforts to validate and demonstrate identified ISR and littoral precision strike technologies including payloads and platforms. Other technologies assessed/demonstrated in support of Confronting Expeditionary Warfare Challenges as available.					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604230N / *Warfare Support System*	**Project (Number/Name)** 3326 / *NIWO Rapid Capabilities Development for CIC*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Identify, assess, integrate and test available close-in expeditionary ISR and littoral precision strike technologies in support of the Navy Expeditionary Warfare missions,including Irregular Warfare, supporting the warfighter. Additional efforts to validate and demonstrate identified ISR and littoral precision strike technologies including payloads and platforms. Other technologies assessed/demonstrated in support of Confronting Expeditionary Warfare Challenges as available. ***FY 2016 Base Plans:*** Identify, assess, integrate and test available close-in expeditionary ISR and littoral precision strike technologies in support of the Navy Expeditionary Warfare missions,including Irregular Warfare, supporting the warfighter. Additional efforts to validate and demonstrate identified ISR and littoral precision strike technologies including payloads and platforms. Other technologies assessed/demonstrated in support of Confronting Expeditionary Warfare Challenges as available. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	3.971	4.994	2.373	-	2.373

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Identify, integrate, test then demonstrate capabilities to meet the warfighter needs.

E. Performance Metrics

To successfully conduct technology reviews to confront expeditionary warfare challenges and successfully identify and validate identified technologies.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604230N / *Warfare Support System*	Project (Number/Name) 3326 / *NIWO Rapid Capabilities Development for CIC*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Spt	C/CPFF	Dell : Washington, DC	0.400	0.100	Jun 2014	0.100	Feb 2015	0.100	Jan 2016	-		0.100	Continuing	Continuing	Continuing
Travel	WR	NAVSEA/HQ : Washington, DC	0.100	0.060	Nov 2013	0.060	Dec 2014	0.060	Dec 2015	-		0.060	Continuing	Continuing	Continuing
		Subtotal	0.500	0.160		0.160		0.160		-		0.160	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NUWC : Newport, RI	1.346	0.450	Jan 2014	0.600	Dec 2014	-		-		-	Continuing	Continuing	Continuing
Test and Evaluation	WR	NAWC : China Lake, CA	0.595	-		-		-		-		-	Continuing	Continuing	Continuing
Test and Evalution	WR	NSWC : Carderock, MD	0.239	-		-		-		-		-	Continuing	Continuing	Continuing
Test and Evalution	SS/CPFF	ARL/UT : Austin, TX	0.327	-		-		-		-		-	Continuing	Continuing	Continuing
Test and Evalution	SS/CPFF	SPAWAR : San Diego, CA	0.700	0.495	May 2014	0.550	Feb 2015	-		-		-	Continuing	Continuing	Continuing
Test and Evaluation	WR	SPAWAR : Charleston, SC	1.050	-		0.359	Jan 2015	-		-		-	Continuing	Continuing	Continuing
Test and Evaluation	WR	SPAWAR : San Diego, CA	0.875	0.029	Jan 2014	0.400	Feb 2015	-		-		-	Continuing	Continuing	Continuing
Test and Evaluation	SS/FFP	ARL/PSU : State College, PA	0.240	-		0.300	Apr 2015	-		-		-	Continuing	Continuing	Continuing
Test and Evaluation	WR	NRL : Washington, DC	0.400	-		-		-		-		-	Continuing	Continuing	Continuing
Test and Evaluation	WR	NSWC : Indian Head, MD	1.156	-		-		-		-		-	Continuing	Continuing	Continuing
Test and Evaluation	Various	Various : Various	1.577	0.250	Apr 2014	0.105	Apr 2015	0.506	Apr 2016	-		0.506	Continuing	Continuing	Continuing
Test and Evaluation	SS/FFP	NSWC : Panama City, FL	0.264	-		-		-		-		-	-	0.264	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604230N / *Warfare Support System*	Project (Number/Name) 3326 / *NIWO Rapid Capabilities Development for CIC*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NSWC : Dahlgren, VA	0.100	0.135	Jun 2014	0.200	Jan 2015	-		-		-	-	0.435	-
Test and Evaluatioin	SS/FFP	NSWC : Dahlgren, VA	0.150	0.362	Jun 2014	0.200	Mar 2015	-		-		-	-	0.712	-
Test and Evaluation	SS/CPFF	APL/JHU : Laurel, MD	0.125	-		-		-		-		-	-	0.125	-
Test and Evaluation	SS/CPFF	Army Research Lab. : Adelphia, MD	0.247	-		-		-		-		-	-	0.247	-
Test and Evaluation	SS/CPFF	PNNL : Richland, WA	0.130	-		-		-		-		-	-	0.130	-
Test and Evaluation	C/CPFF	Georgia Tech : Atlanta, GA	0.000	0.515	Jul 2014	0.600	Feb 2015	0.200	Feb 2016	-		0.200	-	1.315	-
Test and Evaluation	C/CPFF	Charles River : Cambridge, MA	0.000	0.100	Sep 2014	0.300	Feb 2015	-		-		-	-	0.400	-
Test and Evaluation	C/CPFF	L3 Comm : Burlington, MA	0.000	0.621	Sep 2014	0.450	Feb 2015	-		-		-	-	1.071	-
Test and Evaluation	C/CPFF	QinetiQ NA : Waltham, MA	0.000	0.704	Aug 2014	0.600	Feb 2015	0.500	Feb 2016	-		0.500	-	1.804	-
Test and Evaluation	C/CPFF	TBD : TBD	0.000	-		-		1.007	Apr 2016	-		1.007	-	1.007	-
Test and Evaluation	SS/CPFF	Strategos Consulting : Coronado, Ca	0.000	-		0.170	Mar 2015	-		-		-	-	0.170	-
Test and Evaluation	WR	NAVAIR : San Diego, CA	0.000	0.150	Apr 2014	-		-		-		-	-	0.150	-
		Subtotal	9.521	3.811		4.834		2.213		-		2.213	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	10.021	3.971		4.994		2.373		-		2.373	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604230N / *Warfare Support System*	**Project (Number/Name)** 3326 / *NIWO Rapid Capabilities Development for CIC*

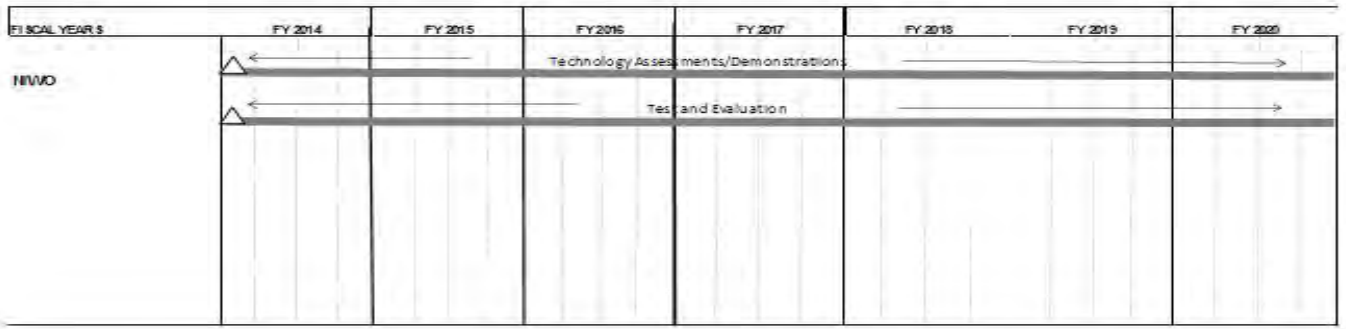


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604230N / *Warfare Support System*	**Project (Number/Name)** 3326 / *NIWO Rapid Capabilities Development for CIC*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3326				
System Development: Technology Assessments/Demonstrations	1	2014	4	2020
System Development: Test and Evaluations	1	2014	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604230N / *Warfare Support System*	Project (Number/Name) 4011 / *Naval Coastal Warfare Surv and C4I Sys*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
4011: *Naval Coastal Warfare Surv and C4I Sys*	35.009	3.694	3.340	2.944	-	2.944	3.778	3.721	3.605	3.677	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Navy Expeditionary project supports the Navy Expeditionary Combat Command (NECC) mission to detect, deter or interdict potential threats to DoN assets using agile, modular and scalable technology. NECC will develop and deploy adaptive force packages (AFPs) tailored for the specific missions to achieve greater efficiency and combat readiness. NECC units have a number of current and future Command, Control, Communications, Computers & Intelligence (C4I) technological requirements for Tactical/Command Operations Center, vehicles, craft, personnel capabilities and SATCOM availability. Each NECC operation requires units to maintain effective command and Control, develop and display a tactical picture, and share intelligence and current operational information with higher, adjacent, and subordinate headquarters. These capabilities must be interoperable with higher and adjacent echelons of command (to include coalition allies) as well as with supporting elements to include joint forces. Small, Medium and/or Large Scale Communication Systems (LSCS) are the C4I hub for the NECC Forces. LSCS suites are interoperable with joint systems and include communications HF, VHF, and UHF in all common modes with encrypted and clear voice and data, to include Tactical Data Link Network capability. The future of large scale communications assets such as Mobile Ashore Support Terminal (MAST), Ruggedized Deployable Satellite/Tactical Data Network (RDSAT/ TDN) and Deployable Expeditionary Network-Medium (DEXNet-M) supporting Surveillance Control Central, Expeditionary (ESCC) formerly Radar Sonar Surveillance Center (RSSC) will be converging to a common baseline, the Navy Enterprise Tactical Command and Control (NETC2). Next generation air, surface and subsurface surveillance systems, as well as enhanced C4I capabilities, are required to meet operational objectives. Future technologies are being evaluated as enabling capabilities to expand situational awareness, providing additional tactical decision aids to the local area commander. Future C4I research and development efforts will be identified within NECC strategic Expeditionary Warfare Improvement Program (EXWIP) Integrated Priority Capability List (IPCL) priorities to increase agility, mobility and network security posture. Additional efforts will be driven by greater DoD initiatives, such as Joint Information Environment (JIE) Inc II, in order to maintain interoperability and drive down DoN enterprise costs.

Beginning in FY15 funding for CRF Modernization was moved to NECC C4ISR Modernization

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: CRF (formerly MESF) Modernization	2.881	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604230N / *Warfare Support System*	**Project (Number/Name)** 4011 / *Naval Coastal Warfare Surv and C4I Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Maritime Expeditionary Security Force (MESF) Upgrades - Provided management support and developed new Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) capabilities for Naval Coastal Warfare forces including Navy Enterprise Tactical Command & Control (NETC2). ***FY 2015 Plans:*** Beginning in FY15 funding for Coastal Riverine (CRF) Modernization was moved to Navy Expeditionary Combat Command (NECC) C4ISR Modernization. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: NECC C4ISR Modernization	-	2.619	2.699	-	2.699
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** Continue development of Navy Enterprise Tactical Command & Control (NETC2) capability sets to replace legacy Mobile Ashore Support Terminal (MAST), Deployable Expeditionary Network, Light (DEXNET-L), Deployable Expeditionary Network, Medium (DEXNET-M) in Coastal Riverine Force (CRF) inventory. Efforts will include development of capabilities based on emergent requirements and operational feedback, to include reach back for tactical vehicles and craft in the coastal, littoral and riverine environments, tactical data link capability, and develop sensor technologies in support of harbor defense, littoral surveillance, and reconnaissance missions. Beginning in FY15 funding for CRF Modernization was moved to Navy Expeditionary Combat Command (NECC) Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Modernization ***FY 2016 Base Plans:*** Continue to align NETC2 efforts to emerging DOD technologies in order to enhance capabilities provided to the warfighter and continue to incorporate technologies in NETC2 test efforts in order to facilitate virtualization. Move					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604230N / *Warfare Support System*	**Project (Number/Name)** 4011 / *Naval Coastal Warfare Surv and C4I Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Expeditionary common services to a Joint Information Environment (JIE) Core Data Center node using cloud infrastructure and inclusion of unique requirements into cloud generation. ***FY 2016 OCO Plans:*** N/A					
Title: Identity Dominance System	0.813	0.721	0.245	-	0.245
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Resolved critical issues identified during operational use and implemented required capabilities not implemented in initial fielding. Also, supported hardware development, requirements validation and operational demonstration of Navy Expeditionary Tactical Command and Control (NETC2) v2. ***FY 2015 Plans:*** Objective is to complete Engineering Change Proposal (ECP) 0003 for Windows 7 compliance. ***FY 2016 Base Plans:*** Objectives include conducting research and developing prioritized enhancement plan. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	3.694	3.340	2.944	-	2.944

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/8120: *Maritime Expeditionary Security Force*	-	9.638	10.032	-	10.032	9.782	10.012	10.239	10.453	Continuing	Continuing
• OPN/8128: *Physical Security Equipment*	2.585	3.000	1.800	-	1.800	0.500	0.500	0.500	-	-	15.253

Remarks

D. Acquisition Strategy

Funding supports an evolutionary acquisition strategy supporting the dynamically evolving rapid action mission of Navy Expeditionary Forces. Large Scale Communication Systems (LSCS) funding will align LSCS to the Deployable Joint Command and Control (DJC2) product baseline. The project will continuously analyze

operational utilization of the systems and will roll analysis results into periodic system upgrades to prevent obsolescence and maximize operational effectiveness. The intent of this strategy is to: drive down development, production, and logistics costs, while leveraging technologies developed for other agencies to increase the capabilities of Navy Expeditionary Forces. The future baseline configuration for Large Scale Communication Systems (LSCS) will be the NETC2, a system scalable to Adaptive Force Package (AFP) levels. Efforts include development of capabilities based on emergent requirements, operational feedback, alignment with DoD initiatives such as Joint Information Environment (JIE) Inc II, and identification through strategic Expeditionary and Warfare Improvement Program (EXWIP) Integrated Priority Capability List (IPCL) priorities to include reach back for tactical vehicles and craft, tactical data link capability, and sensor technologies in support of surveillance and reconnaissance missions.

E. Performance Metrics

The Navy Expeditionary program continues to identify, evaluate and test a minimum of 3-5 new technologies or configurations per year for potential insertion into the Technical Refresh Plan, to be demonstrated at Fleet Demonstrations

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604230N / *Warfare Support System*	Project (Number/Name) 4011 / *Naval Coastal Warfare Surv and C4I Sys*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	SSC CH : CHARLESTON	0.750	-		0.380	Feb 2015	0.450	Nov 2015	-		0.450	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : PANAMA CITY	0.000	-		1.800	Feb 2015	1.648	Nov 2015	-		1.648	-	3.448	-
Hardware/Software Development	C/CPFF	SSC CH : SSC SAN DIEGO	0.100	-		-		-		-		-	Continuing	Continuing	Continuing
Hardware/Software Development	WR	NSWC DAHLGREN : DAHLGREN	3.816	-		-		-		-		-	Continuing	Continuing	Continuing
Hardware/Software Development	WR	NSWC CRANE : CRANE	1.450	-		-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering1	C/CPFF	SSC CH : SSC SAN DIEGO	0.547	-		-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering3	WR	NUWC : KEYPORT	0.850	-		-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering4	WR	NSMRL : Not Specified	0.100	-		-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering5	C/CPFF	SSC SD : SAN DIEGO	6.647	-		-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering6	WR	NSWC : DAHLGREN	3.350	2.709	Feb 2014	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering7	WR	NUWC : NEWPORT	0.510	-		-		-		-		-	Continuing	Continuing	Continuing
Training Development	WR	SSC CH : SSC SAN DIEGO	0.401	-		-		-		-		-	Continuing	Continuing	Continuing
Test Integration	WR	NUWC : KEYPORT	0.819	-		-		-		-		-	Continuing	Continuing	Continuing
Test Integration	WR	NSWC : CRANE	0.200	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	19.540	2.709		2.180		2.098		-		2.098	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Data	WR	SSC CH/SSC SD : SSC SAN DIEGO	0.541	-		-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604230N / *Warfare Support System*	Project (Number/Name) 4011 / *Naval Coastal Warfare Surv and C4I Sys*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Data	WR	NSWC : CRANE	0.250	-		-		-		-		-	Continuing	Continuing	Continuing
Technical Data	WR	NUWC : KEYPORT	0.530	-		-		-		-		-	Continuing	Continuing	Continuing
Technical Data	MIPR	Coast Guard : Not Specified	0.175	-		-		-		-		-	Continuing	Continuing	Continuing
Technical Data	WR	NSWC : DAHLGREN	0.175	-		-		-		-		-	Continuing	Continuing	Continuing
Test Planning	WR	NUWC : KEYPORT	0.350	-		-		-		-		-	Continuing	Continuing	Continuing
Test Planning	WR	NSWC : CRANE	0.590	-		-		-		-		-	Continuing	Continuing	Continuing
Test Planning	WR	SSC CH/ : SSC SAN DIEGO	0.710	-		-		-		-		-	Continuing	Continuing	Continuing
Test Planning - Non-Lethal	WR	NSWC : DAHLGREN	1.200	-		-		-		-		-	Continuing	Continuing	Continuing
Test Planning - IDS	WR	NSWC : DAHLGREN	1.110	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	5.631	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	SSC CH : CHARLESTON, SC	0.000	-		0.211	Feb 2015	0.119	Nov 2015	-		0.119	-	0.330	-
Program Management Support	WR	SSC SD : SSC SAN DIEGO	0.641	-		0.250	Feb 2015	0.200	Nov 2015	-		0.200	Continuing	Continuing	Continuing
Program Management Support	Various	Various : Various	3.685	0.485	Feb 2014	0.699	Feb 2015	0.527	Feb 2016	-		0.527	Continuing	Continuing	Continuing
Program Management Support	WR	NUWC : KEYPORT	0.100	-		-		-		-		-	Continuing	Continuing	Continuing
Program Management Support	WR	NSWC : DAHLGREN	4.175	0.500	Feb 2014	-		-		-		-	Continuing	Continuing	Continuing
Program Management Support	WR	NSWC : CRANE	1.062	-		-		-		-		-	Continuing	Continuing	Continuing
Travel	Various	Various : Various	0.135	-		-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604230N / *Warfare Support System*	**Project (Number/Name)** 4011 / *Naval Coastal Warfare Surv and C4I Sys*

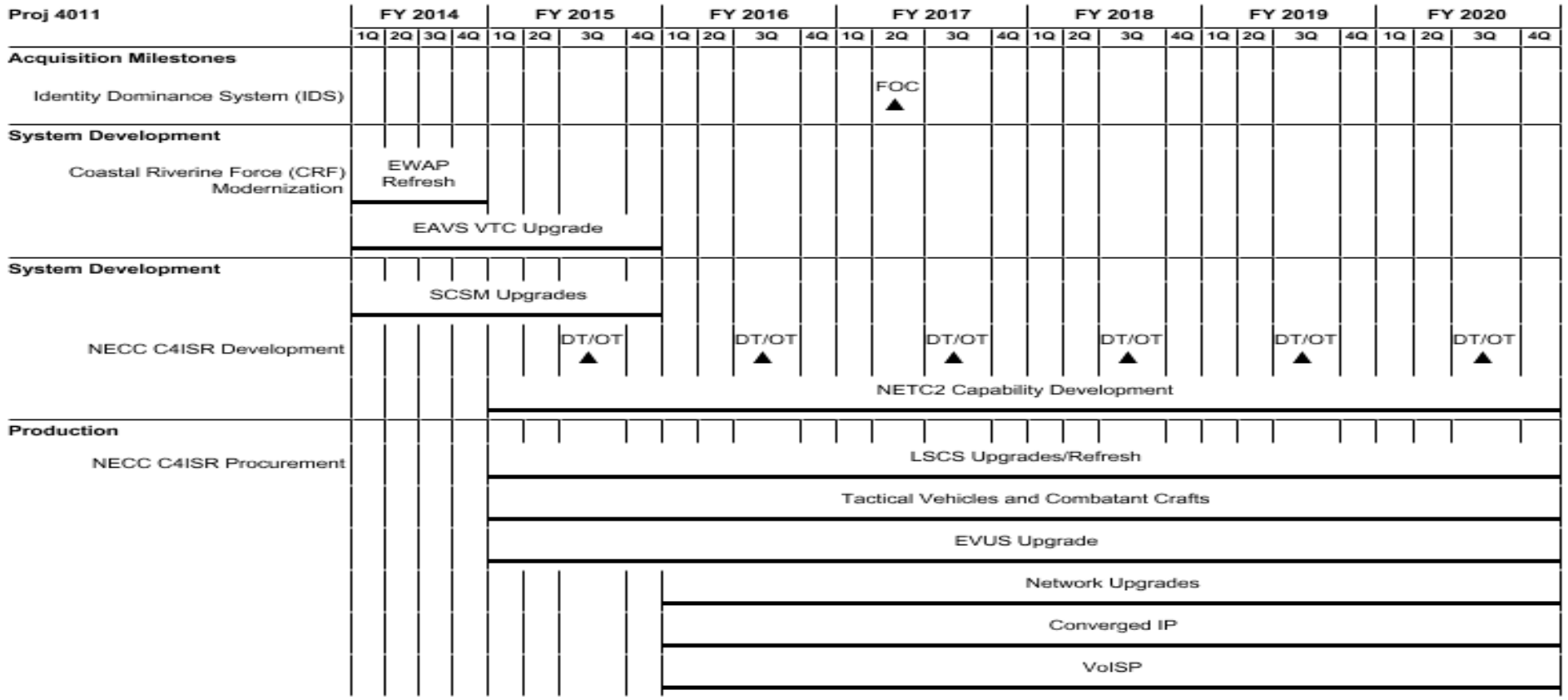
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DAWDF	Various	Not Specified : Not Specified	0.040	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	9.838	0.985		1.160		0.846		-		0.846	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	35.009	3.694		3.340		2.944		-		2.944	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604230N / *Warfare Support System*	**Project (Number/Name)** 4011 / *Naval Coastal Warfare Surv and C4I Sys*



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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604230N / *Warfare Support System*	**Project (Number/Name)** 4011 / *Naval Coastal Warfare Surv and C4I Sys*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 4011				
Acquisition Milestones: Identity Dominance System (IDS): IDS FOC	2	2017	2	2017
System Development: Coastal Riverine Force (CRF) Modernization: Expeditionary Workstation, ADP & Peripherals (EWAP) ADP Refresh	1	2014	4	2014
System Development: Coastal Riverine Force (CRF) Modernization: Expeditionary VTC Upgrade	1	2014	4	2015
System Development: Trailer Senso Platform EO/IR, Image Tracking,Radar Upgrades	1	2014	4	2015
System Development: SHF Comm System, Medium (SCSM) Ka Band Upgrade	1	2014	4	2015
System Development: NECC C4ISR Development: Navy C4I Test and Certification Events FY15	3	2015	3	2015
System Development: NECC C4ISR Development: Navy C4I Test and Certification Events FY16	3	2016	3	2016
System Development: NECC C4ISR Development: Navy C4I Test and Certification Events FY17	3	2017	3	2017
System Development: NECC C4ISR Development: Navy C4I Test and Certification Events FY18	3	2018	3	2018
System Development: NECC C4ISR Development: Navy C4I Test and Certification Events FY19	3	2019	3	2019
System Development: NECC C4ISR Development: Navy C4I Test and Certification Events FY20	3	2020	3	2020
System Development: NECC C4ISR Development: NETC2 Capability Development	1	2015	4	2020
Production: NECC C4ISR Procurement: LSCS Upgrades/Refresh	1	2015	4	2020
Production: NECC C4ISR Procurement: Tactical Vehicles and Combatant Crafts PR/TR	1	2015	4	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604230N / *Warfare Support System*	**Project (Number/Name)** 4011 / *Naval Coastal Warfare Surv and C4I Sys*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production: NECC C4ISR Procurement: Expeditionary VHF/UHF/SATCOM (EVUS) UHF TACSAT Upgrade	1	2015	4	2020
Production: NECC C4ISR Procurement: Expeditionary SIPR/NIPR Network Upgrades/ Refresh	1	2016	4	2020
Production: NECC C4ISR Procurement: Converged IP	1	2016	4	2020
Production: NECC C4ISR Procurement: VoISP	1	2016	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604230N / *Warfare Support System*	Project (Number/Name) 9C86 / *Combatant Craft Replacement*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9C86: *Combatant Craft Replacement*	1.357	1.965	0.760	0.558	-	0.558	1.728	1.095	0.827	0.843	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Combatant Craft Replacements will provide second generation Riverine Multi Mission Craft that will replace in-service Riverine Patrol Boats (RPBs) and Riverine Assault Boats (RABs). Combatant Craft replacements will: conduct inland waterway patrol and interdiction to preserve the rivers for friendly use as lines of communications; deny the use of rivers and waterways to waterborne and immediate shore sited hostile forces by barrier and interdiction operations; and, with augmentation of ground and air forces, locate and destroy hostile forces within a riparian area. Specific mission and capabilities will be identified in an NECC developed/OPNAV N95 approved Initial Capabilities Document (ICD). RDT&E funding will fund feasibility studies and procurement of mock-ups and prototype craft to demonstrate capabilities prior to production craft procurement.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Combatant Craft Replacement	1.965	0.760	0.558	-	0.558
Articles:	-	-	-	-	-

FY 2014 Accomplishments:

Convene workshops and increase design efforts with the goal being to posture for replacement of legacy 33' Riverine Assault Boats, 33' Special Operations Craft Riverine, 34' Patrol Boats, and 39' Riverine Patrol Boats with a common combatant craft hull, mechanical, and electrical (HME) package. Ensure the Stabilized Small Arms Mount (SSAM) Abbreviated Acquisition Program (AAP) completes developmental testing, demonstrates operational suitability, and gains WSESRB concurrence coincidental with delivery of and installation on MK VI Patrol Boats. Evaluate, through modeling and simulation, effectiveness of a MK 38 25mm Machine Gun System when mounted on the forward foundation of a MK VI Patrol Boat during operations in high sea states (3+) and wind conditions. Develop a MK VI Patrol Boat load plan that supports sustained craft high performance abilities and stability. Conduct preliminary evaluation of next generation Environmental Protection Agency Tier III-Compliant marine engines when used in combatant craft. Continue Future Combatant Craft feasibility design study(ies). Evaluate transition potential of the Riverine Patrol Boat (RPB) Advance Weapon Systems to interface with the Riverine Assault Boat (RAB), Riverine Command Boat (RCB) and Force Protection-Coastal (FP-C).

FY 2015 Plans:

Continue Future Combatant Craft design efforts including replacement program of legacy 33' Riverine Assault Boats, 33' Special Operations Craft Riverine, 34' Patrol Boats, and 39' Riverine Patrol Boats with a

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604230N / *Warfare Support System*	**Project (Number/Name)** 9C86 / *Combatant Craft Replacement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
common combatant craft hull, mechanical, and electrical (HME) package. Continue to support MK VI PB Fleet Introduction Team boat and boat system familiarization support and training efforts. Begin Combatant Craft System Development and Demonstration. ***FY 2016 Base Plans:*** Continue Future Combatant Craft design efforts including replacement program of legacy 33' Riverine Assault Boats, 33' Special Operations Craft Riverine, 34' Patrol Boats, and 39' Riverine Patrol Boats with a common combatant craft hull, mechanical, and electrical (HME) package. Continue to support MK VI PB Fleet Introduction Team boat and boat system familiarization support and training efforts. Continue Combatant Craft System Development and Demonstration. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.965	0.760	0.558	-	0.558

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/1210: *Standard Boats*	28.876	129.784	37.372	-	37.372	30.871	34.926	36.676	37.420	Continuing	Continuing

Remarks

D. Acquisition Strategy

Acquisition of RDT&E funded mockup and prototype craft for testing to be accomplished using "tailored" GSA procurements in accordance with a PMS325G approved/ OPNAV N95 endorsed Riverine Combatant Craft Replacement Acquisition Strategy.

E. Performance Metrics

Successfully demonstrate system and prototype functionality to support approved Initial Capabilities Document (ICD).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604230N / *Warfare Support System*	Project (Number/Name) 9C86 / *Combatant Craft Replacement*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Craft Feasibility Study	WR	NSWC : Carderock, MD	0.177	0.655	Jan 2014	0.380	Jan 2015	0.107	Jan 2016	-		0.107	Continuing	Continuing	Continuing
Craft Mockup Award	WR	NSWC : Carderock, MD	0.985	0.655	Jan 2014	-		0.344	Jan 2016	-		0.344	Continuing	Continuing	Continuing
Craft Study Report	WR	NSWC : Carderock, MD	0.195	0.655	Jan 2014	0.380	Jan 2015	0.107	Jan 2016	-		0.107	Continuing	Continuing	Continuing
Craft Test and Evaluation	WR	NSWC : Carderock, MD	0.000	-		-		-		-		-	-	-	-
		Subtotal	1.357	1.965		0.760		0.558		-		0.558	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.357	1.965		0.760		0.558		-		0.558	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604230N / *Warfare Support System*	**Project (Number/Name)** 9C86 / *Combatant Craft Replacement*

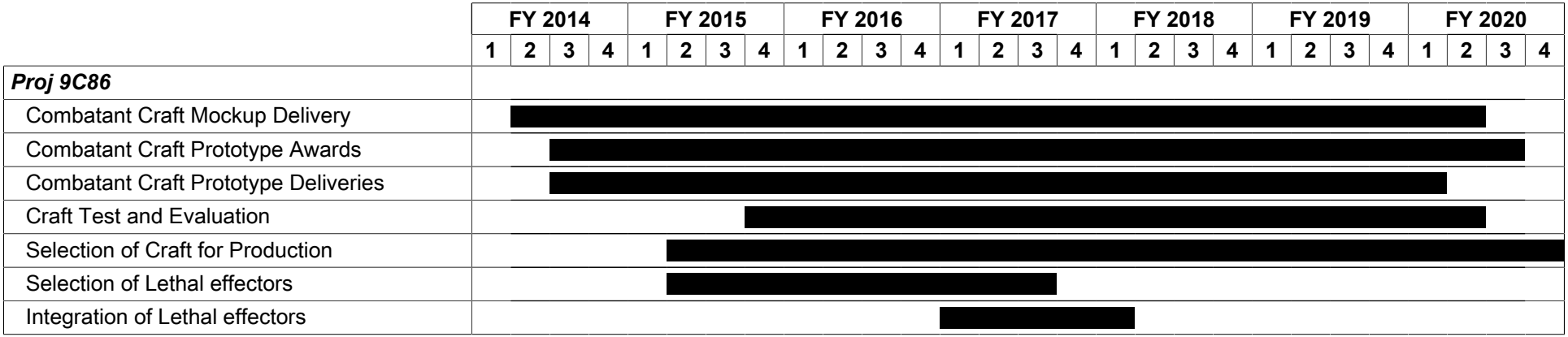


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604230N / *Warfare Support System*	**Project (Number/Name)** 9C86 / *Combatant Craft Replacement*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9C86				
Combatant Craft Mockup Delivery	2	2014	2	2020
Combatant Craft Prototype Awards	3	2014	3	2020
Combatant Craft Prototype Deliveries	3	2014	1	2020
Craft Test and Evaluation	4	2015	2	2020
Selection of Craft for Production	2	2015	4	2020
Selection of Lethal effectors	2	2015	3	2017
Integration of Lethal effectors	1	2017	1	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	692.187	62.298	60.195	81.553	-	81.553	70.835	71.489	69.666	63.170	Continuing	Continuing
0486.: *Tactical Support Center*	115.493	4.922	4.254	5.016	-	5.016	5.621	5.736	5.764	5.884	Continuing	Continuing
2213: *Mission Planning*	274.164	19.883	26.097	47.733	-	47.733	24.338	22.071	22.282	22.759	Continuing	Continuing
3032: *NTCSS (Naval Tactical Command Spt Sys)*	52.853	16.254	11.250	8.168	-	8.168	14.584	14.846	12.625	4.936	Continuing	Continuing
3320: *TRIDENT Warrior*	6.788	2.299	2.251	2.206	-	2.206	2.284	2.309	2.350	2.399	Continuing	Continuing
3323: *Maritime Tactical Command & Control (MTC2)*	6.919	12.079	11.930	15.265	-	15.265	20.626	22.993	23.311	23.789	Continuing	Continuing
3324: *Navy Air Operations Command and Control (NAOC2)*	6.536	3.960	1.812	0.806	-	0.806	1.063	1.064	1.030	1.052	Continuing	Continuing
9123: *FORCEnet*	229.434	2.901	2.601	2.359	-	2.359	2.319	2.470	2.304	2.351	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Tactical Command System upgrades the Navy's Command, Control, Computer and Intelligence (C3I) systems and processes C3I information for all warfare mission areas including planning, direction and reconstruction of missions for peacetime, wartime and times of crises.

Tactical Support Center: The Tactical Mobile program provides evolutionary systems and equipment upgrades to support the Maritime Component Commanders (Expeditionary Ashore) and Maritime Patrol and Reconnaissance Force Commanders with the capability to plan, direct and control the tactical operations of Joint and Naval Expeditionary Forces and other assigned units within their respective area of responsibility. These operations include littoral, open ocean, and over land surveillance, anti-surface warfare, over-the-horizon targeting, counter-drug operations, power projection, antisubmarine warfare, mining, search and rescue, and special operations. The missions are supported by the Tactical Operations Centers (formerly Tactical Support Centers), the Mobile Tactical Operations Centers (formerly Mobile Operations Control Centers), and the Joint Mobile Ashore Support Terminal. TacMobile C2 systems are based on the Global Command and Control System - Maritime architecture which is Defense Information Infrastructure Common Operating Environment compliant.

Mission Planning: The Joint Mission Planning System (JMPS) is the designated automated mission planning system for the Navy. JMPS enables weapon system employment by providing the information, automated tools, and decision aids needed to rapidly plan aircraft, weapon, or sensor missions, load mission data into aircraft and weapons, and conduct post-mission analysis. JMPS is a mission critical system which is a co-development effort between the United States Navy (USN) and United States Air Force (USAF). Common requirements are identified and capabilities are developed and prioritized in an evolutionary approach. An individual JMPS Mission Planning Environment (MPE) is a combination of the JMPS framework, common components, and the necessary system hardware required to satisfy mission planning objectives. Most Tactical Naval Aviation platforms are dependent solely on JMPS to plan precision guided munitions, sensor systems, tactical data links, secure voice communications, and basic Safety of Flight functions. The following type/model/series (T/M/S) naval aircraft are supported by JMPS: AH-1W, F/A-18 A-F, E-2C, EP-3E,

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EA-6B, AV-8B, S-3, V-22, Chief of Naval Air Training (CNATRA), EA-18G, MV-22, C-2, MH-53E, P-3, Aircraft Carrier Intelligence Center (CVIC), SH-60B/F, HH-60H, CH-53D/E, CH-46E, UH-1N, VH-3/VH-60, AH-1Z, UH-1Y, MH-60R/S and E-2D. All T/M/S are required to transition to Microsoft Windows 7 due to End of Life (EOL) of Microsoft XP (April 2014)using Framework (FW) Version 1.3.5. Custom support for Windows XP is planned to allow remaining naval aircraft to be supported during the transition. Future JMPS platforms include: MQ-4C (Triton) and CH-53K. The re-architecture of JMPS will support net-centric goals by providing route "publish and subscribe" capabilities, transition to 64 bit allows for memory space expansion to accommodate future Microsoft Operating Systems, emerging technologies, and critical Cyber Security vulnerabilities as identified in Operational Test (OT). Funding profile includes JMPS baseline efforts for all existing T/M/S on Windows 7 32 bit framework while concurrently re-architecting to a 64 bit framework. 64-bit development requires complete software restructure to address memory limitations and system errors resulting in JMPS computer crashes. The transition from the current 32-bit architecture (4GB RAM) to a 64-bit architecture (196GB RAM) provides additional memory access, increased planning efficiencies; creating a more stabilized architecture with fewer fleet memory crashes. Delaying JMPS 64-bit transition to the fleet will cause system crashes to continue. It will also delay required mission planning fixes based upon known software obsolescence, and will expose the system to risks based upon architectural weaknesses in regards to cyber security vulnerabilities.

Naval Tactical Command Support System (NTCSS): Enterprise Database and Maritime Logistics Data Network (MLDN): The NTCSS is a multi-function program designed to provide standard tactical support information systems to various afloat and associated shore-based fleet activities. The mission is to provide the Navy and Marine Corps with an integrated, scalable system that supports the management of logistical information, personnel, material and funds required to maintain and operate ships, submarines, and aircraft.

Maritime Tactical Command and Control (MTC2): MTC2 is a software program which will provide tactical Command and Control (C2) capabilities and Maritime unique Operational Level of War capabilities not supported by the joint C2 effort. MTC2 will align with the Navy Tactical Cloud (NTC) when available, and leverage Consolidated Afloat Network Enterprise Service (CANES), Agile Core Services (ACS), and legacy Integrated Shipboard Network System (ISNS). MTC2 will field to all echelons of command (afloat and ashore) within the Navy. The goal is to provide a suite of maritime applications that enable enhanced situational awareness, planning, execution, monitoring, and assessment in support of operational and tactical level of war requirements. MTC2 will field maritime applications designed to provide automated and structured support for tactical and operational planning, decision-making, and execution. Global Force Management - Data Initiative (GFM-DI) is the Department-wide enterprise solution that enables visibility/accessibility/sharing of data applicable to the entire DoD force structure. MTC2 will be the program that fulfills a portion of the Navy's GFM-DI requirements.

Navy Air Operations Command and Control (NAOC2): integrates and tests Air Force produced systems that provide for an integrated and scalable planning system that provides standardized, secure, automated decision support for Air Force, Joint, and Allied commanders worldwide. These programs provide automated air operations planning, execution management and intelligence capabilities at the Force level to include Fleet Commanders, Numbered Fleet Commanders, Commander Carrier Strike Group, Commander Expeditionary Strike Group, Commander Landing Force, and Joint Task Force Commanders. NAOC2 includes Theater Battle Management Core System (TBMCS), Command and Control Air and Space Operations Suite (C2AOS), plus Command, Control and Information Services (C2IS). C2AOS and C2IS are being developed as Service Oriented Architecture (SOA) services to allow for scalability and integration with Common Computing Environments (CCE). Continuation of these efforts will significantly enhance the Joint Force Air Component Commander (JFACC) and Combined Air Operations Center (CAOC) personnel to plan daily air operations including strike, airlift, offensive and defensive air, and tanker missions in support of combat operations, addressing the requirement of war fighter of distributed planning and execution processes and significantly improving Joint interoperability. TBMCS continues a hardware transition to CCEs such as

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Consolidated Afloat Networks and Enterprise Services (CANES). Currently, TBMCS is the key system that is used to conduct real world air planning in the Joint and Navy environment. C2AOS and C2IS will replace TBMCS in a SOA environment while bringing more flexibility to the war fighter, planner, and executor.

FORCEnet: Initiative's mission is to deliver Information Dominance by (a) accelerating the transformation to a Distributed, Networked force; (b) achieve interoperability based on Architectures and Standards; and (c) Experiment with, evaluate and employ the enabling technologies. Effort is a non-acquisition program that is the operational instantiation of FORCEnet. The end-state is a distributed network of weapons, sensors, Command and Control (C2), platforms and warriors.

Trident Warrior (TW): TW enables early delivery of Net-Centric Operation/Warfare (NCO/W) capabilities to the warfighter via Fleet-directed Trident Warrior operational events with an emphasis on delivering Maritime Domain Awareness (MDA) with Maritime Operations Center (MOC) capability.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	63.438	70.248	56.819	-	56.819
Current President's Budget	62.298	60.195	81.553	-	81.553
Total Adjustments	-1.140	-10.053	24.734	-	24.734
• Congressional General Reductions	-	-0.053			
• Congressional Directed Reductions	-	-10.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.140	-			
• Program Adjustments	-	-	32.019	-	32.019
• Rate/Misc Adjustments	-	-	-7.285	-	-7.285

Change Summary Explanation

The FY 2016 funding request was reduced by $6.8 million to account for the availability of prior year execution balances.

Technical: Not applicable.
Schedule:

TACTICAL SUPPORT CENTER (Project 0486):
N/A

Naval Tactical Command Support System (NTCSS) (Project 3032):

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Increasing requirements in information security and functional capability have required shifts in the approach for systems design and development. The updated schedule reflects a more integrated plan to accomplish refined requirements, fact-of-life changes, and modernization of the NTCSS system. As development approaches and build requirements are solidified, changes to the schedule will reflect more accurate time frames for multiple NTCSS system builds.

Maritime Tactical Command and Control (MTC2) (Project 3323):
MTC2 schedule and deliverables re-baselined as required to align efforts towards Navy Tactical Cloud (NTC) testing in FY16. Requirement Definition Package (RDP) moved to Q2; waiting for final approval from Naval Capabilities Board (NCB). MTC2-Release 0 Software Requirement Specification (R0 SRS) removed from Q1FY15; no longer required. Capability Drop 2 (CD 2), Release 2 Request for Proposal Release Decision (R2 RFP RD), Build Decision Release 2 (BD R2), MTC2 Release 1 (R1), and MTC2 Initial Operating Capability (IOC) moved to the right to align with development, testing, and integration of MTC2 Build Decision Release 1 (BD R1).

Navy Air Operations Command and Control (NAOC2)(Project 3324):
Command and Control Air Operations Suite - Command and Control Information Services (C2AOS-C2IS) testing will now be conducted in multiple phases. Capability Package 1 (CP1) and CP2 Operational test has shifted to FY16 with CP3 being tested separately in FY17."

Mission Planning (Project 2213):
Acquisition Milestones:
JMPS FW 64 Bit Initial Operational Capability (IOC) Details added to the schedule- Effort will occur in 2Q FY20 - The transition to a 64 bit system is needed to address current and future memory and processing limitations.
Test and Evaluation:
JMPS FW 64 Bit Mission-Planning Environment (MPE) Integration/Validation- 1Q FY18-4Q FY19 / 1Q FY18-4Q FY20- Continuation of 64 bit MPE integration and test efforts associated with the 43 aircraft T/M/S currently planned to utilize JMPS by FY16. The transition to a 64 bit system is needed to address current and future memory and processing limitations.

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COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0486.: *Tactical Support Center*	115.493	4.922	4.254	5.016	-	5.016	5.621	5.736	5.764	5.884	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Tactical/Mobile (TacMobile) program provides evolutionary systems and equipment upgrades to support Maritime Patrol and Reconnaissance Force (MPRF) Commanders with the capability to plan, direct, and control the tactical operations of Joint and Naval Expeditionary Forces and other assigned units within their respective area of responsibility. These
operations include littoral, open ocean, and over land all-sensor surveillance, anti-surface warfare, over-the-horizon targeting, counter-drug operations, power projection, antisubmarine warfare, mining, search and rescue, and special operations.

The missions are supported by the Tactical Operations Centers (TOCs), and the Mobile Tactical Operations Centers (MTOCs). Services provided include analysis and correlation of diverse sensor information; data management support; command decision aids; rapid data communication; mission planning, evaluation and dissemination of surveillance data and threat alerts to operational users ashore and afloat. Tactical/Mobile Command and Control systems are based on the Global Command and Control System - Maritime (GCCS-M) architecture, which is Defense Information Infrastructure (DII)Common Operating Environment (COE) compliant.

TOCs and their equivalents provide Command, Control, Communications, Computers and Intelligence (C4I) capability, air-ground, satellite and point-to-point communications systems; sensor analysis capabilities; avionics and weapons system interfaces and facilities equipment. MTOCs and their equivalents are scalable and mobile versions of the TOC for operations from airfields that do not have TOC support. This program assures that existing TOCs and MTOCs are modernized to fulfill their operational requirements. TOC/MTOC will continue to provide the ground Command and Control capabilities and C4I interfaces for the Maritime Patrol and Reconnaissance Force (MPRF) Family of Systems (FOS) aircraft and systems evolution including P-3C aircraft updates to sensors and weapons systems, such as the Anti-Surface Warfare Maritime Improvement Program (AMIP), and the Command Control Communications Computers for Anti-Submarine Warfare (C4 for ASW) P-3C aircraft upgrades, P-8A Multi-mission Maritime Aircraft (MMA) Increment 1, as well as development of emergent, ground C4I support capabilities for the P-8A Poseidon Increment 2, Increment 3, Advanced Airborne Sensor (AAS), and the MQ-4C Triton Unmanned Aerial System.

The TacMobile program was designated as an Acquisition Category (ACAT) III weapons system program July 2004 and is no longer directly associated with the GCCS-M program. The TacMobile program follows an Evolutionary Acquisition approach, which provides a mechanism for adding a series of future capabilities that maintain and enhance the operational
relevance of the systems provided, as well as augments improvements in airborne networking. Transformation of the TOC/MTOC Force to a more mobile, scalable, and Network-centric Services Oriented Architecture (SOA) configuration, convergence of TOC, MTOC to a single configuration, and as an integral component of the Maritime Patrol and Reconnaissance Force (MPRF) Family of Systems (FOS), operational C4I integration support for new and upgraded Maritime Patrol and Reconnaissance Aircraft (MPRA) such as P-8A Poseidon, P-3C Orion AIP, and MQ-4C Triton UAS as primary thresholds and objectives.

FY16: Funding supports final core TacMobile systems development and testing to achieve interoperability with P-8A Poseidon Increment 2 and the MQ-4C Triton. Continues technical modernization to achieve increased modularity, and continues core development to enable establishment of additional security enclaves, and

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enhancing flexibility and mobility, to offset the size/weight/cube of additional required aircraft interfaces developed to support P-8A Increment 3, Advanced Airborne Sensor (AAS) and emerging Maritime Patrol and Reconnaissance Aircraft operations. Network-centric Services Oriented Architecture (SOA) and airborne C4I integration efforts continue as improvements to airborne and Intelligence/Surveillance/Reconnaissance (ISR) networking technologies are matured. Will achieve interoperability with emerging MPRF Aircraft and Sensors while reducing TacMobile footprint enhancing Mobility capability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Net Ready	0.638	0.638	0.938	-	0.938
Articles:	-	-	-	-	-

FY 2014 Accomplishments:

Continued Services oriented Architecture design refinement -- (TR 2.1.1). Continued Family of Systems collaboration on Maritime Patrol and Reconnaissance Force (MPRF)/Air Anti-Submarine Warfare (ASW) Community of Interest data model -- (TR 2.1.1). Commenced Tactical Operations Center /Mobile Tactical Operations Center Content Management Extensible Markup Language (XML) Data Dictionary and XML Schema development in support of the MPRF/Air ASW COI data model -- (Inc 3). Finalized Automated Digital Network System (ADNS) and Full Motion Video designs and commenced test for implementation -- (TR 2.1.1). Continued Increment 3 Department of Defense Architecture Framework product development. Commenced TacMobile Data Strategy, Information Support Plan and Capabilities Production Document for Increment 3. Commenced Wideband Beyond Line of Sight Satellite Communications requirements analysis -- (Inc 3). Began identifying requirements to evolve legacy point to point exchanges of information to utilize Services Oriented Architecture and new technologies in order to down select sustainable technologies -- (TR 2.1.1). Began process to refine Measures of Effectiveness to maintain integrated requirements management with Increment 3 architecture elements -- (Inc 3).

FY 2015 Plans:

Continue Services Oriented Architecture (SOA) design implementation and test leveraging P-8A Applications Based Architecture Best of Breed architecture design. Develop an initial TacMobile Ground Support portal -- (TR 2.1.1). Commence initial Tactical Operations Center Operational Control Prototype SOA fielding in TR 2.1.1. Continue Automated Digital Network System and Full Motion Video implementations -- (TR 2.1.1). Continue Family of Systems (FoS) collaboration on Maritime Patrol and Reconnaissance Force (MPRF)/Air Anti-Submarine Warfare (ASW) Community of Interest (COI) data model development to support SOA environment with Extensible Markup Language (XML) schema and Tactical Operations Center / Mobile Tactical Operations Center Content Management XML Data Dictionary -- (Inc 3). Incorporate Inc 2.1 CPD change memorandum and related changes - (T.R. 2.1.1). Mature TacMobile Data Strategy, Information Support Plan , and Capabilities Production Document for Increment 3, supporting P-8A Poseidon Inc 3 - (Inc 3). Update all required TOC/ MTOC Department of Defense Architecture Framework (DoDAF) products, and integrate to the MPRF/Air ASW COI Family of Systems Department of Defense Architecture Framework products -- (Inc 3). Continue

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Wideband Beyond Line of Sight Satellite Communications requirements analysis -- (Inc 3). Commence review of TacMobile Concept of Operations in alignment with Family of Systems CONOPS - (TR 2.1.1). Continue identifying requirements to evolve legacy point to point exchanges of information to utilize Services Oriented Architecture and new technologies and down select sustainable technologies -- (TR 2.1.1). Mature Measures of Effectiveness to maintain integrated requirements management with Increment 3 architecture elements -- (Inc 3). ***FY 2016 Base Plans:*** Integrate Services Oriented Architecture (SOA) implementations from P8 Applications Based Architecture with TacMobile architecture -- (TR 2.1.1). Leverage Tactical Operations Center Operational Control Prototype SOA development with TacMobile Services Oriented Architecture implementation based on Best of Breed from P8 Applications Based Architecture and leveraged Tactical Operations Center Operational Control Prototype SOA work. Continue Automated Digital Network System and Full Motion Video implementations--(TR 2.1.1). Mature Family of Systems Community of Interest data model development for TacMobile SOA environment instantiation with Extensible Markup Language (XML) schema and Tactical Operations Center Mobile Tactical Operations Center Content Management XML Data Dictionary -- (Inc 3). Continue evolving TacMobile Data Strategy, Information Support Plan, and Capabilities Production Document for Increment 3, supporting P-8A Poseidon Inc 3 - (Inc 3). Finalize TOC/MTOC Operational view and System view Department of Defense Architecture Framework products, and integrate to the Maritime Patrol and Reconnaissance Force /Air Anti-Submarine Warfare Community of Interest Family of Systems Department of Defense Architecture Framework products -- (Inc 3). Continue review of TacMobile Concept of Operations (CONOPS) in alignment with Family of Systems CONOPS - (TR 2.1.1). Mature identifying requirements to evolve legacy point to point exchanges of information to utilize Services Oriented Architecture and new technologies and down select sustainable technologies -- (TR 2.1.1). Refine Measures of Effectiveness to maintain integrated requirements management with Increment 3 architecture elements -- (Inc 3). ***FY 2016 OCO Plans:*** N/A					
Title: Tactical Mobile Acoustic Support System (TACMASS)	0.736	0.736	0.736	-	0.736
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued Multistatic Active Coherent, High Altitude ASW, High Altitude Anti Submarine Warfare Weapons Capability, and Automatic Identification System integration system testing to support fielding of P-8A Poseidon Increment 2 -- (TR 2.1.1). Selected alternatives on expeditionary post flight analysis capability -- (TR 2.1.1). Commenced design/development support of P-8A Poseidon Increment 2 Engineering Change Proposal (ECP)					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
3 -- (TR 2.1.1 / Inc 3). Continued requirement analysis and support preliminary Design Review (PDR) of P-8A Poseidon Increment 3 -- (Inc 3). ***FY 2015 Plans:*** Commence implementation of P-8A Poseidon Increment 2 Engineering Change Proposal (ECP) 1 Multistatic Active Coherent Phase 1 -- (FR30). Continue implementing designs, integration and test of P-8A Poseidon Increment 2 (ECP) 2 and 3 -- (FR40 /FR50). Continue requirement analysis and commence design of TacMobile system in support of P-8A Poseidon Increment 3 -- (Inc 3). Commence initial TacMobile system testing of ECP 2 -- (FR40). ***FY 2016 Base Plans:*** Finalize implementation of P-8A Poseidon Increment 2 Engineering Change Proposal (ECP) 2 -- (FR40) and commence implementation of P-8A Poseidon Increment 2 ECP 3 -- (FR50 / Inc 3). Finalize designs and commence development of TacMobile Multistatic Active Coherent Attack system in support of P-8A Poseidon Increment 3 upgrades-- (Inc 3). ***FY 2016 OCO Plans:*** N/A					
Title: Aircraft Interfaces	0.583	0.583	0.883	-	0.883
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Media: Continued development of those interfaces required to support P-8A Poseidon Increment 2 Engineering Change Proposal (ECP) 1 and ECP 2 -- (TR 2.1.1). Commenced P8 Poseidon Increment 2 ECP 3 requirements support -- (TR2.1.1). Continued production support in the form of requirements analysis and design work on TacMobile 1-1 Engineering Development Model for Advanced Airborne Sensor -- (Inc 3). Continued analysis of integration requirements for P-8A Poseidon Increment 3 trading off impacts from Applications Based Architecture architecture -- (Inc 3). Supported P8 Poseidon Increment 3 System Requirements Reviews and Technical Requirements Analysis -- (Inc 3). Began study to support interface design for Net Enabled Weapon and T-Sized Stores -- (Inc 3). Began development of P-8A Poseidon Fly Away Kits, for media grooming and split deployment support -- (Inc 3). ***FY 2015 Plans:*** Commence test and production of P8 Poseidon Increment 2 Engineering Change Proposal (ECP) 1 and ECP 2 required TacMobile support -- (TR 2.1.1). Support all P-8A Poseidon Increment 2 Operational Evaluations -- (TR 2.1.1) Continue refining Advanced Airborne Systems and TacMobile stack integration -- (TR 2.1.1). Support					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
P8 Poseidon Increment 3 Applications Based Architecture System Readiness Review and Test and Evaluation prototyping -- (Inc 3). Continue supporting interface design for Net Enabled Weapon and T-Sized Stores -- (Inc 3). Commence implementation of P-8A Poseidon Fly Away Kits, for media grooming and split deployment support -- (Inc 3). ***FY 2016 Base Plans:*** Continue test and production of P8 Poseidon Increment 2 Engineering Change Proposal (ECP) 1 and ECP 2 required TacMobile support -- (TR 2.1.1). Continue supporting all P-8A Poseidon Increment 2 Operational Evaluations-- (TR 2.1.1). Finish refining Advanced Airborne Systems and TacMobile stack integration -- (TR 2.1.1). Support P8 Poseidon Increment 3 ABA Preliminary Design Review (PDR) 1 and Test and Evaluation prototype development -- (Inc 3). Mature interface design for Net Enabled Weapon and T-Sized Stores -- (Inc 3). Finalize implementation of P-8A Poseidon Fly Away Kits, for media grooming and split deployment support -- (Inc 3). ***FY 2016 OCO Plans:*** N/A					
Title: Tactical Data Links	0.160	0.160	0.160	-	0.160
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Studied LINK-11 sundown plan, impacts on TacMobile, and potential adoption of LINK-22 /NATO Improved Link Eleven -- (Inc 3). Assessed implementation of LINK-16 Concurrent Multi-Netting, adoption of Multifunctional Information Distribution System Joint Tactical Radio System, and adoption of Tactical Targeting Network Technology -- (Inc 3). ***FY 2015 Plans:*** Continue to monitor LINK-11 sundown plan, impacts on TacMobile, and potential adoption of LINK-22 / NATO Improved Link Eleven -- (Inc 3). Commence implementation or recommended assessment of LINK-16 Concurrent Multi-Netting , adoption of Multifunctional Information Distribution System Joint Tactical Radio System, and adoption of Tactical Targeting Network Technology -- (Inc 3). Commence design for selected Tactical Targeting Network Technology and Multifunctional Information Distribution System Joint Tactical Radio System Courses of Action -- (TR 2.1.1). Commence requirements analysis on Common Data Link Upgrade, Broadcast Intelligence Analysis, Joint Range Extension, Third Party Targeting, High Frequency Internet Protocol, LINK 16 updates -- (Inc 3). ***FY 2016 Base Plans:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue design for selected Tactical Targeting Network Technology and Multifunctional Information Distribution System Joint Tactical Radio System Courses of Action -- (TR 2.1.1) Continue requirements analysis on Common Data Link Upgrade, Broadcast Intelligence Analysis, Joint Range Extension, Third Party Targeting, High Frequency Internet Protocol, Link 16 updates -- (Inc 3). ***FY 2016 OCO Plans:*** N/A					
Title: Enterprise Solutions	0.580	0.580	0.780	-	0.780
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Developed requirements for assessing appropriate Distributed Common Ground System Navy / Intelligence Carry Onboard Program capabilities -- (Inc 3). Continud development of mature Multiple Security level Enclaves (formerly called Multi-level Enclaves) design options -- (Inc 3). Conducted Analysis of Alternatives on Mass Storage requirements for TacMobile including P-8A Poseidon Increment 3 and Advanced Airborne Sensor -- (Inc 3). Continued maturing design of data content management and security requirements for P-8A Poseidon Increment 2 -- (TR 2.1.1). Commenced Applications Based Architecture requirements analysis, Just a Bunch of Disks replacement (Removable Media Consolidation) (renamed to Digital Storage Architecture Upgrade) -- (Inc 3). ***FY 2015 Plans:*** Continue with Applications Based Architecture (ABA) requirements analysis, and commence ABA design and development for TacMobile (TM) systems -- (Inc 3). Continue with Just a Bunch of Disks (now called Data Storage Architecture Upgrade (DSAU)) replacement requirement analysis, and commence DSAU design and development for TacMobile systems - (TR 2.1.1). Continue development of Multiple Security level Enclaves and design of Distributed Common Ground System Navy implementation -- (Inc 3). Commence development of next generation Mass Storage requirement -- (Inc 3). ***FY 2016 Base Plans:*** Continue maturing the Applications Based Architecture (ABA) requirements analysis, and commence ABA design and development for TacMobile systems -- (Inc 3). Continue Data Storage Architecture Upgrade development and implementation - (TR 2.1.1). Continue development of Multiple Security level Enclaves and design of Distributed Common Ground System Navy implementation -- (Inc 3). Continue development of next generation Mass Storage requirement -- (Inc 3). ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Command and Control (C2)	0.402	0.402	0.402	-	0.402
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Began implementation of Tactical Operations Center Operational Control Prototype Services Oriented Architecture (SOA) Situational Awareness into TacMobile SOA -- (TR 2.1.1). Began requirements analysis and design for Advanced Airborne Sensor as part of TacMobile Multiple Security level Enclaves (formerly called Multi-level Enclaves) system development -- (TR 2.1.1). Completed Global Command and Control System - Maritime replacement option design analysis -- (TR2.1.1). Began investigation of Maritime Tactical Command and Control in TM architecture -- (Inc 3).					
FY 2015 Plans: Cease Tactical Operations Center Operational Control Prototype Services Oriented Architecture (SOA) implementations thru phase 5 and commence TacMobile SOA design leveraging P-8A Applications Based Architecture into TacMobile SOA requirements analysis and design/development. Leverage Poseidon Data modeling, security, applications and architecture -- (Inc 3). Continue requirements analysis and commence development of Advanced Airborne Sensor system as part of TacMobile Multiple Security level Enclaves -- (Inc 3). Implement Complete Global Command and Control System - Maritime Group Level 4.1 in support of Triton Mission Control System interface and continue to assess next generation Maritime Tactical Command and Control -- (Inc 3).					
FY 2016 Base Plans: Continue Tactical Operations Center Operational Control Prototype Services Oriented Architecture (SOA) design leveraging P-8A Applications Based Architecture into TacMmbile SOA requirements analysis and design/ development. Leverage Poseidon Data modeling, security, applications and architecture -- (Inc 3). Mature requirements analysis, continue development, and commence implementation of Advanced Airborne Sensor system as part of TacMobile (TM) Multiple Independent Levels of Security -- (Inc 3). Evaluate Global Command and Control System - Maritime Group Level 4.1 in support of Triton Mission Control System interface and conduct requirements analysis to assess next generation Maritime Tactical Command and Control -- (TR 2.1.1).					
FY 2016 OCO Plans: N/A					
Title: Maritime Patrol and Reconnaissance Force (MPRF) Interoperability/TacMobile Footprint Reduction	1.823	1.155	1.117	-	1.117
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 0486. / *Tactical Support Center*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Conducted system integration of P-8A Poseidon Aircraft Increment 2 Mission Planning interoperability upgrades -- (TR 2.1.1). Continued system testing and integration of modular and hardware independent solutions to reduce mobile system architecture footprint -- (TR 2.1.1). Completed developmental Testing for convergence of Tactical Operations Center and Mobile Tactical Operations Center architecture toward common baseline to reduce platform unique training requirements and duplicative life cycle logistics costs -- (TR 2.1.1). Began down selection Analysis of Alternatives of automated TacMobile system functionality to reduce operator workload, to offset increasing Maritime Patrol and Reconnaissance Force Intelligence Surveillance and Reconnaissance Mission/Function/Task growth and develop an engineering design model -- (TR 2.1.1). Completed implementing all hardware design optimizations which reduce and consolidate TacMobile footprint and any Maritime patrol and Reconnaissance Aircraft media changes -- (TR 2.1.1). Utilized current technology that best optimizes data transfer rates -- (Inc 3). Continued with development of Multiple Security level Enclaves (formerly called Multi-level Enclaves) -- (Inc 3).					
FY 2015 Plans: Commence implementation of full system integration of P-8A Poseidon Aircraft Increment 2 Mission Planning interoperability upgrades -- (TR 2.1.1). Commence design model development of automated TacMobile system functionality to reduce operator workload, to offset increasing Maritime Patrol and Reconnaissance Force Intelligence Surveillance and Reconnaissance Mission/Function/Task -- (TR 2.1.1). Commence hardware fielding for convergence of Tactical Operations Center (TOC) and Mobile Tactical Operations Center (MTOC) architecture toward common baseline to reduce platform unique training requirements and duplicative life cycle logistics costs -- (TR 2.1.1). Reduce TOC/MTOC Size, Weight, Power and Cooling footprint via stakeholder requirements analysis (TR 2.1.1). Implement selected Analysis of Alternatives design for automated TacMobile system functionality to reduce operator workload, to offset increasing Maritime Patrol and Reconnaissance Force Intelligence Surveillance and Reconnaissance Mission/Function/Task growth and develop an engineering design model -- (TR 2.1.1). Continue implementing all hardware design optimizations which reduce and consolidate TacMobile footprint and any Maritime Patrol and Reconnaissance Aircraft media changes -- (TR 2.1.1). Utilize technology that continues best optimizes data transfer rates -- (Inc 3). Continue with development of Multiple Security level Enclaves utilizing a Multiple Independent Levels of Security approach and initiate Higher than SECRET enclave's requirements analysis and design for TacMobile -- (Inc 3).					
FY 2016 Base Plans: Continue design model development of automated TacMobile system functionality to reduce operator workload, to offset increasing Maritime Patrol and Reconnaissance Force Intelligence Surveillance and Reconnaissance					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Mission/Function/Task -- (TR 2.1.1). Complete stakeholder Size Weight Power and Cooling requirements analysis and commence TOC/MTOC design -- (TR 2.1.1). Complete implementing all hardware design optimizations which reduce and consolidate TacMobile footprint and any Maritime patrol and Reconnaissance Aircraft media changes -- (TR 2.1.1).Commence Wide Band SatCom requirements analysis and continue utilizing technology that continues best optimizes data transfer rates -- (Inc 3). Continue with development of Multiple Security level Enclaves, mature Higher than SECRET enclave's requirements analysis and design for TacMobile -- (Inc 3). ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	4.922	4.254	5.016	-	5.016

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2246: *MPRF Mission Support*	18.130	14.390	13.847	-	13.847	13.646	13.978	14.330	14.628	Continuing	Continuing
• OPN/2906: *TacMobile*	22.817	16.766	13.741	-	13.741	14.708	14.917	14.996	15.308	Continuing	Continuing

Remarks

D. Acquisition Strategy

Evolutionary Acquisition - Increment 2.0 provided enhanced Beyond Line of Sight (BLOS) Global Information Grid (GIG) reach back capability, and supports Maritime Situational Awareness connectivity enhancements for data exchange with Maritime Patrol and Reconnaissance Force (MPRF) aircraft and with Coalition data networks. It incorporated Anti Submarine Warfare (ASW) acoustical analysis improvements and new P-3C aircraft ASW interfaces. Increment 2.1 supported migration to follow on Global Command and Control System - Maritime (GCCS-M) version 4.0.3 and introduction of the P-8A Poseidon. Tech Refresh 2.1.1 supports technical engineering changes associated with the introduction of P-8A Poseidon Increment 2, MQ-4C Triton, Advanced Airborne Sensor (AAS), migration to GCCS-M 4.1 Group Level, and transition to WIN7 baselines. Increment 3 will incorporate support for other Maritime Patrol and Reconnaissance Force (MPRF) Family of Systems (FOS) Aircraft Systems, as they transition to a Services Oriented Architecture (SOA).

E. Performance Metrics

The primary metrics utilized by the TacMobile program development process, include achieving/maintaining all required Interface Exchange Requirements (IER's) and successful achievement of 100% of Key Performance Parameters for incremental upgrade threshold capabilities, as observed by Commander Operational Test Force representatives during Operational Evaluation. TacMobile Inc 2.1 development supported increased IER requirements of 486% from 112 to 544. Development to support these new IER's tapered off in FY-12 as the Increment entered the Operational Evaluation Phase. Development focus then shifted to efforts required to retain fielded IER's and update IER's to comply with emerging and evolving standards associated with P-8A Poseidon Increment 2, and the MQ-4C Triton Unmanned

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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Aerial System (UAS), other Maritime Patrol and Reconnaissance Force (MPRF) Family of Systems (FOS) Aircraft and Systems, and evolving operational employment concepts. Increment 3 development will increase IER's by extending the TacMobile core to extend integrated capabilities into higher than SECRET enclaves and Services Oriented Architecture (SOA). The quantification of the increase in IER's will be dependent upon final requirements which are still being defined.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPFF	SSC LANT; Northrop Grumman; SAIC : Charleston; SC; Pax River, MD	7.139	1.141	Dec 2013	1.046	Dec 2014	1.188	Dec 2015	-		1.188	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	SSC LANT; Northrop Grumman, SAIC, BAH, Sentek : Charleston, SC; Pax River, MD; San Diego, CA	29.917	1.136	Dec 2013	0.978	Dec 2014	1.398	Dec 2015	-		1.398	Continuing	Continuing	Continuing
Training Development	C/CPFF	SSC LANT; SAIC; Sentek : Charleston, SC; Pax River, MD; San Diego, CA	2.161	0.400	Dec 2013	0.300	Dec 2014	0.300	Dec 2015	-		0.300	Continuing	Continuing	Continuing
Software Development	C/CPFF	SSC LANT, Northrop Grumman, SAIC, BAH, Sentek : Charleston, SC; Pax River, MD; San Diego, CA	46.900	0.302	Dec 2013	0.302	Dec 2014	0.402	Dec 2015	-		0.402	Continuing	Continuing	Continuing
Integrated Logistics Support	C/CPFF	SSC LANT, SAIC : Charleston, SC; Pax River, MD	1.025	0.225	Dec 2013	0.225	Dec 2014	0.225	Dec 2015	-		0.225	Continuing	Continuing	Continuing
Configuration Management	C/CPFF	SSC LANT, SAIC : Charleston, SC; Pax River, MD	0.800	0.175	Dec 2013	0.175	Dec 2014	0.175	Dec 2015	-		0.175	Continuing	Continuing	Continuing
Technical Data	C/CPFF	SSC LANT, Northrop Grumman, SAIC : Charleston, SC; Pax River, MD	1.040	0.220	Dec 2013	0.220	Dec 2014	0.220	Dec 2015	-		0.220	Continuing	Continuing	Continuing
Studies & Analyses	C/CPFF	SSC LANT, Northrop Grumman, SAIC, Sentek : Pax River, MD; San Diego CA	0.725	0.100	Dec 2013	0.100	Dec 2014	0.100	Dec 2015	-		0.100	Continuing	Continuing	Continuing
		Subtotal	89.707	3.699		3.346		4.008		-		4.008	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	C/CPIF	SSC LANT; SAIC : Charleston, NC; Pax River, MD	2.096	0.440	Dec 2013	0.240	Dec 2014	0.340	Dec 2015	-		0.340	Continuing	Continuing	Continuing
Operational Test & Evaluation	MIPR	OPTEVFOR; SSC LANT; SAIC : Jacksonville, FL	5.549	0.157	Mar 2014	0.157	Dec 2014	0.157	Dec 2015	-		0.157	Continuing	Continuing	Continuing
		Subtotal	7.645	0.597		0.397		0.497		-		0.497	-	-	-

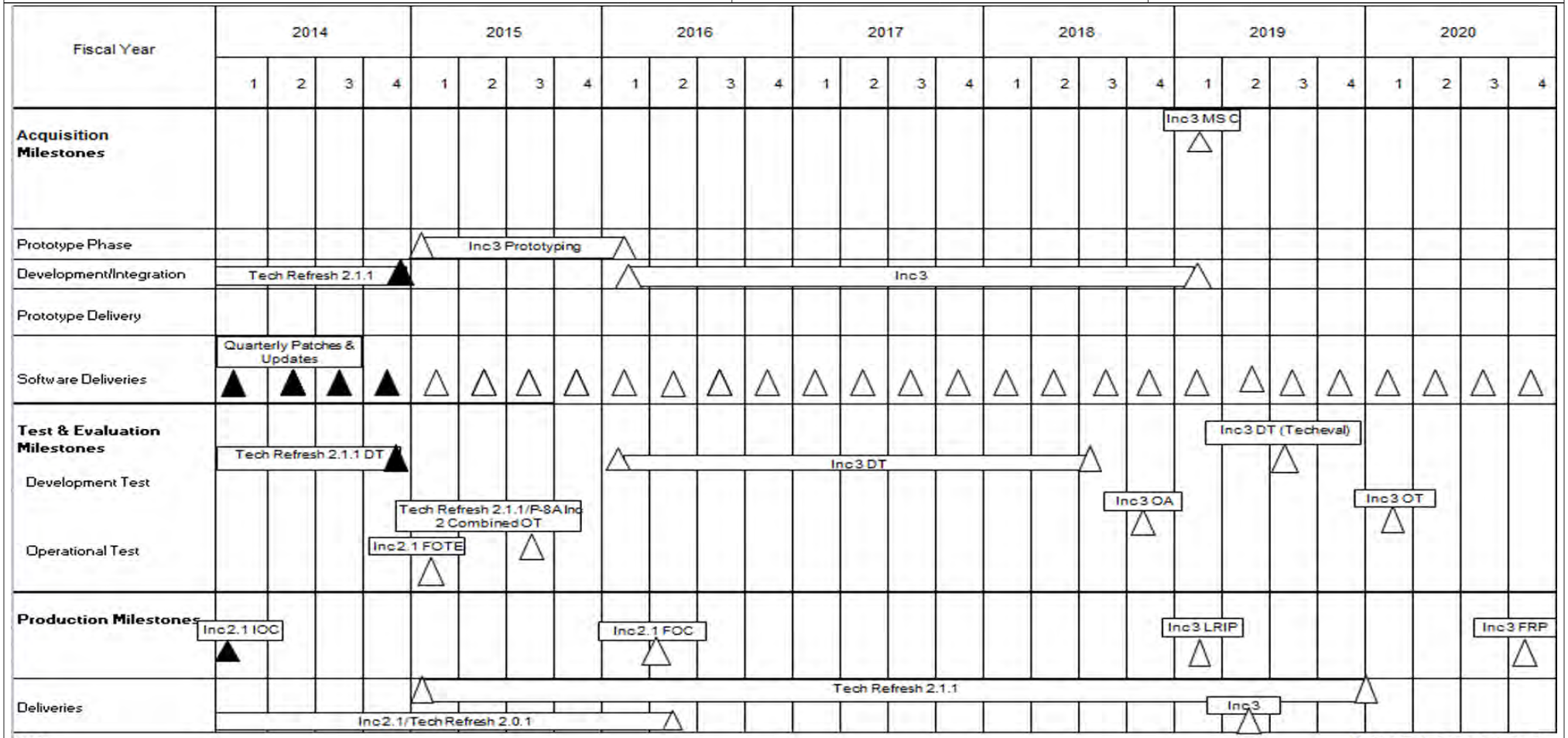
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPIF	Northrop Grumman; SAIC; BAH; Sentek : Pax River, MD; Charleston, SC; San Diego, CA	2.451	0.303	Dec 2013	0.236	Dec 2014	0.215	Dec 2015	-		0.215	Continuing	Continuing	Continuing
Government Engineering Support	WR	SSC LANT : Charleston, NC	1.805	0.127	Dec 2013	0.127	Dec 2014	0.134	Dec 2015	-		0.134	Continuing	Continuing	Continuing
Program Management Support	C/CPIF	SSC LANT; PMW750; BAH; SAIC; Sentek : Charleston, NC; San Diego, CA	13.690	0.163	Dec 2013	0.130	Dec 2014	0.144	Dec 2015	-		0.144	Continuing	Continuing	Continuing
Travel	WR	PMW750 : San Diego, CA	0.195	0.033	Dec 2013	0.018	Dec 2014	0.018	Dec 2015	-		0.018	Continuing	Continuing	Continuing
		Subtotal	18.141	0.626		0.511		0.511		-		0.511	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	115.493	4.922		4.254		5.016		-		5.016	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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Note:
None

Exhibit R-4, Schedule Profile

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0486.L39				
Software Delivery (Quarterly)	1	2014	4	2020
Tech Refresh Delivery (TR 2.0.1)	1	2014	2	2016
Tech Refresh Delivery (TR 2.1.1)	1	2015	4	2019
Initial Operational Capability (Increment 2.1) (TOC/MTOC)	1	2014	1	2014
Follow On Test and Evaluation (Increment 2.1)	1	2015	1	2015
Increment 2.1 FOC	2	2016	2	2016
Increment 2.1 Delivery	1	2014	2	2016
Tech Refresh 2.1.1 Development	1	2014	4	2014
Developmental Test (Tech Refresh 2.1.1)	1	2014	4	2014
Combined Operational Test (Tech Refresh 2.1.1)	3	2015	3	2015
Prototyping (Increment 3)	1	2015	1	2016
Development (Increment 3)	1	2016	1	2019
Developmental Test (Increment 3)	1	2016	3	2018
Operational Assessment (Increment 3)	4	2018	4	2018
Milestone C (Increment 3)	1	2019	1	2019
Low Rate Initial Production (Increment 3)	1	2019	1	2019
Developmental Test (Increment 3 Tech Eval)	3	2019	3	2019
Operational Test (Increment 3)	1	2020	1	2020
Full Rate Production (Increment 3)	4	2020	4	2020
Increment 3 Delivery (First LRIP unit)	2	2019	2	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
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COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2213: *Mission Planning*	274.164	19.883	26.097	47.733	-	47.733	24.338	22.071	22.282	22.759	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Mission Planning: The Joint Mission Planning System (JMPS) is the designated automated mission planning system for the Navy. JMPS enables weapon system employment by providing the information, automated tools, and decision aids needed to rapidly plan aircraft, weapon, or sensor missions, load mission data into aircraft and weapons, and conduct post-mission analysis. JMPS is a mission critical system which is a co-development effort between the United States Navy (USN) and United States Air Force (USAF). Common requirements are identified and capabilities are developed and prioritized in an evolutionary approach. An individual JMPS Mission Planning Environment (MPE) is a combination of the JMPS framework, common components, and the necessary system hardware required to satisfy mission planning objectives. Most Tactical Naval Aviation platforms are dependent solely on JMPS to plan precision guided munitions, sensor systems, tactical data links, secure voice communications, and basic Safety of Flight functions. The following type/model/series (T/M/S) naval aircraft are supported by JMPS: AH-1W, F/A-18 A-F, E-2C, EP-3E, EA-6B, AV-8B, S-3, V-22, Chief of Naval Air Training (CNATRA), EA-18G, MV-22, C-2, MH-53E, P-3, Aircraft Carrier Intelligence Center (CVIC), SH-60B/F, HH-60H, CH-53D/E, CH-46E, UH-1N, VH-3/VH-60, AH-1Z, UH-1Y, MH-60R/S and E-2D. All T/M/S are required to transition to Microsoft Windows 7 due to End of Life (EOL) of Microsoft XP (April 2014) using Framework (FW) Version 1.3.5. Custom support for Windows XP is planned to allow remaining naval aircraft to be supported during the transition. Future JMPS platforms include: MQ-4C (Triton) and CH-53K. The re-architecture of JMPS will support net-centric goals by providing route "publish and subscribe" capabilities, transition to 64 bit allows for memory space expansion to accommodate future Microsoft Operating Systems, emerging technologies, and critical Cyber Security vulnerabilities as identified in Operational Test (OT). Funding profile includes JMPS baseline efforts for all existing T/M/S on Windows 7 32 bit framework while concurrently re-architecting to a 64 bit framework. 64-bit development requires complete software restructure to address memory limitations and system errors resulting in JMPS computer crashes. The transition from the current 32-bit architecture (4GB RAM) to a 64-bit architecture (196GB RAM) provides additional memory access, increased planning efficiencies; creating a more stabilized architecture with fewer fleet memory crashes. Delaying JMPS 64-bit transition to the fleet will cause system crashes to continue. It will also delay required mission planning fixes based upon known software obsolescence, and will expose the system to risks based upon architectural weaknesses in regards to cyber security vulnerabilities.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: JMPS Framework (FW) & Common Components (CC) Development	1.400	8.094	26.358	-	26.358
Articles:	-	-	-	-	-
Description: Due to the end of Microsoft support for Windows XP in April 2014, JMPS framework (FW) is required to transition to Windows Operating System (OS) 7. FW Version 1.3.5 incorporates Windows OS 7 and provides additional capabilities for all naval aircraft to include air drop, air refueling and enhanced installation. Funding for FW will be used to support system engineering processes, management interface controls, software architectural analysis, requirements management and a centralized website for Mission Planning Environment (MPE) developers. FW 1.x will be incorporated in future FW versions to address migration to .NET environment					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
and to enable interoperability improvements through utilization of services. FW 64 bit development efforts commenced in FY14. If a transition to 64-Bit architecture is delayed or minimized, the fleet will experience increased mission planning interruptions (crashes) with future Mission Planning Environments (MPE) as a result of legacy and new 32-Bit applications shared utilization of the 4G RAM limitation associated with 32-bit operating system (64-Bit provides 192GB RAM). Additionally, as platform(s) requirements emerge for new and enhanced mission planning capabilities, the demand for more complex integrated applications and software products increases. Without this planned transition to a 64-Bit architecture, the volume of integrated mission planning capability for the fleet will be limited and restricted. Common Components software updates augment core mission planning capabilities across multiple T/M/S. ***FY 2014 Accomplishments:*** Start Framework 64 bit transition. ***FY 2015 Plans:*** Full initiation and implementation of the Joint Mission Planning System (JMPS) Framework 64-Bit transition development activities. The goal of this critical activity is to leverage the technical advantages of 64-bit technology in an effort to address current physical memory access and utilization limitations associated with the fielded Mission Planning Environment (MPE); thus eliminating systems interruptions (crashes) while increasing mission planning performance for the fleet. This effort will also specifically address continued obsolescence maintenance and cost issues associated with legacy 32-bit JMPS software and applications. The major events initiated under this activity include the re-coding of 2.38 million Single Lines of Logical Code (SLOLC) for the JMPS Framework Core (Basic Flight Planning Capabilities) and JMPS Framework Common Components for MPE/UPCs, including significant efforts for the F/A-18 A-F platforms. ***FY 2016 Base Plans:*** Continue implementation of the JMPS Framework Core 64-bit transition development activities. Major events include development of cyber security safeguards to address existing and emerging vulnerabilities, development of additional JMPS help features, and complex conversion of Single Lines of Logical Code (SLOLC) from Visual Basic to a newer .NET language for the JMPS Framework Core (Basic Flight Planning Capabilities) and JMPS Framework Common Components for MPE/UPCs, including significant efforts for the F/A-18 A-F platforms. In addition, efforts include initiation of 64-bit transition development for JMPS Common Components used by multiple platforms. Common Components include Close-Air Support (CAS), Air Refueling, Air Drop, Intervisibility Mask (IVM), Global Positioning System (GPS) Crypto, and GPS Predictor capabilities. The transition of these Common Components is aligned to meet the platform(s) requirements for new and enhanced mission planning capabilities in a 64-bit environment. The 64-bit transition is required to address current physical memory access					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
and utilization limitations associated with the fielded Mission Planning Environment (MPE); thus eliminating system interruptions (crashes) while improving mission planning performance for the fleet. ***FY 2016 OCO Plans:*** N/A					
Title: Joint Mission Planning System Expeditionary (JMPS-E) ***Articles:*** ***Description:*** JMPS Expeditionary (JMPS-E): The goal of the JMPS-E team is to produce a scalable, tailorable, mission planning and execution monitoring tool for Amphibious Squadron staffs. The primary focus of this system is to provide an automated capability to assist planners with mission analysis, course of action development and automated creation of doctrinal orders based on planning data in the system. Current expeditionary planning is done manually on paper charts. JMPS-E will provide a digital map enabling better response times to changing plans, easier distribution of planning artifacts and a reduction in human error during the planning process. The variety and geographically separated nature of forces involved with Ship to Shore Maneuver amplifies the need for web-based technologies to enable collaborative planning, improve overall situational awareness and enable the monitoring of mission execution from different locations. The primary outputs are tasking orders, route plans, battlespace geometries and decision briefs. The system will also incorporate modeling and simulation tools to rehearse and deconflict mission plans. ***FY 2014 Accomplishments:*** Complete development and intermediate testing of JMPS-E Mission Planning Environment (MPE) Version 2.0.0 to satisfy Windows 7 requirement. ***FY 2015 Plans:*** Develop, integrate and test JMPS-E MPE Version 2.0.1. ***FY 2016 Base Plans:*** Complete development and intermediate testing of JMPS-E MPE Version 2.0.1. Development of JMPS-E MPE Version 2.1 (64-bit OS) ***FY 2016 OCO Plans:*** N/A	1.084 -	0.740 -	0.660 -	- -	0.660 -
Title: Mission Planning Environment (MPE) Integration and Test ***Articles:***	17.399 -	17.263 -	20.715 -	- -	20.715 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Mission Planning Environment (MPE) Integration and Test efforts support the Navy's developmental testing/operational testing, integration and system of system testing for MPE fielding. Efforts consist of integration of components provided by various developers into a platform-centric MPE and testing of the integrated MPE. MPE integration and testing results in a consistent and repeatable system configuration that enables stability and reliability. Due to the end of Microsoft support for Windows XP in April 2014, there is a Mission Planning Environment (MPE) requirement to change to Windows Operating System (OS) 7. ***FY 2014 Accomplishments:*** Integration and test of Mission Planning Environments (MPEs) in support of 36 aircraft Type/Model/Series (T/M/S). ***FY 2015 Plans:*** Integration and test of MPEs in support of 43 aircraft T/M/S and increased efforts associated with platform integration to meet Initial Operational Capability (IOC) which include Triton and CH-53K. ***FY 2016 Base Plans:*** Integration and test of MPEs in support of 43 aircraft T/M/S. Triton and CH-53K platform integration to meet IOC. Initiation of efforts associated with JMPS 64-bit Framework segmentation efforts. Complete Joint Mission Planning System Windows 7 operating system transition for all platforms. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	19.883	26.097	47.733	-	47.733

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/287600: *Naval Mission Plng System*	14.131	13.950	13.737	-	13.737	9.881	9.775	10.004	10.217	Continuing	Continuing
• RDTE/3858,5302,5380: *Air Force Mission Plng Systems*	62.432	60.679	65.701	-	65.701	83.246	82.894	84.798	-	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 2213 / *Mission Planning*

D. Acquisition Strategy

Engineering Manufacturing Development efforts: The strategy entails a two-phased evolutionary approach to acquire the initial Joint Mission Planning System (JMPS) development effort. Phase I was a combined United States Air Force (USAF) / United States Navy (USN) effort that obtained various studies, extensive joint requirements analysis, design to cost estimates, an architecture concept, and development statement of work. The Program's Phase I was planned to identify reduced costs strategies through software reuse from both USN Tactical Automated Mission Planning Systems and USAF Air Force Mission Support Systems (AFMSS) legacy mission planning programs. Additionally, this phase provided a risk reduction plan by identifying the most effective migration of existing mission planning systems. Phase I was awarded to two contractors, Post Phase I during the down select process, one contractor was selected to develop the JMPS architecture work and Version 1.0 basic flight planning components. Phase II focused on strike planning requirements (i.e., support Precision Guided Missions and other tactical data load intensive missions) in order to migrate platforms from legacy mission planning systems to JMPS. The USAF continued development of JMPS Version 1.3 and has contractual control of the program which is facilitated via a Mission Planning Enterprise Contract. The USN continued limited development in Joint Mission Planning System (JMPS) Version 1.2 which was focused on helicopter platform migrations. USN integration and fielding strategy changed to support a Mission Planning Environment focus, where framework and common components are integrated as bundled packages and fielded by airwings. The completion of Phase II is targeted for JMPS Version 1.3.5, which focuses on a transition to Windows 7 that both the USAF and USN will use. As platforms plan their migration to JMPS, the acquisition strategy, plan, and baseline will be updated in order to drive the retirement of legacy mission planning systems.

E. Performance Metrics

Average time to plan a flight: Threshold value is < 1 hour average time to plan a flight that includes a Military Training Route (MTR), routing to and from the MTR, kneeboard card production, Instrument Flight Rules (IFR) flight planning materials and a Data Transfer Device (DTD) Load.
Objective value is < 30 minutes average time to plan a flight that includes a MTR, routing to and from the MTR, kneeboard card production, IFR flight planning materials and a DTD Load.

Interoperability: Threshold value is 100% of top level Interoperability Exchange Requirements (IERs) designated critical will be satisfied.
Objective value is 100% of top level IERs will be satisfied.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 2213 / *Mission Planning*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Software Development/Framework and Common Components (FW/CC 64 bit)	C/CPFF	TBD : TBD	0.000	-		8.094	Jan 2015	26.358	Jan 2016	-		26.358	Continuing	Continuing	Continuing
Primary Software Development/Framework (FW 32/64 bit)	C/CPFF	American Electronic Warfare Associates : California, MD	1.499	1.400	Feb 2014	-		-		-		-	-	2.899	2.899
Primary Software Development/Joint Mission Planning System Expeditionary (JMPS-E)	MIPR	USAF : Hanscom AFB, MA	5.262	0.500	Feb 2014	0.150	Feb 2015	0.050	Feb 2016	-		0.050	Continuing	Continuing	Continuing
Award Fees	MIPR	Various : Various	1.776	0.152	Feb 2014	0.050	Feb 2015	0.019	Jan 2016	-		0.019	Continuing	Continuing	Continuing
Primary Software Development	Various	Various : Various	23.586	2.281	Jan 2014	2.101	Jan 2015	1.515	Jan 2016	-		1.515	Continuing	Continuing	Continuing
Prior years Prod Dev No Longer Funded in FYDP	Various	Various : Various	105.870	-		-		-		-		-	-	105.870	-
		Subtotal	137.993	4.333		10.395		27.942		-		27.942	-	-	-

Remarks

FY14 Primary Software Development/Framework (FW 32/64 bit) contract in preparation for 32 to 64 bit transition. FY15-16 Primary Software Development/Framework (FW/CC 64 bit) full initiation and implementation of the JMPS Framework Core and Common Components 64-bit transition development activities. This contract will be a competitive award in FY15 so the performing activity and location are currently TBD due to the competitive contracting strategy.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	WR	NAWCWD : Point Mugu, CA	1.400	0.452	Nov 2013	0.454	Nov 2014	0.461	Nov 2015	-		0.461	Continuing	Continuing	Continuing
Prior Years Support No Longer Funded FYDP	Various	Various : Various	13.514	-		-		-		-		-	-	13.514	-
		Subtotal	14.914	0.452		0.454		0.461		-		0.461	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 2213 / *Mission Planning*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Eng Integration & Test	WR	NAWCWD : Point Mugu, CA	83.036	11.420	Nov 2013	10.866	Nov 2014	15.536	Nov 2015	-		15.536	Continuing	Continuing	Continuing
Test & Evaluation	WR	COMOPTEVFOR : Norfolk, VA	3.166	1.301	Nov 2013	1.634	Nov 2014	1.347	Nov 2015	-		1.347	Continuing	Continuing	Continuing
		Subtotal	86.202	12.721		12.500		16.883		-		16.883	-	-	-

Remarks

System Eng Integration & Test (NAWCWD) increase in FY15-16 to meet new platform (CH-53K and Triton) Initial Operational Capability (IOCs) and 64 bit development efforts.
Test and Evaluation (COTF) FY15 increase due to Independent Operational Test events for Mission Planning Environment (MPEs) during Windows 7 transition.

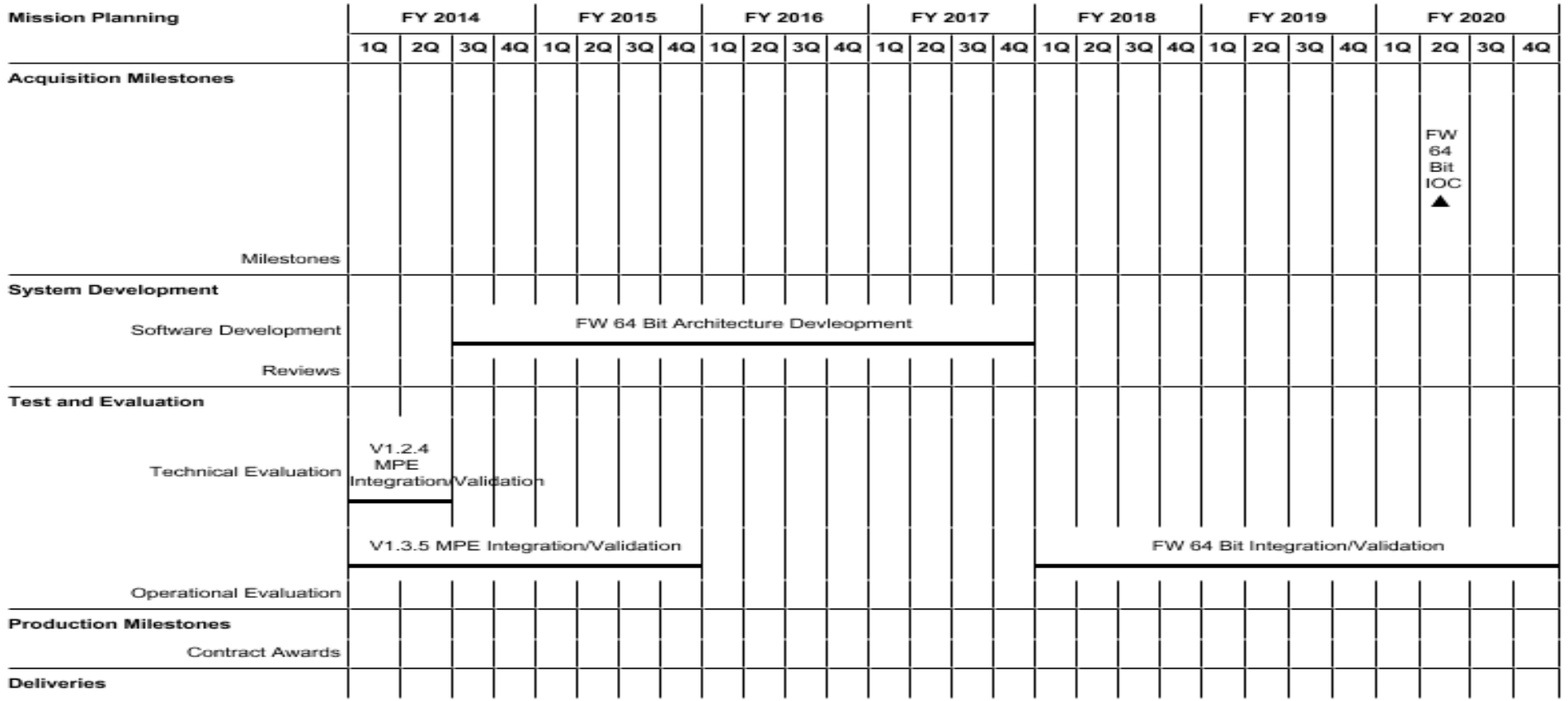
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support and Travel	WR	NAWCAD : Patuxent River, MD	35.055	2.377	Nov 2013	2.748	Nov 2014	2.447	Nov 2015	-		2.447	Continuing	Continuing	Continuing
		Subtotal	35.055	2.377		2.748		2.447		-		2.447	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	274.164	19.883		26.097		47.733		-		47.733	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 2213 / *Mission Planning*



2016DON - 0604231N - 2213

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 2213 / *Mission Planning*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Mission Planning				
Acquisition Milestones: JMPS FW 64 Bit Initial Operational Capability (IOC)	2	2020	2	2020
System Development: Software Development: JMPS FW 64 Bit Architecture Development	3	2014	4	2017
Test and Evaluation: Technical Evaluation: JMPS V1.2.4 MPE Integration/Validation	1	2014	2	2014
Test and Evaluation: Technical Evaluation: JMPS V1.3.5 Mission-Planning Environment (MPE) Integration/Validation	1	2014	4	2015
Test and Evaluation: Technical Evaluation: JMPS FW 64 Bit Integration/Validation	1	2018	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 3032 / *NTCSS (Naval Tactical Command Spt Sys)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3032: *NTCSS (Naval Tactical Command Spt Sys)*	52.853	16.254	11.250	8.168	-	8.168	14.584	14.846	12.625	4.936	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Naval Tactical Command Support System (NTCSS) is a multi-function program designed to provide standard tactical support information systems to various afloat and associated shore-based fleet activities. The mission is to provide the Navy and Marine Corps with an integrated, scalable system that supports the management of logistical information, personnel, material and funds required to maintain and operate ships, submarines, and aircraft. FY2016 Funding:

(1) Provides for the design, development, and testing of NTCSS OA development efforts to include: Global Individual Component Repair List (Global-ICRL); Beyond Capability of Maintenance Interdiction (BCM-I); Operational Supply (O-Supply) to include Table Of Allowance & Personal Gear Issue TOA/PGI; and Total Material Visibility & Requisition Management (TMV/RM).
(2) Provides for the transition of the current, client-server architecture to a service-oriented architecture (SOA) and web-based services (NTCSS OA). This will align with the initiative to bring Navy systems into a common computing environment afloat, interface with Navy Enterprise Resource Planning (ERP) ashore, and provide a more flexible system platform with greater responsiveness to security, information assurance, functional, and system requirements and with greater speed to capability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NTCSS (Naval Tactical Command Spt Sys)	16.254	11.250	8.168	-	8.168
Articles:	-	-	-	-	-
Description: Maintenance and Supply Management Capability					
FY 2014 Accomplishments: Continued design, development, and testing efforts for NTCSS Open Architecture (OA), to include Global Individual Component Repair List (Global-ICRL); Beyond Capability of Maintenance (BCM) Interdiction; Operational Supply (O-Supply) to include Table Of Allowance & Personal Gear Issue TOA/PGI; and Total Material Visibility & Recquisition Management (TMV/RM). Software code conversion of NTCSS legacy software code to a modern JAVA-based system is also planned.					
FY 2015 Plans: Continue design, development, and testing efforts for NTCSS Open Architecture (OA), to include Global Individual Component Repair List (Global-ICRL); Beyond Capability of Maintenance (BCM) Interdiction; Operational Supply (O-Supply) to include Table Of Allowance & Personal Gear Issue TOA/PGI; and Total					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3032 / *NTCSS (Naval Tactical Command Spt Sys)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Material Visibility & Requisition Management (TMV/RM), and software code conversion of NTCSS legacy software code to a modern JAVA-based system. Conduct pre-acquisition activities for open architecture follow-on efforts. ***FY 2016 Base Plans:*** Deliver Beyond Capability of Maintenance (BCM) Interdiction design, continue design, development, and testing efforts for NTCSS Open Architecture (OA), to include Global Individual Component Repair List (Global-ICRL); Operational Supply (O-Supply) to include Table Of Allowance & Personal Gear Issue TOA/PGI; and Total Material Visibility & Recquisition Management (TMV/RM), and software code conversion of NTCSS legacy software code to a modern JAVA-based system. Conduct pre-acquisition activities for open architecture follow-on efforts. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	16.254	11.250	8.168	-	8.168

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2611: *Naval Tactical Command Support System*	14.302	18.192	14.416	-	14.416	13.240	10.911	10.157	17.958	Continuing	Continuing

Remarks

D. Acquisition Strategy

NTCSS Open Architecture (OA) Interim Solutions (Global Individual Component Repair List (G-ICRL), Beyond Capability of Maintenance Interdiction (BCM-I), Table Of Allowance (TOA), Personal Gear Issue (PGI), Total Material Visibility (TMV), and Requisition Management (RM) serve as the initial steps toward achieving the NTCSS OA "End-State" by introducing web-enabled technology, promoting data sharing with operational fleet forces, and utilization of Navy Data Centers to expose data and move workload ashore. Additionaly, the software code conversion efforts will start the modernization of legacy code-based applications into a more modern JAVA code-base incorporating current Information Technology (IT) best practices and eliminating current IA vulnerabilities experienced with a client/server system. This strategy provides the foundation for NTCSS programs to migrate to a full Service Oriented Architecture (SOA) based enterprise system.

E. Performance Metrics

NTCSS Open Architecture (OA) Interim Solutions (G-ICRL/BCM-I) eliminate documentation inefficiencies at the Fleet Readiness Centers (FRCs). Interim Solutions (TOA/PGI & TMV/RM) provide centralized and standardized management of PGI and TOA material through the utilization of Navy Data Centers, while at the same time

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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preventing millions of dollars in Operational Forces obligation losses through improved Requisition Management. Additionally the software code conversion efforts will lay the foundation for migration to a Service-Oriented Architecture (SOA) for NTCSS lowering system maintenance costs when compared to maintaining the current, client-server architecture.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	SSC : North Charleston, SC	0.668	-		-		-		-		-	-	0.668	0.668
Systems Engineering	C/CPFF	SeaPort : San Diego, CA	2.357	0.406	May 2014	0.275	Nov 2014	0.280	Nov 2015	-		0.280	Continuing	Continuing	Continuing
Licenses	Various	SSC : San Diego, CA	0.700	-		-		-		-		-	-	0.700	0.700
Software Development	C/CPFF	SSC : SSC: Norfolk, CA	43.749	15.038	Apr 2014	10.253	Jan 2015	2.396	Feb 2016	-		2.396	Continuing	Continuing	Continuing
Software Development	C/CPFF	TBD : San Diego, CA	0.000	-		-		4.724	Feb 2016	-		4.724	Continuing	Continuing	Continuing
Integrated Logistics Support	C/CPFF	SeaPort : San Diego, CA	0.743	0.243	May 2014	0.165	Nov 2014	0.204	Nov 2015	-		0.204	Continuing	Continuing	Continuing
Configuration Management	WR	SSC : San Diego, CA	0.460	-		-		-		-		-	-	0.460	0.460
Technical Data	WR	SSC : San Diego, CA	0.200	-		-		-		-		-	-	0.200	0.200
		Subtotal	48.877	15.687		10.693		7.604		-		7.604	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWC : Patuxent River, MD	0.853	0.150	Nov 2013	0.132	Jan 2015	0.120	Nov 2015	-		0.120	Continuing	Continuing	Continuing
Operational Test & Evaluation	C/CPIF	COTF : Norfolk, VA	0.785	0.150	Nov 2013	0.244	Jan 2015	0.244	Nov 2015	-		0.244	Continuing	Continuing	Continuing
		Subtotal	1.638	0.300		0.376		0.364		-		0.364	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPFF	SeaPort : San Diego, CA	0.896	-		-		-		-		-	-	0.896	0.896

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	SSC : San Diego, CA	0.279	-		-		-		-		-	-	0.279	0.279
Program Management Support	C/CPFF	SeaPort : San Diego, CA	1.163	0.267	Nov 2013	0.181	Nov 2014	0.200	Nov 2015	-		0.200	Continuing	Continuing	Continuing
		Subtotal	2.338	0.267		0.181		0.200		-		0.200	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	52.853	16.254		11.250		8.168		-		8.168	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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Fiscal Year	2014				2015				2016				2017				2018				2019				2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones NTCSS Open Architecture (OA)															Rel 1&3 FD △	Rel 2&4 FD △												
Engineering Milestones																												
NTCSS OA Release 1 BCM-Interdiction		SRR △		SFR △		PDR/CDR △		TRR △		RRR △																		
NTCSS OA Release 2 Global ICRL		SRR △		SFR △		PDR/CDR △					TRR △	RRR △																
NTCSS OA Release 3 Operational Supply (TOA/PGI)			SRR △		SFR △		PDR/CDR △		TRR △	RRR △																		
NTCSS OA Release 4 Operational Supply (TMV/RM)			SRR △				SFR △		PDR/CDR △		TRR △	RRR △																
Test & Evaluation Milestones NTCSS OA												Rel 1&3 DT △	Rel 2 DT △	Rel 4 DT △														
Software Deliveries NTCSS OA																Rel 1&3 △	Rel 2&4 △											

SRR: System Requirements Review; SFR System Functional Review; PDR/CDR Preliminary Design & Critical Design Review; TRR Test Readiness Review; RRR Release Readiness Review; DT Developmental Test; OT Operational Test

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3032				
NTCSS OA Build 1 - System Requirements Review (SRR)	2	2014	2	2014
NTCSS OA Build 1 - System Functional Review (SFR)	4	2014	4	2014
NTCSS OA Build 1 - Preliminary Technical Review (PDR) / Critical Design Review (CDR)	2	2015	2	2015
NTCSS OA Build 1 - Test Readiness Review (TRR)	4	2015	4	2015
NTCSS OA Build 1 - Release Readiness Review (RRR)	2	2016	2	2016
NTCSS OA Build 1 - Development Test (DT)	4	2016	4	2016
NTCSS OA Build 1 - Software Delivery	4	2017	4	2017
NTCSS OA Build 2 - System Requirements Review (SRR)	2	2014	2	2014
NTCSS OA Build 2 - System Functional Review (SFR)	4	2014	4	2014
NTCSS OA Build 2 - Preliminary Technical Review (PDR) / Critical Design Review (CDR)	2	2015	2	2015
NTCSS OA Build 2 - Test Readiness Review (TRR)	3	2016	3	2016
NTCSS OA Build 2 - Release Readiness Review (RRR)	3	2016	3	2016
NTCSS OA Build 2 - Development Test (DT)	1	2017	1	2017
NTCSS OA Build 2 - Software Delivery	1	2018	1	2018
NTCSS OA Build 3 - System Requirements Review (SRR)	3	2014	3	2014
NTCSS OA Build 3 - System Functional Review (SFR)	1	2015	1	2015
NTCSS OA Build 3 - Preliminary Technical Review (PDR) / Critical Design Review (CDR)	3	2015	3	2015
NTCSS OA Build 3 - Test Readiness Review (TRR)	1	2016	1	2016
NTCSS OA Build 3 - Release Readiness Review (RRR)	2	2016	2	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
NTCSS OA Build 3 - Development Test (DT)	4	2016	4	2016
NTCSS OA Build 3 - Software Delivery	4	2017	4	2017
NTCSS OA Build 4 - System Requirements Review (SRR)	3	2014	3	2014
NTCSS OA Build 4 - System Functional Review (SFR)	3	2015	3	2015
NTCSS OA Build 4 - Preliminary Technical Review (PDR) / Critical Design Review (CDR)	1	2016	1	2016
NTCSS OA Build 4 - Test Readiness Review (TRR)	3	2016	3	2016
NTCSS OA Build 4 - Release Readiness Review (RRR)	4	2016	4	2016
NTCSS OA Build 4 - Development Test (DT)	2	2017	2	2017
NTCSS OA Build 4 - Software Delivery	1	2018	1	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 3320 / *TRIDENT Warrior*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3320: *TRIDENT Warrior*	6.788	2.299	2.251	2.206	-	2.206	2.284	2.309	2.350	2.399	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Trident Warrior (TW) enables early delivery of Information Dominance (ID) capabilities to the warfighter via Fleet-directed TW operational events. Integrates stand-alone systems and efforts to achieve substantially enhanced capability, demonstrates/tests these capabilities in both laboratory and operational environments, and evaluates their effectiveness. Develops supporting concepts and Concept of Operations to improve warfighting effectiveness. Coordinates ID efforts with other Service/Joint/ Department of Defense/National efforts to ensure Joint/Interagency/Allied/Coalition applicability and interoperability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Trident Warrior	2.299	2.251	2.206	-	2.206
Articles:	-	-	-	-	-

FY 2014 Accomplishments:

-Finalized analysis of TW 13 experiment to result in recommendations by United States Fleet Forces Command (USFFC) on experiment initiatives.

-Explored TW 14 in Commander Third Fleet (C3F)/Commander Seventh Fleet (C7F) Area of Responsibility (AOR) using Carrier Strike Group/Expeditionary Strike Group (CSG/ESG) units with possible Allied/Coalition presence.

-Directed, coordinated, assisted and supervised primarily non-Systems Command (SYSCOM) participants, and SYSCOM participants as able with specific goal identification, risk identification, and experiment plan including data requirements and collection on schedule and in accordance with standardized procedures derived from experimentation best practices.

-Assisted participants to achieve required installation and security certifications, accreditations and approvals.

-Provided subject matter experts (SMEs) to maintain core ship services during the experimentation period.

-Provided independent experts in experimentation to coordinate the establishment of, and compliance with, experiment plans and to lead analysis effort and provide unbiased assessment to decision makers for initiatives designated by USFFC.

-Provided results to government sponsors to support the program's Planning, Programming, Budgeting, and Execution Process (PPBE) and engineering decisions.

-Planned and executed TW 14 operational events to accelerate the transition of ID capability to the Fleet.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3320 / *TRIDENT Warrior*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Solicited participation for TW 15 of government sponsored and industry sponsored technologies responsive to identified Naval capability gaps. Selected technologies for participation in numbers supportable within resources.					
FY 2015 Plans: -Finalize analysis of TW 14 executed experiment in order to determine recommended next steps for Naval Warfare Development Center (NWDC). -Explore Trident Warrior (TW) 15 in Fleet Forces Command Area of Responsibility (AOR) using Carrier Strike Group/Expeditionary Strike Group (CSG/ESG) units with possible Allied/Coalition presence. -Coordinate TW participant efforts with specific goal identification, risk identification, and experiment plans to include data requirements and collection, on schedule and in accordance with standardized procedures derived from experimentation best practices. -Coordinate TW participant efforts to achieve required installation and security certifications, accreditations and approvals. -Provide subject matter experts (SMEs) for core ship services during the experimentation period. -Provide independent experts to coordinate the establishment of, and compliance with, experiment plans and to lead analysis effort and provide unbiased assessment to decision makers for initiatives designated by Naval Warfare Development Center (NWDC). -Provide results to government sponsors to support the program's Planning, Programming, Budgeting, and Execution Process (PPBE) and engineering recommendations. -Plan and execute TW 15 operational events to accelerate the transition of Information Dominance (ID) capability to the Fleet. -Solicit participation for TW 16 and recommend inclusion of technologies responsive to identified Naval Capability Gaps. Select technologies for participation in numbers supportable within resources.					
FY 2016 Base Plans: -Conduct analysis of TW 15 executed experiments in order to determine recommended next steps for NWDC. -In accordance with standardized procedures derived from experimentation best practices, coordinate TW participant efforts with specific goal identification, risk identification, and experiment plans to include data requirements and collection. -Coordinate TW participant efforts to achieve required installation and security certifications, accreditations and approvals. -Provide SMEs for core ship services during the experimentation period. -Provide independent experts to coordinate the establishment of, and compliance with, experiment plans and to lead analysis effort and provide unbiased assessment to decision makers for initiatives designated by NWDC. -Provide results to government sponsors to support the program's PPBE and engineering recommendations.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3320 / *TRIDENT Warrior*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Plan and execute TW 16 operational events to accelerate the transition of ID capability to the Fleet. -Solicit participation for TW 17 and recommend inclusion of technologies responsive to identified Naval Capability Gaps. -Provide subject matter expertise, analysis, and recommendations in order help select technologies for participation in numbers supportable within resources. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	2.299	2.251	2.206	-	2.206

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Trident Warrior (TW) is an annual operational experiment covering an 18-month process and is not associated with acquisition efforts.

E. Performance Metrics

Confirmation of Fleet and Joint Interoperability with technology candidates, Information Assurance Certification and Accreditation, and alignment with United States Fleet Forces (USFF) Commander's Guidance, and Systems Command (SYSCOM) Chief Engineer (CHENG) as well as related Program Executive Office (PEO) objectives and projected architectures.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 3320 / *TRIDENT Warrior*	

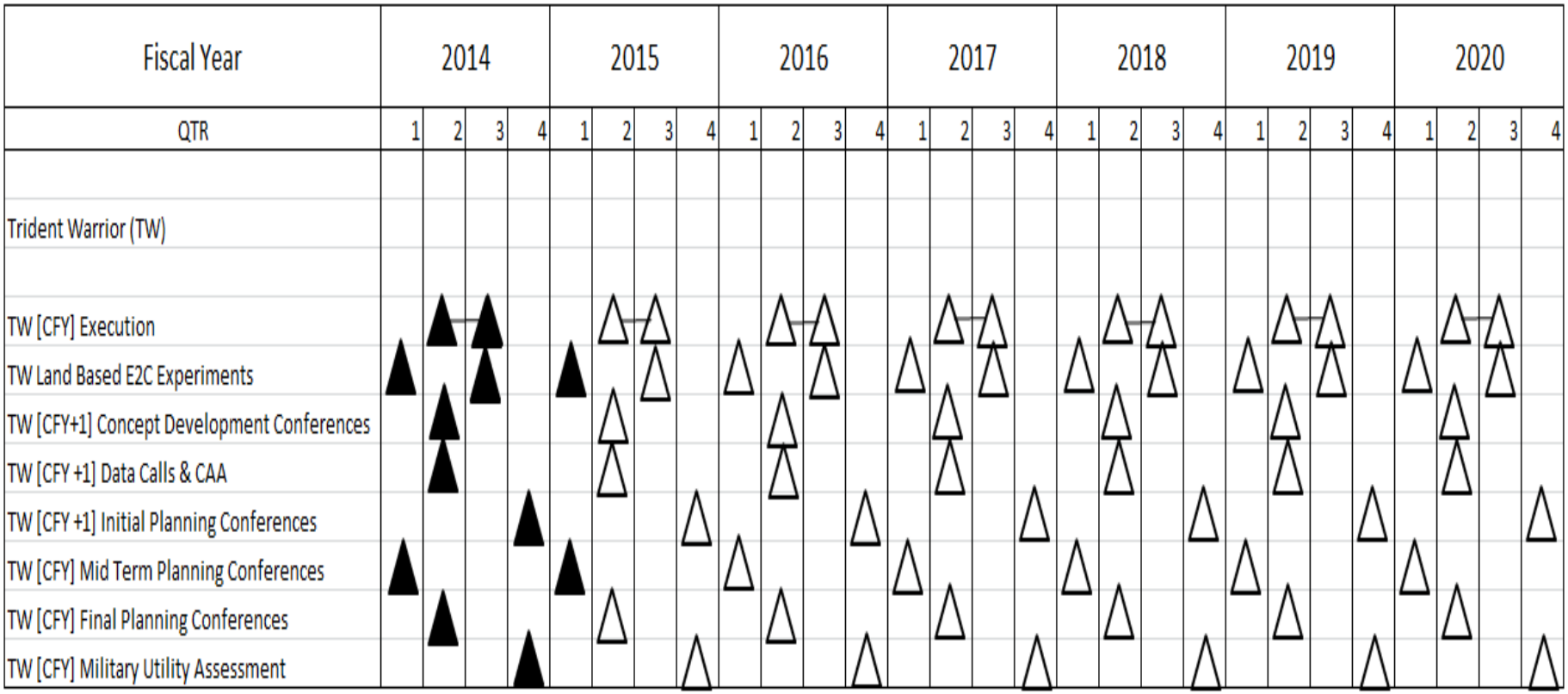
Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Trident Warrior (TW)	WR	Fleet Forces Command : San Diego, CA	0.122	-		-		-		-		-	-	0.122	-
Trident Warrior (TW)	WR	Naval Postgraduate School : Monterey, CA	2.083	0.955	Nov 2013	0.923	Nov 2014	-		-		-	-	3.961	-
Trident Warrior (TW)	WR	SSC Atlantic : Charleston, SC	0.694	0.042	Jan 2014	0.045	Jan 2015	-		-		-	-	0.781	-
Trident Warrior (TW)	WR	SSC Pacific : San Diego, CA	1.001	0.341	Nov 2013	0.338	Nov 2014	0.331	Nov 2015	-		0.331	Continuing	Continuing	Continuing
Trident Warrior (TW)	C/CPFF	AUSGAR Technologies Inc. : San Diego, CA	2.888	0.961	Apr 2014	0.945	Apr 2015	1.302	Apr 2016	-		1.302	Continuing	Continuing	Continuing
Trident Warrior (TW)	WR	NSWC Corona : Corona, CA	0.000	-		-		0.295	Nov 2015	-		0.295	Continuing	Continuing	Continuing
Trident Warrior (TW)	C/CPFF	Pacific Science & Engineering Group, Inc. : San Diego, CA	0.000	-		-		0.108	Nov 2015	-		0.108	Continuing	Continuing	Continuing
Trident Warrior (TW)	C/CPFF	Science Applications International Corp : McLean, VA	0.000	-		-		0.170	Dec 2015	-		0.170	Continuing	Continuing	Continuing
		Subtotal	6.788	2.299		2.251		2.206		-		2.206	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	6.788	2.299		2.251		2.206		-		2.206	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3320 / *TRIDENT Warrior*



Note: CFY: Current Fiscal Year

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3320 / *TRIDENT Warrior*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3320				
Trident Warrior (TW) Execution 2014	2	2014	3	2014
Trident Warrior (TW) Execution 2015	2	2015	3	2015
Trident Warrior (TW) Execution 2016	2	2016	3	2016
Trident Warrior (TW) Execution 2017	2	2017	3	2017
Trident Warrior (TW) Execution 2018	2	2018	3	2018
Trident Warrior (TW) Execution 2019	2	2019	3	2019
Trident Warrior (TW) Execution 2020	2	2020	3	2020
TW Land Based E2C Experiments 2014 Q1	1	2014	1	2014
TW Land Based E2C Experiments 2014 Q3	3	2014	3	2014
TW Land Based E2C Experiments 2015 Q1	1	2015	1	2015
TW Land Based E2C Experiments 2015 Q3	3	2015	3	2015
TW Land Based E2C Experiments 2016 Q1	1	2016	1	2016
TW Land Based E2C Experiments 2016 Q3	3	2016	3	2016
TW Land Based E2C Experiments 2017 Q1	1	2017	1	2017
TW Land Based E2C Experiments 2017 Q3	3	2017	3	2017
TW Land Based E2C Experiments 2018 Q1	1	2018	1	2018
TW Land Based E2C Experiments 2018 Q3	3	2018	3	2018
TW Land Based E2C Experiments 2019 Q1	1	2019	1	2019
TW Land Based E2C Experiments 2019 Q3	3	2019	3	2019
TW Land Based E2C Experiments 2020 Q1	1	2020	1	2020
TW Land Based E2C Experiments 2020 Q3	3	2020	3	2020
TW Concept Development Conferences 2014	2	2014	2	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3320 / *TRIDENT Warrior*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
TW Concept Development Conferences 2015	2	2015	2	2015
TW Concept Development Conferences 2016	2	2016	2	2016
TW Concept Development Conferences 2017	2	2017	2	2017
TW Concept Development Conferences 2018	2	2018	2	2018
TW Concept Development Conferences 2019	2	2019	2	2019
TW Concept Development Conferences 2020	2	2020	2	2020
TW Data Calls & CAA 2014	2	2014	2	2014
TW Data Calls & CAA 2015	2	2015	2	2015
TW Data Calls & CAA 2016	2	2016	2	2016
TW Data Calls & CAA 2017	2	2017	2	2017
TW Data Calls & CAA 2018	2	2018	2	2018
TW Data Calls & CAA 2019	2	2019	2	2019
TW Data Calls & CAA 2020	2	2020	2	2020
TW Initial Planning Conferences 2014	4	2014	4	2014
TW Initial Planning Conferences 2015	4	2015	4	2015
TW Initial Planning Conferences 2016	4	2016	4	2016
TW Initial Planning Conferences 2017	4	2017	4	2017
TW Initial Planning Conferences 2018	4	2018	4	2018
TW Initial Planning Conferences 2019	4	2019	4	2019
TW Initial Planning Conferences 2020	4	2020	4	2020
TW Mid-Term Planning Conferences 2014	1	2014	1	2014
TW Mid-Term Planning Conferences 2015	1	2015	1	2015
TW Mid-Term Planning Conferences 2016	1	2016	1	2016
TW Mid-Term Planning Conferences 2017	1	2017	1	2017
TW Mid-Term Planning Conferences 2018	1	2018	1	2018
TW Mid-Term Planning Conferences 2019	1	2019	1	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3320 / *TRIDENT Warrior*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
TW Mid-Term Planning Conferences 2020	1	2020	1	2020
TW Final Planning Conferences 2014	2	2014	2	2014
TW Final Planning Conferences 2015	2	2015	2	2015
TW Final Planning Conferences 2016	2	2016	2	2016
TW Final Planning Conferences 2017	2	2017	2	2017
TW Final Planning Conferences 2018	2	2018	2	2018
TW Final Planning Conferences 2019	2	2019	2	2019
TW Final Planning Conferences 2020	2	2020	2	2020
TW Military Utility Assessment 2014	4	2014	4	2014
TW Military Utility Assessment 2015	4	2015	4	2015
TW Military Utility Assessment 2016	4	2016	4	2016
TW Military Utility Assessment 2017	4	2017	4	2017
TW Military Utility Assessment 2018	4	2018	4	2018
TW Military Utility Assessment 2019	4	2019	4	2019
TW Military Utility Assessment 2020	4	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 3323 / *Maritime Tactical Command & Control (MTC2)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3323: *Maritime Tactical Command & Control (MTC2)*	6.919	12.079	11.930	15.265	-	15.265	20.626	22.993	23.311	23.789	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Maritime Tactical Command and Control (MTC2) is a software program which will provide tactical Command and Control (C2) capabilities and Maritime unique Operational Level of War capabilities not supported by the joint C2 effort. MTC2 will align with the Navy Tactical Cloud (NTC) when available, and leverage Consolidated Afloat Network Enterprise Service (CANES), Agile Core Services (ACS), and legacy Integrated Shipboard Network System (ISNS). MTC2 will field to all echelons of command (afloat and ashore) within the Navy. The goal is to provide a suite of maritime applications that enable enhanced situational awareness, planning, execution, monitoring, and assessment in support of operational and tactical level of war requirements. MTC2 will field maritime applications designed to provide automated and structured support for tactical and operational planning, decision-making, and execution. In FY16 MTC2 will test its software and will also begin development of the first production release of software (Release 1).

Global Force Management - Data Initiative (GFM-DI) is the Department-wide enterprise solution that enables visibility/accessibility/sharing of data applicable to the entire DoD force structure. MTC2 will be the program that fulfills a portion of the Navy's GFM-DI requirements. In FY16 MTC2 will conduct integration and testing of designated GFM-DI capabilities set for transition into MTC2 Release 1 software baseline.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Maritime Tactical Command and Control (MTC2)	11.579	10.069	13.385	-	13.385
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Supported OPNAV N2/N6 in the development of the MTC2 Requirements Definition Package (RDP) and a schedule supporting alignment to the Navy Tactical Cloud (NTC). Coordinated MTC2 requirements, design and architecture to ensure alignment with Navy Tactical Cloud Reference Implementation (NTC RI). Performed assessment of NTC RI to develop and align to MTC2 processes. Continued engineering analysis, integration, and testing to transition from C2RPC S&T efforts into MTC2 Program of Record. Released Request for Proposal (RFP) for developing software capabilities for MTC2 Release 0 (R0) including capabilities designed to support the NTC test event.					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3323 / *Maritime Tactical Command & Control (MTC2)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Complete RDP and Capability Drop 1 requirements documents (capabilities defined in Capability Drop 1 will be fielded in FY18 as MTC2 Release 1). Complete MTC2 R0 software development for alignment to the FY16 NTC test event. ***FY 2016 Base Plans:*** Complete Build Decision (BD) for MTC2 Release 1 (R1) and award the R1 development contract. Complete Information Assurance (IA) certification and accreditation to support NTC test event. Conduct testing in support of MTC2-NTC test event. ***FY 2016 OCO Plans:*** N/A					
Title: Global Force Management - Data Initiative (GFM-DI) ***Articles:*** ***FY 2014 Accomplishments:*** Conducted design activity, systems engineering analysis and design review to identify integration of GFM-DI data into MTC2 objective architecture based on Navy Tactical Cloud (NTC) and Consolidated Afloat Network Enterprise Services (CANES). Evaluated NTC to determine how GFM DI will be ingested by NTC. ***FY 2015 Plans:*** Provide engineering plan for ingestion of GFM-DI data into MTC2 architecture that aligns with the NTC and/or CANES. Develop the GFM-DI Implementation plan for MTC2. Determine criteria for and develop the plan for integration of scheduling tool (Slider/Websked) capabilities into MTC2. Design and develop GFM-DI interfaces for integration into MTC2 and align to the joint command and control objective architecture. ***FY 2016 Base Plans:*** Conduct integration and testing of designated GFM-DI capabilities set for transition into the MTC2 Release 1 software baseline. ***FY 2016 OCO Plans:*** N/A	0.500 -	1.861 -	1.880 -	- -	1.880 -
Accomplishments/Planned Programs Subtotals	12.079	11.930	15.265	-	15.265

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3323 / *Maritime Tactical Command & Control (MTC2)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

MTC2 is planning to execute a rapid software development acquisition strategy that is responsive to the fleet needs. Software development will be comprised of multiple releases of increasing levels of net-centric services capability. Technology Maturation and Risk Reduction (TMRR) will occur during the Prototype phase and continue until MTC2 conducts at least one Build Decision (BD) currently scheduled for FY16. MTC2 will be software only requiring the information technology infrastructure network and hardware provided by other network centric programs. MTC2's primary contracting method for software development will utilize SPAWARSYSCOM contracts with SPAWAR Systems Center - Pacific (SSC-PAC), San Diego, CA acting as the Lead Integrator as the designated Software Support Activity (SSA).

E. Performance Metrics

MTC2 performance metrics will be defined and approved in the first Capability Drop 1 document (CD 1) scheduled for completion in FY15.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 3323 / *Maritime Tactical Command & Control (MTC2)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	SSC : San Diego, CA	2.692	1.117	Nov 2013	1.265	Dec 2014	1.618	Dec 2015	-		1.618	Continuing	Continuing	Continuing
Training Development	WR	SSC : San Diego, CA	0.000	0.828	Dec 2013	0.424	Dec 2014	0.543	Dec 2015	-		0.543	Continuing	Continuing	Continuing
Software Development	WR	SSC : San Diego, CA	1.755	6.657	Nov 2013	5.588	Dec 2014	7.149	Dec 2015	-		7.149	Continuing	Continuing	Continuing
Studies & Design	MIPR	Various : Various	0.811	0.953	Jan 2014	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	Various : San Diego, CA	0.000	1.523	Feb 2014	3.516	Mar 2015	4.504	Mar 2016	-		4.504	Continuing	Continuing	Continuing
		Subtotal	5.258	11.078		10.793		13.814		-		13.814	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	WR	SSC : Norfolk, VA/ San Diego, CA	0.022	0.025	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.022	0.025		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Navy Working Capital Fund Rate Adjustment	WR	WCF : TBD	0.003	-		-		-		-		-	-	0.003	0.003
Government Engineering Support	WR	SSC : San Diego, CA	0.000	0.459	Nov 2013	0.226	Dec 2014	0.289	Dec 2015	-		0.289	-	0.974	0.900
Contractor Engineering Support	C/CPFF	SeaPort : San Diego, CA	0.476	-		-		-		-		-	-	0.476	0.476
Program Management Support	C/CPFF	SeaPort : San Diego, CA	1.146	0.496	Feb 2014	0.911	Dec 2014	1.162	Dec 2015	-		1.162	Continuing	Continuing	Continuing
Travel	Various	Various : Various	0.014	0.021	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	1.639	0.976		1.137		1.451		-		1.451	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 3323 / *Maritime Tactical Command & Control (MTC2)*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	6.919	12.079		11.930		15.265		-		15.265	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3323 / *Maritime Tactical Command & Control (MTC2)*

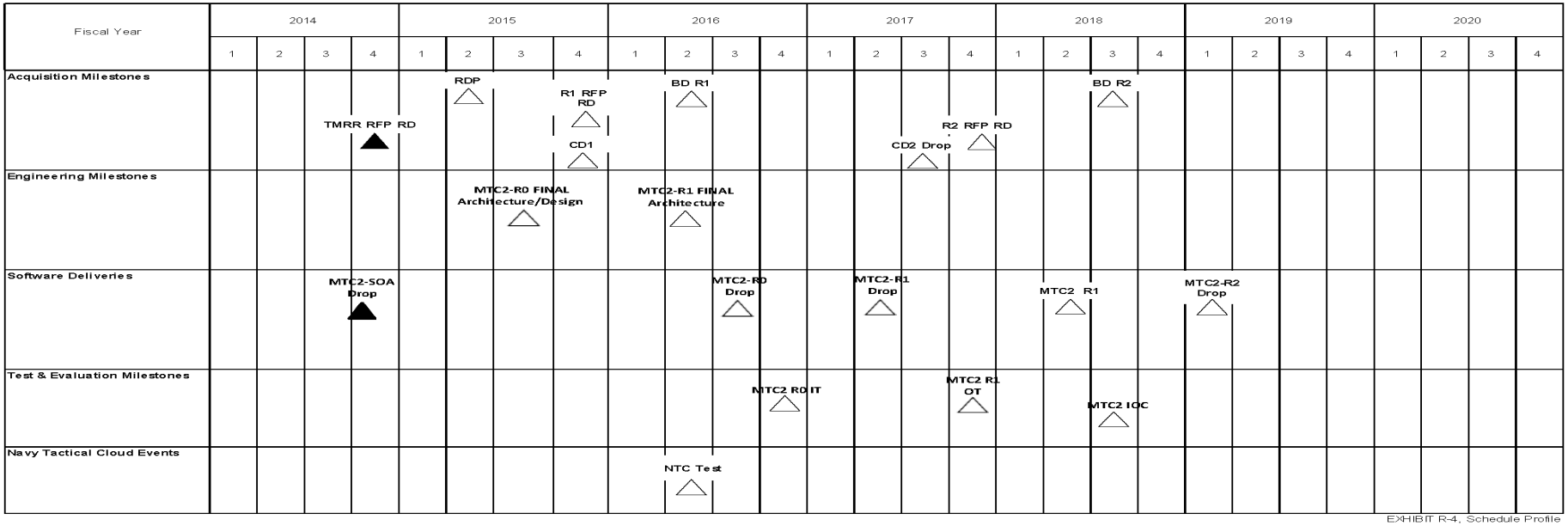


EXHIBIT R-4, Schedule Profile

Legend:

BD - Build Decision	OT - Operational Test
CD - Capability Drop	RD - Release Decision
IOC - Initial Operating Capability	RDP - Requirement Definition Package
IT - Integrated Test	RFP - Request for Proposal
MTC2 - Maritime Tactical Command and Control	R0 - Release Zero
MTC2 R0 - NTC Software	R1 - Release One
MTC2 R1 - Production Software for NTC	SOA - Service Oriented Architecture
NTC - Navy Tactical Cloud	TMRR - Technology Maturity Risk Reduction

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3323 / *Maritime Tactical Command & Control (MTC2)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3323				
Technology Maturity Risk Reduction Request for Proposal Release Decision (TMRR RFP RD)	4	2014	4	2014
MTC2 Service Oriented Architecture (SOA) Drop	4	2014	4	2014
Requirement Definition Package (RDP)	2	2015	2	2015
MTC2-R0 Final Architecture	3	2015	3	2015
Capability Drop (CD1)	4	2015	4	2015
Release 1 Request for Proposal Release Decision (R1 RFP RD)	4	2015	4	2015
MTC2 R1 Final Architecture	2	2016	2	2016
Build Decision Release 1 (BD R1)	2	2016	2	2016
Naval Tactical Cloud (NTC) Test	2	2016	2	2016
MTC2 R0 Drop	3	2016	3	2016
MTC2 R0 Integrated Test (IT)	4	2016	4	2016
MTC2 Release 1 (R1) Drop	2	2017	2	2017
Capability Drop 2 (CD2)	3	2017	3	2017
Release 2 Request for Proposal Release Decision (R2 RFP RD)	4	2017	4	2017
MTC2 R1 Operational Test (OT)	4	2017	4	2017
MTC2 Release 1 (R1)	2	2018	2	2018
Build Decision Release 2 (BD R2)	3	2018	3	2018
MTC2 Initial Operational Capability (IOC)	3	2018	3	2018
MTC2 Release 2 (R2)	1	2019	1	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 3324 / *Navy Air Operations Command and Control (NAOC2)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3324: *Navy Air Operations Command and Control (NAOC2)*	6.536	3.960	1.812	0.806	-	0.806	1.063	1.064	1.030	1.052	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Navy Air Operations Command and Control (NAOC2) integrates and tests Air Force program of record systems that provide an integrated and scalable planning system for standardized, secure, and automated decision support for Air Force, Joint, and Allied commanders worldwide. These programs provide automated air operations planning, execution management and intelligence capabilities at the Force level to include fleet commanders, numbered fleet commanders, Commander Carrier Strike Groups, Commander Expeditionary Strike Groups, Commander Landing Forces, and Joint Task Force Commanders. NAOC2 includes Theater Battle Management Core System (TBMCS) and Command and Control Air and Space Operations Suite - Command and Control Information Services (C2AOS-C2IS). C2AOS-C2IS is being developed as a Service Oriented Architecture (SOA) service to allow for scalability and integration with Common Computing Environments (CCE). Continuation of these efforts will significantly enhance the Joint Force Air Component Commander and Combined Air Operations Center personnel to plan daily air operations including strike, airlift, offensive/defensive air, and refueling missions in support of combat operations, addressing the requirement of war fighter distributed planning and execution processes along with significantly improving Joint interoperability. TBMCS continues a hardware transition to CCEs such as Consolidated Afloat Networks and Enterprise Services (CANES). Currently, TBMCS is the key system that is used to conduct real world air planning in the Joint and Navy environments. C2AOS-C2IS will replace TBMCS in a SOA environment while bringing more flexibility to the war fighter. In FY2016, the program will continue Navy integration and testing for Air Force developed C2AOS-C2IS, with focus on testing of two planned Capability Packages.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: TBMCS CANES Migration	1.383	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed migration of Air Force designed, developed, and delivered Theater Battle Management Core System (TBMCS) software to the Navy unique Consolidated Afloat Networks and Enterprise Services (CANES) Common Computing Environment. Conducted integrated TBMCS/CANES integration tests.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3324 / *Navy Air Operations Command and Control (NAOC2)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Command and Control Air and Space Operations Suite (C2AOS) / Command, Control and Information Services (C2IS) Integration and Testing	2.577	1.812	0.806	-	0.806
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued integration and testing of Capability Package 1 (CP1) Air Tasking Order Management System (ATOMS) along with initial integration and testing of CP1 Request Information Services for Command and Control (RISC2), and CP2 Airspace Management Application/Airspace Information Service (ASMA/ASIS) as part of Air Force developed Command and Control Air Operations Suite - Command and Control Information Services (C2AOS-C2IS) to confirm full functionality on Navy infrastructure to include Consolidated Afloat Networks and Enterprise Services (CANES) ensuring increased Joint interoperability and enhanced capability including theater level air planning with distributed re-planning and execution processes.					
FY 2015 Plans: Conduct continued integration and testing of CP1 Air Tasking Order Management System (ATOMS), Capability Package 1 (CP1) Request Information Services for Command and Control (RISC2), CP2 Airspace Management Application/Airspace Information Service (ASMA/ASIS) and initial integration and testing of CP2 Integrated Air and Missile Defense (IAMD) Planner and other Capability Package 3 (CP3) capabilities as part of Air Force developed Command and Control Air Operations Suite - Command and Control Information Services (C2AOS-C2IS) to confirm full functionality on Navy infrastructure to include Consolidated Afloat Networks and Enterprise Services (CANES) ensuring increased Joint interoperability and enhanced capability including theater level air planning with distributed re-planning and execution processes.					
FY 2016 Base Plans: Conduct final integration, Developmental Test, and Operational Test of initial Command and Control Air Operations Suite - Command and Control Information Services (C2AOS-C2IS) modules to include Capability Package (CP1) Air Tasking Order Management System (ATOMS), CP1 Request Information Services for Command and Control (RISC2), CP2 Airspace Management Application/Airspace Information Service (ASMA/ASIS), and CP2 Integrated Air and Missile Defense (IAMD) Planner, while starting integration and testing of CP3 capabilities to confirm full functionality on Navy infrastructure to include Consolidated Afloat Networks and Enterprise Services (CANES) ensuring increased Joint interoperability and enhanced capability including theater level air planning with distributed re-planning and execution processes.					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3324 / *Navy Air Operations Command and Control (NAOC2)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	3.960	1.812	0.806	-	0.806

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Theater Battle Management Core System (TBMCS) is designed, developed, and delivered by the Air Force and will be integrated for a Navy Common Computing Environment (CCE) such as Consolidated Afloat Networks and Enterprise Services (CANES). As a Joint interest program, this approach satisfies the current validated requirements, supports the accelerated retirement of legacy hardware, and reduces overall risk to the program.

Command and Control Air Operations Suite and Command and Control Information Services (C2AOS-C2IS) is designed, developed, and delivered by the Air Force and will be integrated for a Navy CCE and Service Oriented Architecture environment such as CANES). As a Joint interest program, this approach satisfies the current validated requirements and reduces overall risk to the program.

E. Performance Metrics

TBMCS and C2AOS-C2IS are designed, developed, and delivered by the Air Force. This leverage greatly reduces the integration and testing costs associated with each capability module. The solutions will reside on CCE/CANES architecture. These software-only solutions eliminate hardware procurement, installation, and sustainment costs.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3324 / *Navy Air Operations Command and Control (NAOC2)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	SSC : San Diego, CA	2.255	1.107	Apr 2014	-		-		-		-	Continuing	Continuing	Continuing
Licenses	WR	SSC : Charleston, SC/San Diego, CA	0.122	0.366	Jan 2014	-		-		-		-	Continuing	Continuing	Continuing
Government Furnished Equipment (GFE)	WR	SSC : Charleston, SC/San Diego, CA	0.916	0.395	Jan 2014	-		-		-		-	Continuing	Continuing	Continuing
Training DevelopmentText	WR	SSC Pacific : San Diego, CA	0.000	0.150	Apr 2014	-		-		-		-	Continuing	Continuing	Continuing
Configuration Management	WR	SSC Pacific : San Diego, CA	0.126	0.128	Apr 2014	-		-		-		-	Continuing	Continuing	Continuing
Technical Data	WR	SSC : Charleston, SC/San Diego, CA	0.299	0.244	Feb 2014	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering	MIPR	MITRE : San Diego, CA	0.000	-		0.170	Dec 2014	-		-		-	-	0.170	-
		Subtotal	3.718	2.390		0.170		-		-		-	-	-	-

Remarks

GFE supports integration efforts, not for fielding.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	SSC Pacific : San Diego,CA	0.119	0.061	Apr 2014	-		-		-		-	Continuing	Continuing	Continuing
Integrated Logistics Support	WR	SSC LANT : Charleston, SC	0.358	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.477	0.061		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3324 / *Navy Air Operations Command and Control (NAOC2)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	MIPR	COMOPTEVFOR : Norfolk, VA	0.216	0.078	Jul 2014	-		0.075	Mar 2016	-		0.075	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	SSC PAC : San Diego, CA	1.604	1.047	Apr 2014	-		-		-		-	Continuing	Continuing	Continuing
Integration and Testing	WR	SSC PAC : San Diego, CA	0.000	-		1.642	Jul 2015	0.731	Jul 2016	-		0.731	Continuing	Continuing	Continuing
		Subtotal	1.820	1.125		1.642		0.806		-		0.806	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPFF	Sentek : San Diego, CA	0.395	0.256	Apr 2014	-		-		-		-	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	Booz Allen : San Diego, CA	0.126	0.128	Apr 2014	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.521	0.384		-		-		-		-	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	6.536	3.960		1.812		0.806		-		0.806	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3324 / *Navy Air Operations Command and Control (NAOC2)*

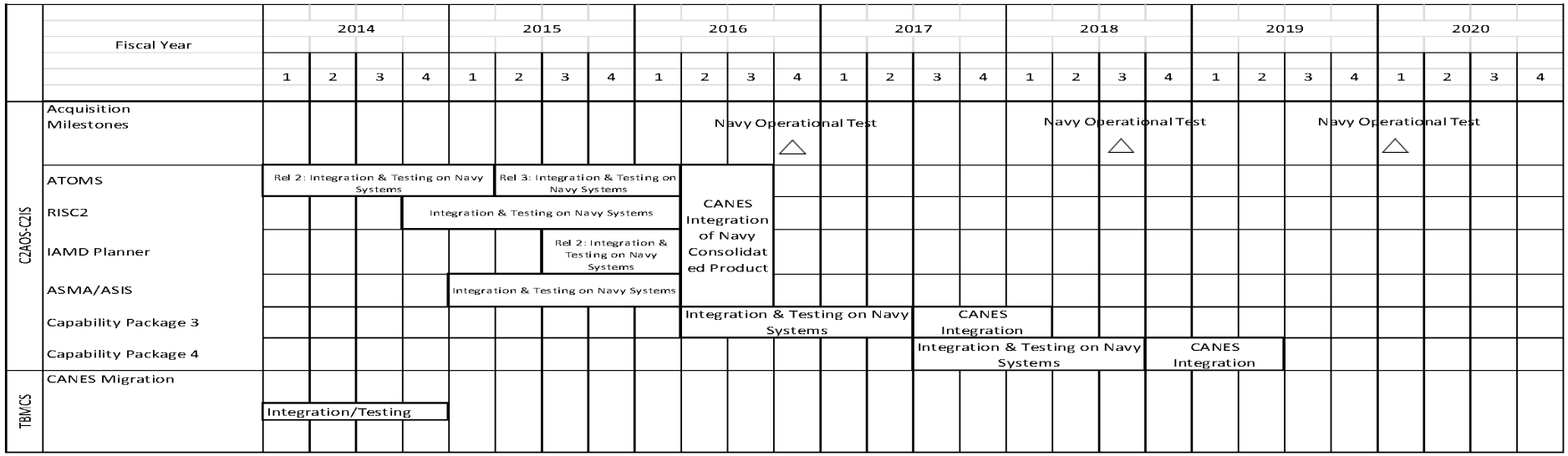


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 3324 / *Navy Air Operations Command and Control (NAOC2)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3324				
Air Tasking Order Management System (ATOMS) Capability Package (CP) 1 Rel 2 Integration and Testing	1	2014	1	2015
ATOMS CP 1 Rel 3 Integration and Testing	2	2015	1	2016
Request information Services (RISC2) CP 1 Integration and Testing	4	2014	1	2016
Integrated Air and Missle Defense (IAMD) Planner CP 2 Rel 2 Integration and Testing	3	2015	1	2016
Air Space Management Application (ASMA) / Air Space Information Services (ASIS) Integration and Testing	1	2015	1	2016
CP 3 Integration and Testing	2	2016	2	2017
CP 4 Integration and Testing	3	2017	3	2018
CANES Integration of Navy CP1-CP2 Consolidated C2AOS-C2IS Product	2	2016	3	2016
Navy C2AOS-C2IS Operational Test CP1-CP2	4	2016	4	2016
TBMCS Integration and Testing on Navy Systems (CANES)	1	2014	4	2014
CANES Integration of Navy CP3 Consolidated C2AOS-C2IS Product	3	2017	1	2018
Navy C2AOS-C2IS Operational Test CP3	3	2018	3	2018
CANES Integration of Navy CP4 Consolidated C2AOS-C2IS Product	4	2018	2	2019
Navy C2AOS-C2IS Operational Test CP4	1	2020	1	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 9123 / *FORCEnet*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9123: *FORCEnet*	229.434	2.901	2.601	2.359	-	2.359	2.319	2.470	2.304	2.351	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

FORCEnet is the Navy and Marine Corps initiative to deliver Information Dominance and achieve Department of the Navy (DoN)/Department of Defense (DoD) Transformation, Joint/Allied/Coalition Interoperability, implementing Maritime Domain Awareness (MDA), and Net-Centric Operations/Warfare (NCO/W). Chief of Naval Operations Information Dominance effort focuses prioritization and organizational responsibility for information dominance, cyber, intelligence and sensors resulting in increased scope of systems, platforms and mission areas. FORCEnet is a foundation of Sea Power 21, Naval Power 21, the Naval Operating Concept for Joint Operations, and the DoN's Naval Transformation Roadmap.

The FORCEnet project line funds the following efforts:

(1) DoN Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Transformation/Strategic Planning within DoN/Joint/DoD Framework: Assesses existing and emerging capabilities, develops and evaluates Navy-wide policies, plans, requirements, and compliance; develops integration and investment strategies; and accelerates innovation, testing, assessment and fielding of material and non-material solutions for enhanced operational capability, Joint/Allied/Coalition interoperability and application/enforcement of enterprise requirements/architectures/standards toward greater NCO/W capability. Supports Navy implementation of MDA capability, Maritime Operations Centers (MOC), and enterprise network efforts.

(2)Information Dominance Portfolio Health Assessment: Funding supports Portfolio Health Assessments of Navy mission areas and identifies gaps in Information Dominance capabilities in the context of assessed mission areas. Funds support vignettes, technical baselines, architecture products, and briefings developed to support sponsor decision making processes.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: FORCEnet	2.901	2.601	2.359	-	2.359
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Department of the Navy (DoN) Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Transformation/Strategic Planning within DoN/Joint/Department of Defense (DoD) Framework: Within the DoD, Joint Staff, and Combatant Commander management of Joint Capability Portfolios, continued to assess existing and emerging capabilities in selected operating environments, developed integration plans, executed system engineering reviews and investment strategies, accelerated innovation,					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 9123 / *FORCEnet*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
technology insertion, and incorporation of material and non-material solutions for enhanced Joint operational capabilities in Net-Centric Operations/Warfare. -Continued to support Navy implementation of Maritime Domain Awareness, Standing Joint Force Headquarters, Maritime Operations Centers and Coalition/Allied operations. Information Dominance Roadmaps and Analysis: Continued to research the Navy mission areas for interdependencies between programs for budget tradeoffs and mission impacts of those tradeoffs. -Continued to identify Navy mission area gaps in Information Dominance capabilities to prioritize Science and Technology efforts for future budget decisions. -Continued to evaluate Navy mission areas for linkages to roadmap action items and provided analytical and architectural support in the development of Information Dominance Roadmaps. -Continued to ensure Information Dominance Roadmaps objectives provide stated capabilities to the warfighters.					
FY 2015 Plans: Department of Navy (DoN) Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Transformation/Strategic Planning within DoN/Joint/Department of Defense (DoD) Framework: Within the DoD, Joint Staff, and Combatant Commander management of Joint Capability Portfolios, continue to assess existing and emerging capabilities in selected operating environments, develop integration plans, execute system engineering reviews and investment strategies, accelerate innovation, technology insertion, and incorporation of material and non-material solutions for enhanced Joint operational capabilities in Net-Centric Operations/Warfare. -Continue to support Navy implementation of Maritime Domain Awareness, Standing Joint Force Headquarters, Maritime Operations Centers and Coalition/Allied operations. Information Dominance Portfolio Health Assessment: Utilize and study Navy mission areas in support of systems of systems engineering assessments used to inform sponsor. These assessments identify integration and interoperability gaps, trades, and solutions for sponsor related equities. -Identify Navy mission area gaps in Information Dominance capabilities to prioritize Science and Technology efforts for future budget decisions. -Assess tradespace and solutions, insuring Force level capability and systems of systems integration and interoperability in studied mission areas. -Package assessments to support sponsor decision making processes.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 9123 / *FORCEnet*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Information Dominance Portfolio Health Assessment: Utilize and study Navy mission areas in support of systems of systems engineering assessments used to inform sponsor. These assessments identify integration and interoperability gaps, trades, and solutions for sponsor related equities. -Provide analytical support to ensure that cybersecurity risk assessments and engineering activities are informed by Navy Cybersecurity Situational Awareness (NCSA) capabilities as addressed by the Portfolio Health Assessments (PHA). Identifying critical architectural dependencies to enable mission situational awareness is a key component of the PHAs. -Identify Navy mission area gaps in Information Dominance capabilities to prioritize Science and Technology efforts for future budget decisions. -Assess tradespace and solutions, insuring Force level capability and systems of systems integration and interoperability in studied mission areas. -Package assessments to support sponsor decision-making processes. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	2.901	2.601	2.359	-	2.359

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

FORCEnet is a non-acquisition effort that informs and matures Navy decisions, which in turn impacts acquisition programs. Activities include acquiring intellectual capital in emerging technical areas through contracts providing technical engineering expertise and surge capacity for emerging tasks.

E. Performance Metrics

FORCEnet Performance Metrics: Goal: Chief of Naval Operations (CNO) strategic planning and supporting acquisition of classified efforts. Metric: Echelon 1 response to emergent strategic needs and classified warfighting capability.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 9123 / *FORCEnet*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development DLB/RCD	Various	Various : Various	1.196	-		-		-		-		-	-	1.196	-
Systems Engineering-DLB/RCD	Various	Various : Various	0.600	-		-		-		-		-	-	0.600	-
Ship Integration	Various	Various : Various	0.935	-		-		-		-		-	-	0.935	-
Systems Engineering	Various	Various : Various	1.600	-		-		-		-		-	-	1.600	-
		Subtotal	4.331	-		-		-		-		-	-	4.331	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support DLB/RCD	Various	Various : Various	0.250	-		-		-		-		-	-	0.250	-
Configuration Management DLB/RCD	Various	Various : Various	0.115	-		-		-		-		-	-	0.115	-
Development Support DLB/RCD	Various	Various : Various	0.250	-		-		-		-		-	-	0.250	-
Software Development DLB/RCD	Various	Various : Various	1.971	-		-		-		-		-	-	1.971	-
Development Support	Various	Various : Various	2.700	-		-		-		-		-	-	2.700	-
Software Support	Various	Various : Various	2.900	-		-		-		-		-	-	2.900	-
Sys Req Analysis/Sys Eng	Various	Various : Various	15.094	-		-		-		-		-	-	15.094	-
S/W Develop,Integ,Demo, Field - MDA Prototypes	Various	Various : Various	108.910	-		-		-		-		-	-	108.910	-
Sys Req Analysis/Sys Eng	WR	SSC PAC : San Diego, CA	1.157	-		-		-		-		-	-	1.157	-
Sys Req Analysis/Sys Eng	WR	SSC LANT : Charleston, SC	1.306	-		-		-		-		-	-	1.306	-
DoN Transformation (Strategic Planning)	WR	NSWC Dahlgren : Dahlgren, MD	0.907	0.162	Jan 2014	0.074	Jan 2015	-		-		-	-	1.143	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 9123 / *FORCEnet*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Information Dominance Roadmaps and Analysis	C/CPFF	METRON : Reston, VA	1.066	-		-		-		-		-	-	1.066	-
Information Dominance Roadmaps and Analysis	C/CPFF	SAIC : McLean, VA	2.952	1.959	Jan 2014	1.914	Jan 2015	1.784	Jan 2016	-		1.784	Continuing	Continuing	Continuing
Information Dominance Roadmaps and Analysis	WR	SSC LANT : Charleston, NC	0.906	0.446	Jan 2014	0.432	Jan 2015	0.355	Jan 2016	-		0.355	Continuing	Continuing	Continuing
Information Dominance Roadmaps and Analysis	C/CPFF	BAH : McLean, VA	0.000	-		-		0.220	Dec 2015	-		0.220	Continuing	Continuing	Continuing
		Subtotal	140.484	2.567		2.420		2.359		-		2.359	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various : Various	1.300	-		-		-		-		-	-	1.300	-
Accelerating Joint Warfighting Capability (TW)	Various	Various : Various	30.736	-		-		-		-		-	-	30.736	-
Accelerating Joint Warfighting Capability (TW)	WR	Fleet Forces Command : San Diego, CA	0.095	-		-		-		-		-	-	0.095	-
Accelerating Joint Warfighting Capability (TW)	WR	Naval Postgraduate School : Monterey, CA	0.978	-		-		-		-		-	-	0.978	-
Accelerating Joint Warfighting Capability (TW)	WR	SSC Atlantic : Charleston, SC	0.445	-		-		-		-		-	-	0.445	-
Accelerating Joint Warfighting Capability (TW)	WR	SSC Pacific : San Diego, CA	1.069	-		-		-		-		-	-	1.069	-
Accelerating Joint Warfighting Capability (TW)	C/CPFF	AUSGAR Technologies Inc. : San Diego, CA	1.489	-		-		-		-		-	-	1.489	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 9123 / *FORCEnet*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Imp FORCEnet Req (Fn Comp)	Various	Various : Various	17.144	-		-		-		-		-	-	17.144	-
Developmental Test & Evaluation DLB/RCD	Various	Various : Various	0.500	-		-		-		-		-	-	0.500	-
DoN Transformation (Strategic Planning)	Various	Various : Various	20.521	-		-		-		-		-	-	20.521	-
DoN Transformation (Strategic Planning)	WR	NUWC : Newport, RI	0.840	0.119	Jan 2014	0.064	Jan 2015	-		-		-	-	1.023	-
DoN Transformation (Strategic Planning)	WR	NPGS : Monterey, CA	1.471	0.215	Jan 2014	0.117	Jan 2015	-		-		-	-	1.803	-
DoN Transformation (Strategic Planning)	C/CPFF	NGIT : Herndon, VA	0.349	-		-		-		-		-	-	0.349	-
DoN Transformation (Strategic Planning)	C/CPFF	Unknown : Unknown	0.000	-		-		-		-		-	-	-	-
		Subtotal	76.937	0.334		0.181		-		-		-	-	77.452	-

Remarks

Accelerating Joint Warfighting Capability (Trident Warrior) (TW), was transferred from Project 9123 into new Project 3320 from FY12 forward.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Support	Various	Various : Various	2.124	-		-		-		-		-	-	2.124	-
Government Engineering Support	Various	Various : Various	3.899	-		-		-		-		-	-	3.899	-
Program Management Support DLB/RCD	Various	Various : Various	0.250	-		-		-		-		-	-	0.250	-
Travel DLB/RCD	Various	Various : Various	0.145	-		-		-		-		-	-	0.145	-
Program Management Support	Various	Various : Various	0.800	-		-		-		-		-	-	0.800	-
Travel	Various	Various : Various	0.299	-		-		-		-		-	-	0.299	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / *Tactical Command System*	Project (Number/Name) 9123 / *FORCEnet*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Acquisition Workforce	Various	Various : Various	0.165	-		-		-		-		-	-	0.165	-
		Subtotal	7.682	-		-		-		-		-	-	7.682	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	229.434	2.901		2.601		2.359		-		2.359	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 9123 / *FORCEnet*

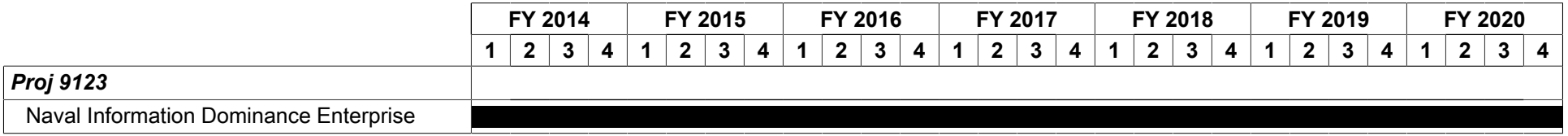


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604231N / *Tactical Command System*	**Project (Number/Name)** 9123 / *FORCEnet*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9123				
Naval Information Dominance Enterprise	1	2014	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604234N *I Advanced Hawkeye*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	4,113.054	103.489	176.700	272.149	-	272.149	317.185	250.353	180.581	188.923	200.857	5,803.291
3051: *E-2D Adv Hawkeye*	4,113.054	103.489	176.700	272.149	-	272.149	317.185	250.353	180.581	188.923	200.857	5,803.291
MDAP/MAIS Code: 364												

A. Mission Description and Budget Item Justification

The E-2D Advanced Hawkeye (AHE) program develops, demonstrates, tests, and procures the replacement of the AN/APS-145 radar system and other aircraft system components including Cooperative Engagement Capability Pre-Planned Product Improvement and Dual Transmit Satellite Communications that modernize the E-2 weapon system to maintain open ocean mission capability while providing the United States Navy with an effective littoral surveillance, battle management, Naval Integrated Fire Control - Counter Air (NIFC-CA) and Theater Air and Missile Defense (TAMD) capability. Key radar technologies are Space-Time Adaptive Processing, Electronically Scanning Array, solid state transmitter, high dynamic range digital receivers and Identification Friend or Foe (IFF)/radar aperture integration. The resultant detection system will provide a substantially improved overland performance by correcting current sensor shortfalls and enhancing all current required mission areas, while simultaneously contributing to the emerging TAMD mission requirements. Mode 5/S is an upgrade to the existing IFF System providing the warfighter positive, secure and reliable identification of friendly aircraft, surface and sub-surface platforms. Mode 5/S replaces the National Security Administration de-certified Mode 4 IFF capability, which is no longer effective or suitable for modern military operations. Mode 5/S will support the Joint Initial Operational Capability (IOC) as defined by the Joint Requirements Oversight Council.

An Aerial Refueling (AR) capability will allow the E-2D AHE to receive fuel from various organic and non-organic tanker aircraft. It provides Expanded Battle Space Surveillance and Targeting through significantly enhanced persistence and increased flexibility (range & endurance). AR will better enable the E-2D AHE to fully support current Carrier Strike Group /Joint 24/7 Theater Operations by providing more versatile stationing and/or forward basing options. Previous domestic E-2 concept demonstration effort successfully established the feasibility of tanking behind the F/A-18E/F and KC-130 aircraft under E-2 Squadrons, PE 0204152N.

The E-2D Counter Electronic Attack (CEA) capability will allow the E-2D radar system to maintain performance in an advanced hostile intentional electromagnetic interference environment. The E-2D CEA program will ensure E-2D effectiveness is maintained in an Electronic Attack environment supporting the NIFC-CA capability and overall Navy and Joint Integrated Air and Missile Defense strategy.

The E-2D Secret Internet Protocol Router (SIPR) Chat capability will support integration of current collaboration tools including tactical "chat" (text) communications, real-time tasking, and Air Tasking Order distribution. Recent real world operations have demonstrated a migration of Command and Control communications from voice to Internet protocol based networks.

The E-2D Multifunctional Information Distribution System/Joint Tactical Radio System (MIDS/JTRS)Tactical Targeting Networking Technology (TTNT) integrates Advanced Tactical Data Link functionality into the E-2D. This effort includes replacing the Multifunctional Information Distribution System - Low Volume Terminal (MIDS

LVT) radio with MIDS/JTRS that has incorporated Link -16 concurrent Multi -netting (CMN-4) and TTNT. MIDS/JTRS TTNT is a key enabler for E-2D sensor netting capability in support of the NIFC-CA mission.

The E-2D Advanced Mid-Term Interoperability Improvement Program (AMIIP) will address the most severe data link related interoperability issues. This capability will significantly improve the quality of the tactical surveillance picture, reduce the possibility of leakers, mitigate Blue on Blue engagements and mid-identification of tracks. Provides stable sensor fusion foundation to support sensor/weapon coordination requirements.

FY16 starts E-2D Sensor Netting which provides fusion of data from off-board sources via a high bandwidth network that will allow E-2D to support the second spiral of performance improvements for NIFCA-CA capability. Additional details are classified.

FY16 starts E-2D Data Fusion which provides a fusion engine to blend off-board tactical data (e.g. Electronic Surveillance and Satellite Receiver System (SRS) data) with already blended radar, Identify Friend or Foe (IFF) and Cooperative Engagement Capability (CEC) track-files, greatly enhancing situational awareness and tactical decision making. Successful E-2D NIFC-CA engagements depend on a clear/unambiguous tactical picture and the shortest possible decision timeline.

FY16 starts E-2D Fighter to Fighter backlink which implements Link-16 Network Participation Group 20 messages for Fighter-to-Fighter backlink capability in E-2D. This functionality improves interoperability between E-2D and participating US Navy fighters, including 5th generation aircraft, enhancing combat effectiveness of E-2D, increases situational awareness (SA), and shortens kill-chain timelines (including NIFC-CA).

FY16 starts E-2D Navigation Warfare (NAVWAR) which prevents loss of GPS by using a Controlled Reception Pattern Antenna (CRPA) and antenna electronics (AE) unit which will function to provide GPS access in an Electronic Attack (EA) environment. NAVWAR significantly reduces the likelihood of loss of critical GPS Position, Navigation and Timing functionality that is fundamental to E-2D battlespace awareness and its contributions to multiple link networks.

FY16 starts E-2D J11 Message which incorporates the J11 Message set to the E-2D Link-16 architecture, enabling E-2D support of Net Enabled Air-to-Surface Weapons such as a JSOW C-1 launched from other platforms to improve terminal accuracy and probability of kill. E-2D J11 messages would expand Carrier Strike Group Offensive Anti-Surface Warfare (OASuW) mission and Naval Integrated Fire Control- Counter Surface (NIFC-CS) capability, enabling launch and leave capability for weapon launch platforms, increasing both survivability and lethality of participating aircraft.

FY16 starts E-2D Stores Performance Assessment Requested Quality (SPARQ) which establishes real-time requirements for E-2D sensor contribution to system of system NIFC-CA solutions. SPARQ expands and optimizes operational employment envelopes, improving Air Wing ability to take advantage of System of System capabilities of NIFC-CA, reduces operational workload and latency of execution.

This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604234N *I Advanced Hawkeye*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	107.041	193.200	274.352	-	274.352
Current President's Budget	103.489	176.700	272.149	-	272.149
Total Adjustments	-3.552	-16.500	-2.203	-	-2.203
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-25.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	8.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.552	-			
• Program Adjustments	-	-	-	-	-
• Rate/Misc Adjustments	-	-	-2.203	-	-2.203

Change Summary Explanation

Technical: N/A

Schedule: Updated Advanced Hawkeye FRP II contract award and aircraft deliveries for FRP Lot IV and V. Added FRP V-FRP VIII contract awards and Fatigue Test. Updated the IFR title to Aerial Refueling (AR). Updated AR schedule for Preliminary Design Review (PDR), Critical Design Review (CDR), Test Readiness Review (TRR), Production Readiness Review (PRR), Operational Test Readiness Review (OTRR), Fuel Rig Test, Probe Static Test, Developmental Flight Test and added Operational Flight Test. Updated Counter EA milestones, Developmental & Operational test. Updated the TTNT title to MIDS/JTRS TTNT. Added Concurrent Multiple Network (CMN-4) to MIDS/JTRS TTNT title. Updated TTNT HPA milestones and DT/OT. Updated SIPRChat milestones, Developmental Test and added FOT&E. Updated Link-16 Cooperative Engagement Capability Interoperability Program title to Advanced Mid-Term Interoperability Improvement Program. Updated AMIIP milestones and Functional Test. Added schedules for Sensor Netting, Data Fusion, Fighter to Fighter, NAVWAR, J11 Message and SPARQ.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604234N / *Advanced Hawkeye*	Project (Number/Name) 3051 / *E-2D Adv Hawkeye*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3051: *E-2D Adv Hawkeye*	4,113.054	103.489	176.700	272.149	-	272.149	317.185	250.353	180.581	188.923	200.857	5,803.291
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

The E-2D Advanced Mid-Term Interoperability Improvement Program (AMIIP) will address the most severe data link related interoperability issues. This capability will significantly improve the quality of the tactical surveillance picture, reduce the possibility of leakers, mitigate Blue on Blue engagements and mid-identification of tracks. Provides stable sensor fusion foundation to support sensor/weapon coordination requirements.

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FY16 starts E-2D Stores Performance Assessment Requested Quality (SPARQ) which establishes real-time requirements for E-2D sensor contribution to system of system NIFC-CA solutions. SPARQ expands and optimizes operational employment envelopes, improving Air Wing ability to take advantage of System of System capabilities of NIFC-CA, reduces operational workload and latency of execution.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: System Development and Demonstration	0.970	1.664	-	-	-
Articles:	-	-	-	-	-
Description: Northrop Grumman Corporation System Development and Demonstration (SDD), Pilot Production efforts for the E-2D Advanced Hawkeye (AHE) Program.					
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Funds provided for SDD and costs associated with Initial Operational Capability (IOC) of the first E-2D squadron. ***FY 2015 Plans:*** Funds provided to complete deliverables under SDD contract. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Fatigue	7.759	10.168	26.056	-	26.056
Articles:	-	-	-	-	-
Description: Fatigue efforts for the E-2D Advanced Hawkeye (AHE) Program. ***FY 2014 Accomplishments:*** Funds provided for Full Scale Fatigue Tests and costs. Perform inspections at 250/500/1000 hour intervals. ***FY 2015 Plans:*** Funds provided for continued support of Full Scale Fatigue Tests. Perform inspections at 250/500/1000 hour intervals. ***FY 2016 Base Plans:*** Funds provided for continued support of Full Scale Fatigue Tests. Perform inspections at 250/500/1000 hour intervals. Replace the Outer Wing Panels which have reached end of service life. ***FY 2016 OCO Plans:*** N/A					
Title: Naval Air Warfare Center Aircraft Division Engineering and Test Support	26.194	7.447	17.172	-	17.172
Articles:	-	-	-	-	-
Description: Fund Government Engineering, Contractor Engineering, and Classified Engineering Support. Perform Government oversight. Execute test program risk reduction efforts. ***FY 2014 Accomplishments:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Funds provided for continued support of Follow-On Test & Evaluation and Developmental Testing for Mode 5 and Link-16 Cooperative Engagement Capability Interoperability. Funding levels decrease as this no longer funds OPEVAL or Naval Integrated Fire Control - Counter Air (NIFC-CA) efforts. ***FY 2015 Plans:*** Funds provided for continued support of Follow-On Test & Evaluation and Developmental Testing Support. ***FY 2016 Base Plans:*** Funds provided for continued support of Follow-On Test & Evaluation including Advanced Mid-Term Interoperability Improvement Program and Tactical Targeting Networking Technology. ***FY 2016 OCO Plans:*** N/A					
Title: E-2D Classified Programs	1.809	8.313	7.299	-	7.299
Articles:	-	-	-	-	-
Description: Provides support for the E-2D Advanced Hawkeye (AHE) Classified Development efforts. ***FY 2014 Accomplishments:*** Funding is for the continuation of E-2D AHE Classified Development efforts. ***FY 2015 Plans:*** Funding provided for the continuation of E-2D AHE Classified Development efforts. ***FY 2016 Base Plans:*** Funding provides for the continuation of E-2D AHE Classified Development efforts. ***FY 2016 OCO Plans:*** N/A					
Title: Mode 5/S	3.920	0.225	-	-	-
Articles:	-	-	-	-	-
Description: Mode 5/S is the replacement/upgrade to the existing Identification Friend or Foe (IFF) system. ***FY 2014 Accomplishments:*** Funding is for continued system development, integration and testing to support the incorporation of IFF Mode 5/S technology into the E-2D AHE IFF Interrogator mission equipment. Integration testing will include laboratory,					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
ground and flight tests. Funding levels decrease due to reduced efforts for system development, software development and flight test. ***FY 2015 Plans:*** Funds provided for APX-122A operational test. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Aerial Refueling	40.900	54.950	57.069	-	57.069
Articles:	-	-	-	-	-
Description: Funds the system development and testing to support the incorporation of Aerial Refueling (AR) capability into the E-2D AHE aircraft. Emphasis during system development is on system redesign, air vehicle design, human systems integration and design, including interior/lighting modifications and seat replacement. Flight testing is required to evaluate field of view, thermal and aerodynamic loads, kinematic performance, and handling qualities. ***FY 2014 Accomplishments:*** Funding provided for continued Engineering & Manufacturing Development (E&MD) of AR and System Integration Laboratory (SIL) testing. Completed System Requirement Review/System Functional Review (SRR/ SFR) and Preliminary Design Review (PDR). ***FY 2015 Plans:*** Funding provided for continued(E&MD) of AR, SIL testing, Fuel Rig Testing, Integrated Program Review, Critical Design Review and install on AA1. Funding also provided to ramp up subcontractor support that was slowed down due to the mark in FY 2014. ***FY 2016 Base Plans:*** Funding provided for continued E&MD of AR, Critical Design Review, continued SIL testing, Probe Static Test and instrumentation and modernization of aircraft. ***FY 2016 OCO Plans:*** N/A					
Title: E-2D Counter Electronic Attack	0.224	11.178	20.685	-	20.685

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
Description: Funds the mission system development and testing of the capability to counter advanced radar electronic attack threats. The E&MD effort will focus on integration of capability in the radar and mission computer display systems that include system integration, and laboratory and flight test validation. ***FY 2014 Accomplishments:*** Funds provided for continuation of E&MD for the E-2D Counter Electronic Attack capability. Decrease in FY 2014 is due to a R&D rephase which is corrected in FY 2015 and out. ***FY 2015 Plans:*** Funds the software development of the radar and mission computer systems that will provide the capability to counter advanced radar electronic attack threats. ***FY 2016 Base Plans:*** Funding provided for continued ramp of software development of the radar and mission computer systems that will provide the capability to counter advanced radar electronic attack threats. Funding provided for SRR and PDR. ***FY 2016 OCO Plans:*** N/A					
Title: Multifunctional Information Distribution System/Joint Tactical Radio System (MIDS/JTRS)Tactical Targeting Networking Technology (TTNT)	9.765	42.023	43.874	-	43.874
Articles:	-	-	-	-	-
Description: MIDS/JTRS TTNT provides Advanced Tactical Data Link functionality into the E-2D. This effort includes replacing the MIDS LVT radio with MIDS-JTRS that has incorporated the old TTNT. MIDS/JTRS TTNT is a key enabler for E-2D sensor netting capability in support of the Naval Integrated Fire Control-Counter Air mission. ***FY 2014 Accomplishments:*** Funding is provided for Development, Design and Support costs. FY14 is requirement definition. Program re-structured. ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Funding is provided for continued Development, Design and Support costs, hardware and software associated with MIDS/JTRS/TTNT. Concurrent Multiple Network (CMN04)integration and lab testing. Funding is provided for Preliminary Design Review. ***FY 2016 Base Plans:*** Funding provides for continued Development, Design and Support costs, hardware, software, Preliminary Design and Critical Design Reviews associated with MIDS/JTRS/TTNT CMN-4 integration and lab testing. Funding is provided for CDR. ***FY 2016 OCO Plans:*** N/A					
Title: SIPR Chat	3.445	9.790	18.505	-	18.505
Articles:	-	-	-	-	-
Description: The E-2D Secret Internet Protocol Router (SIPR) Chat capability will support integration of current collaboration tools including tactical "chat" (text) communications, real-time tasking, and Air Tasking Order distribution. Recent real world operations have demonstrated a migration of Command and Control communications from voice to Internet protocol based networks. ***FY 2014 Accomplishments:*** Funds provided for System Development & Design, Software and Router Integration. ***FY 2015 Plans:*** Funds provided for continued System Development & Design, Software and Router Integration, Program Design Review and Critical Design Review. ***FY 2016 Base Plans:*** Funds provided for continued System Development & Design, Software and Router Aircraft Integration and Test Readiness Review. ***FY 2016 OCO Plans:*** N/A					
Title: Naval Integrated Fire Control - Counter Air Testing (NIFC-CA)	7.750	9.425	18.376	-	18.376
Articles:	-	-	-	-	-
Description: NIFC-CA requires System of Systems level testing. CNO-mandate to address Naval weapon systems' Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance gaps.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Funds provided for software development support and developmental flight tests. ***FY 2015 Plans:*** Funds provided for continued software development support and developmental flight tests. ***FY 2016 Base Plans:*** Funds provided for continued software development support and developmental flight tests. NIFC-CA includes increased flights for E-2D participation NIFC-CA increment 1 developmental and operational systems of systems testing. ***FY 2016 OCO Plans:*** N/A					
Title: Advanced Mid-Term Interoperability Improvement Program (AMIIP)	0.753	21.517	15.180	-	15.180
Articles:	-	-	-	-	-
Description: Address the most severe data link related interoperability issues. This capability will significantly improve the quality of the tactical surveillance picture, reduce the possibility of leakers, mitigate Blue on Blue engagements and mid-identification of tracks. Provides stable sensor fusion foundation to support sensor/ weapon coordination requirements. ***FY 2014 Accomplishments:*** Funds provided for systems engineering and systems development support. ***FY 2015 Plans:*** Funds provided for continued systems engineering, systems development support and software integration. ***FY 2016 Base Plans:*** Funds provided for continued systems engineering, systems development support, software integration, Functional and Flight testing. ***FY 2016 OCO Plans:*** N/A					
Title: Sensor Netting	-	-	10.256	-	10.256
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Provides fusion of data from off-board sources via a high bandwidth network that will allow E-2D to support second spiral of performance improvements for NIFC-CA capability. Additional details are classified. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** New start - Funds are provided for Software Development & Design and System Requirements Review. ***FY 2016 OCO Plans:*** N/A					
Title: Data Fusion	-	-	11.799	-	11.799
Articles:	-	-	-	-	-
Description: E-2D Data Fusion provides a fusion engine to blend off-board tactical data (e.g. Electronic Surveillance and Satellite Receiver System (SRS) data) with already blended radar, Identify Friend or Foe (IFF) and Cooperative Engagement Capability (CEC) track-files, greatly enhancing Situational Awareness and tactical decision making. Successful E-2D NIFC-CA engagements depend on a clear/unambiguous tactical picture and the shortest possible decision timeline. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** New start - Funds are provided for System Engineering & Integration, System Requirements and Preliminary Design Reviews. ***FY 2016 OCO Plans:*** N/A					
Title: Fighter to Fighter	-	-	8.457	-	8.457
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Fighter to Fighter backlink implements Link-16 Network Participation Group 20 messages for Fighter-to-Fighter backlink capability in E-2D. This functionality improves interoperability between E-2D and participating US Navy fighters, including 5th generation aircraft, enhancing combat effectiveness of E-2D, increases Situational Awareness (SA), and shortens kill-chain timelines (including NIFC-CA). ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** New start - Funds are provided for Software Development and Design. ***FY 2016 OCO Plans:*** N/A					
Title: Navigation Warfare (NAVWAR)	-	-	5.799	-	5.799
Articles:	-	-	-	-	-
Description: E-2D Navigation Warfare (NAVWAR) prevents loss of GPS by using a Controlled Reception Pattern Antenna (CRPA) and Antenna Electronics (AE) unit which will function to provide GPS access in an Electronic Attack (EA) environment. NAVWAR significantly reduces the likelihood of loss of critical GPS Position, Navigation and Timing functionality that is fundamental to E-2D battlespace awareness and its contributions to multiple link networks. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** New start - Funds are provided for System Engineering & Integration, Hardware Development, and System Requirements and Preliminary Design Reviews. ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: J11 Message	-	-	5.051	-	5.051
Articles:	-	-	-	-	-
Description: Incorporates J11 message set to E-2D Link-16 architecture, enabling E-2D support of Net Enabled Air-to-Surface Weapons such as JSOW C-1 launched from other platforms to improve terminal accuracy and probability of kill. E-2D J11 messages would expand Carrier Strike Group Offensive Anti-Surface Warfare (OASuW) mission and Naval Integrated Fire Control- Counter Surface (NIFC-CS) capability, enabling launch and leave capability for weapon launch platforms, increasing both survivability and lethality of participating aircraft. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** New start - Funds are provided for Software Design & Integration and System Requirements Review. ***FY 2016 OCO Plans:*** N/A					
Title: Stores Performance Assessment Requested Quality (SPARQ)	-	-	6.571	-	6.571
Articles:	-	-	-	-	-
Description: E-2D Stores Performance Assessment Requested Quality (SPARQ) establishes real-time requirements for E-2D sensor contribution to system of system Naval Integrated Fire Control-Counter Air (NIFC-CA) solutions. SPARQ expands and optimizes operational employment envelopes, improving Air Wing ability to take advantage of System of System capabilities of NIFC-CA, reduces operational workload and latency of execution. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
New start - Funds are provided for System Engineering & Integration, Software Integration, and System Requirements Review. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	103.489	176.700	272.149	-	272.149

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0195: *E-2D AHE*	1,209.195	1,144.956	1,052.990	-	1,052.990	1,059.550	857.086	984.339	999.222	4,257.820	19,557.417
• APN/0605: *Initial Spares - E-2*	7.449	7.582	7.786	-	7.786	7.583	14.224	13.154	16.658	33.752	461.840
• APN/0544: *E-2 Series*	6.141	12.776	14.647	-	14.647	16.761	80.153	78.580	79.924	334.772	623.754

Remarks

D. Acquisition Strategy

Milestone C Acquisition Strategy was approved by Milestone Decision Authority, Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L))on 29 Dec 2008. Milestone C approval to proceed into Production and Deployment was given 11 June 2009 by USD (AT&L). Certification for entrance into Initial Operational Test & Evaluation was received on 06 Feb 2012. Full Rate Production Acquisition Strategy approved on 20 August 2012. Initial Operational Test & Evaluation concluded 1 October 2012. Successfully held a Defense Acquisition Board for Full Rate Production. Received a successful decision to enter into Full Rate Production (FRP) on 01 March 2013.

E. Performance Metrics

Successfully held a Defense Acquisition Board for Full Rate Production on 31 January 2013 for 55 aircraft.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604234N / *Advanced Hawkeye*	Project (Number/Name) 3051 / *E-2D Adv Hawkeye*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPAF	Northrop Grumman Corporation (NGC) : Melbourne, FL	2,928.175	0.234	Feb 2014	0.200	Feb 2015	-		-		-	-	2,928.609	2,928.609
Primary Hardware-Fatigue	C/CPFF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	7.526	Jun 2014	8.744	Mar 2015	24.716	Mar 2016	-		24.716	78.530	119.516	125.541
Primary Hardware Development-SIPRChat	C/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	0.392	Apr 2014	3.810	Jan 2015	6.852	Nov 2015	-		6.852	4.560	15.614	15.614
Primary Hardware Development-NIFCA Test	C/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	0.762	Apr 2014	-		-		-		-	-	0.762	0.762
Primary Hardware Development-TTNT	C/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	7.502	Apr 2014	17.430	Jan 2015	20.577	Nov 2015	-		20.577	14.425	59.934	59.934
Primary Hardware Development-TTNT	SS/FFP	Data Link Solutions : Cedar Rapids, IA	0.000	1.005	Apr 2014	-		-		-		-	-	1.005	1.005
Primary Hardware Development-NAVWAR	SS/CPFF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	-		-		3.724	Feb 2016	-		3.724	15.078	18.802	18.802
Primary Hardware-Aerial Refueling	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	30.138	39.450	Mar 2014	53.649	Nov 2014	53.799	Nov 2015	-		53.799	165.397	342.433	342.433
Training Development	SS/FFP	Rockwell Collins : Cedar Rapids, IA	0.000	-		2.917	Feb 2015	2.727	Feb 2016	-		2.727	49.677	55.321	55.321
Systems Engineering	PO	Navy Syst Mgt Activity : Arlington, VA	174.988	-		-		-		-		-	-	174.988	-
GFE	Various	Various : Various	31.509	2.217	May 2014	-		1.795	Feb 2016	-		1.795	0.923	36.444	-
Award Fees	SS/CPAF	Northrop Grumman Corporation (NGC) : Melbourne, FL	150.703	0.776	Oct 2014	-		-		-		-	-	151.479	151.479
Prior Year Prod Dev costs no longer funded in FYDP	Various	Various : Various	298.079	-		-		-		-		-	-	298.079	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	3,613.592	59.864		86.750		114.190		-		114.190	328.590	4,202.986	-

Remarks

Totals may not add due to rounding.
Award Fee for SDD contract N00019-03-C-0057:

Period 1 FY04 - 90%	Period 7 FY08 - 94%	Period 13 FY13 - 93%
Period 2 FY04 - 91%	Period 8 FY09 - 93%	Period 14 FY14 - 97%
Period 3 FY05 - 80%	Period 9 FY09 - 95%	
Period 4 FY06 - 94%	Period 10 FY10 - 100%	
Period 5 FY06 - 100%	Period 11 FY11 - 95%	
Period 6 FY07 - 95%	Period 12 FY12 - 95%	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support-AMIIP	Various	Various : Various	0.000	-		5.161	Nov 2014	-		-		-	-	5.161	-
Software Development	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	36.616	2.845	Apr 2014	1.571	Apr 2015	-		-		-	-	41.032	41.032
Software Development	Various	Navy Syst Mgt Activity : Arlington, VA	11.211	1.808	Nov 2013	7.648	Apr 2015	14.059	Nov 2015	-		14.059	25.606	60.332	-
Software Development-SN	Various	Navy Syst Mgt Activity : Arlington, VA	0.000	-		-		7.003	Mar 2016	-		7.003	114.727	121.730	-
Software Development-Data Fusion	Various	Navy Syst Mgt Activity : Arlington, VA	0.000	-		-		9.514	Mar 2016	-		9.514	41.935	51.449	-
Software Development-CEA	Various	Navy Syst Mgt Activity : Arlington, VA	0.000	0.200	Nov 2013	11.054	Apr 2015	18.762	Mar 2016	-		18.762	109.859	139.875	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development-SIPRChat	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	1.720	Jun 2014	3.689	Jan 2015	8.068	Dec 2015	-		8.068	6.002	19.479	19.479
Software Development-AMIIP	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	0.493	Dec 2013	11.263	Dec 2014	7.169	Dec 2015	-		7.169	5.648	24.573	24.573
Software Development-TTNT	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	-		21.034	Jan 2015	13.074	Dec 2015	-		13.074	8.250	42.358	42.358
Software Development-NIFC-CA	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	-		1.961	Jan 2015	3.501	Dec 2015	-		3.501	10.480	15.942	15.942
Software Development-J11	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	-		-		3.385	Mar 2016	-		3.385	22.247	25.632	25.632
Software Development-F2F	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	-		-		5.994	Mar 2016	-		5.994	23.458	29.452	29.452
Software Development-NAVWAR	SS/CPIF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	-		-		0.310	Mar 2016	-		0.310	1.227	1.537	1.537
Government Engineering Support	WR	Naval Air Warfare Center Aircraft Division (NAWCAD : Pax River, MD	84.659	4.443	Nov 2013	9.293	Nov 2014	21.458	Nov 2015	-		21.458	103.546	223.399	-
Government Engineering Support	WR	Naval Air Warfare Center Training Systems Division : Orlando, FL	11.352	-		-		-		-		-	0.622	11.974	-
Government Engineering Support	Various	Various : Various	12.118	-		0.510	Nov 2014	0.539	Nov 2015	-		0.539	-	13.167	-
Integrated Logistics Support	Various	Various : Various	7.975	0.295	Nov 2013	1.397	Nov 2014	4.049	Nov 2015	-		4.049	14.540	28.256	-
Contractor Engineering Support ETS	C/CPFF	Imagine One : Colonial Beach, VA	1.137	2.239	Jan 2014	2.102	Jan 2015	2.167	Jan 2016	-		2.167	6.618	14.263	14.263

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Data	Various	Various : Various	0.744	0.250	Mar 2014	0.550	Dec 2014	0.560	Dec 2015	-		0.560	1.426	3.530	-
Configuration Management	Various	Various : Various	0.201	0.051	Dec 2013	0.100	Dec 2014	0.102	Dec 2015	-		0.102	0.551	1.005	-
Prior Year Support costs no longer funded in FYDP	Various	Various : Various	55.919	-		-		-		-		-	-	55.919	-
		Subtotal	221.932	14.344		77.333		119.714		-		119.714	496.742	930.065	-

Remarks

Totals may not add due to rounding.
Integrated Logistics Support, Government Engineering Support, Contractor Engineering Support, Technical Data and Configuration Management - various contractors and award dates throughout the fiscal year.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental T&E	WR	NAWCAD : Pax River, MD	86.931	8.509	Nov 2013	5.731	Nov 2014	11.675	Nov 2015	-		11.675	184.328	297.174	-
Developmental T&E	Various	Various : Various	34.253	1.450	Dec 2013	-		8.171	Dec 2015	-		8.171	10.525	54.399	-
Developmental T&E 1	WR	Various : Various	8.469	9.720	Mar 2014	1.632	Mar 2015	9.123	Dec 2015	-		9.123	27.288	56.232	-
Developmental T&E	C/CPFF	Airborne Tactical Advantage Co, LLC : Pax River, MD	0.000	-		-		-		-		-	2.767	2.767	2.767
Developmental T&E	C/CPFF	Wyle Labs - ESTEL : Huntsville, AL	4.060	1.413	Jan 2014	1.000	Jan 2015	1.500	Jan 2016	-		1.500	-	7.973	7.973
Developmental T&E-ROR	SS/CPFF	Northrop Grumman Corporation (NGC) : Melbourne, FL	0.000	0.500	Jul 2014	1.300	Mar 2015	2.252	Mar 2016	-		2.252	24.687	28.739	28.739
Developmental T&E ETS	C/FFP	L-3 Communications : Newport News, VA	14.047	0.191	Dec 2013	0.225	Dec 2014	0.275	Dec 2015	-		0.275	1.669	16.407	16.407
Developmental T&E ETS	Various	Various : Various	6.573	0.593	Jun 2014	-		-		-		-	-	7.166	-
Developmental T&E ETS	C/CPFF	JF Taylor Inc : Lexington Park, MD	0.000	5.693	Jun 2014	1.545	Jun 2015	1.728	Jun 2016	-		1.728	9.563	18.529	17.862

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational T&E	WR	NAWCAD : Pax River, MD	22.183	0.771	Nov 2013	0.895	Nov 2014	0.900	Nov 2015	-		0.900	38.941	63.690	-
Operational T&E	Various	Various : Various	5.032	-		-		0.400	Nov 2015	-		0.400	0.100	5.532	-
Test Assets	Various	Various : Various	3.900	-		-		1.688	Nov 2015	-		1.688	9.199	14.787	14.787
Prior Year T&E costs no longer funded in FYDP	Various	Various : Various	23.540	-		-		-		-		-	-	23.540	-
		Subtotal	208.988	28.840		12.328		37.712		-		37.712	309.067	596.935	-

Remarks

Totals may not add due to rounding.
Developmental Test & Evaluation (T&E), Developmental T&E, Engineering & Technical Services and Operational T&E - various contractors and award dates throughout the fiscal year.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prog Management Supp	Various	Various : Various	2.003	0.367	Nov 2013	0.026	Nov 2014	0.036	Nov 2015	-		0.036	0.163	2.595	-
Travel	Various	Various : Various	2.375	0.074	Oct 2013	0.263	Oct 2014	0.497	Oct 2015	-		0.497	3.337	6.546	-
Prior Year Mgmt costs no longer funded in FYDP	Various	Various : Various	64.164	-		-		-		-		-	-	64.164	-
		Subtotal	68.542	0.441		0.289		0.533		-		0.533	3.500	73.305	-

Remarks

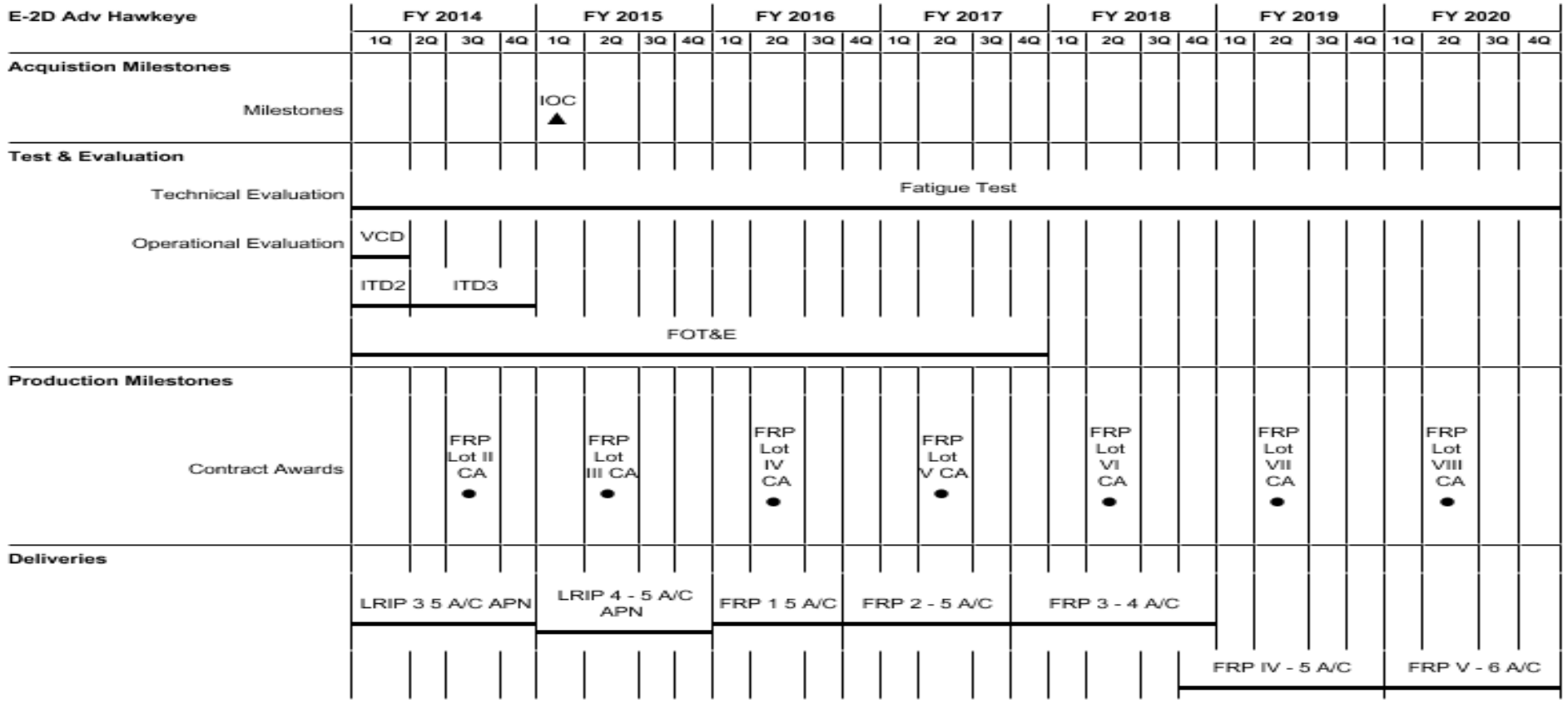
Totals may not add due to rounding.
Contractor Engineering Support, Government Engineering Support, Program Support and Travel - various contractors and/or award dates throughout the fiscal year.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	4,113.054	103.489		176.700		272.149		-		272.149	1,137.899	5,803.291	-

Remarks

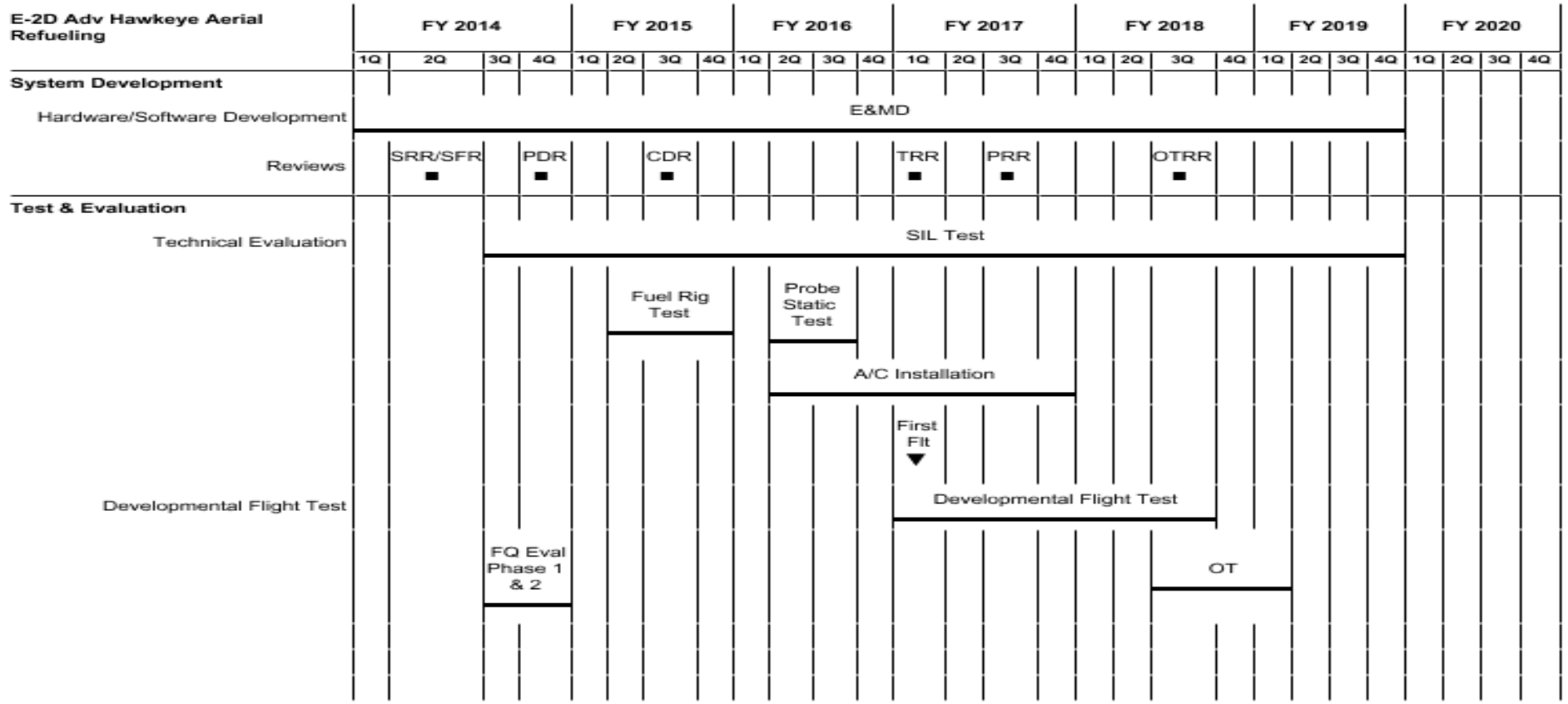
Totals may not add due to rounding.

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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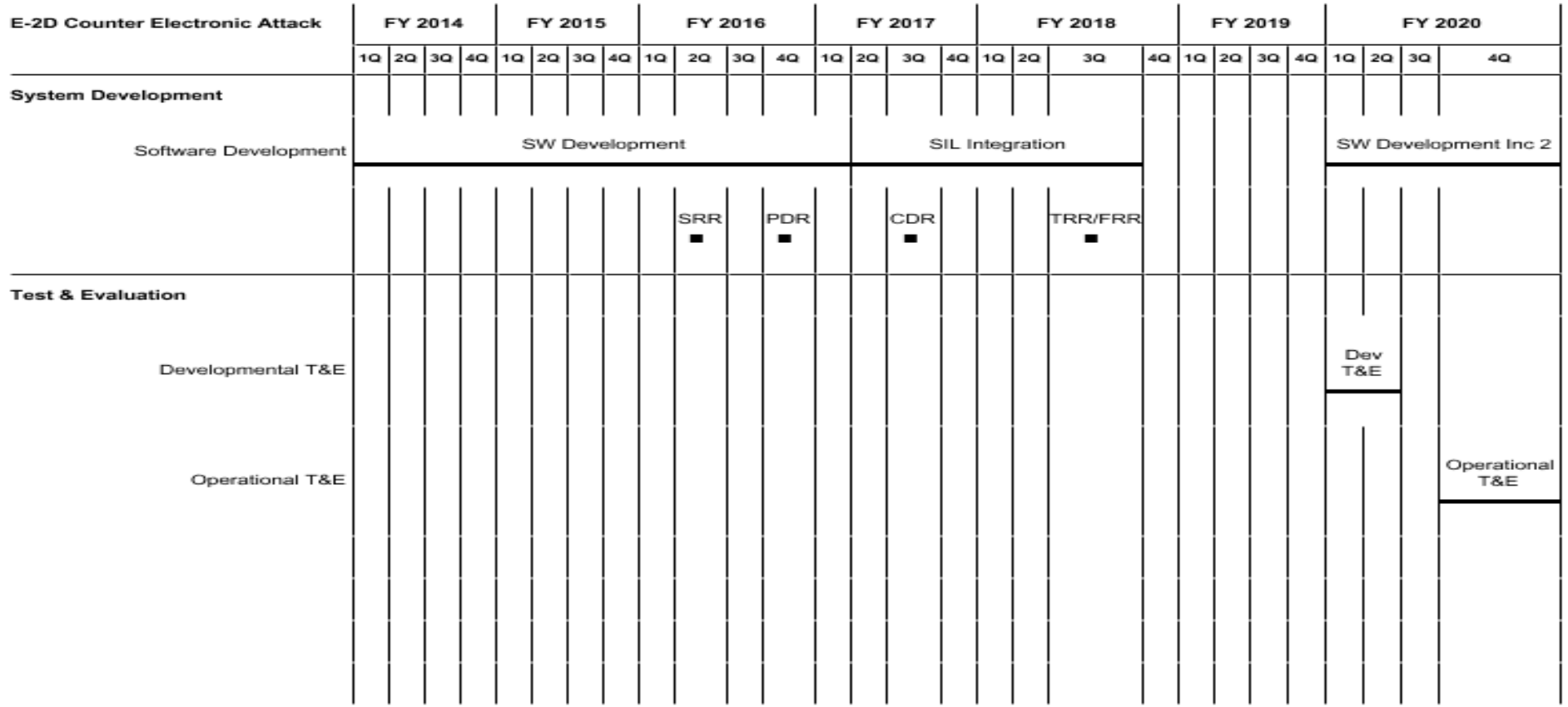
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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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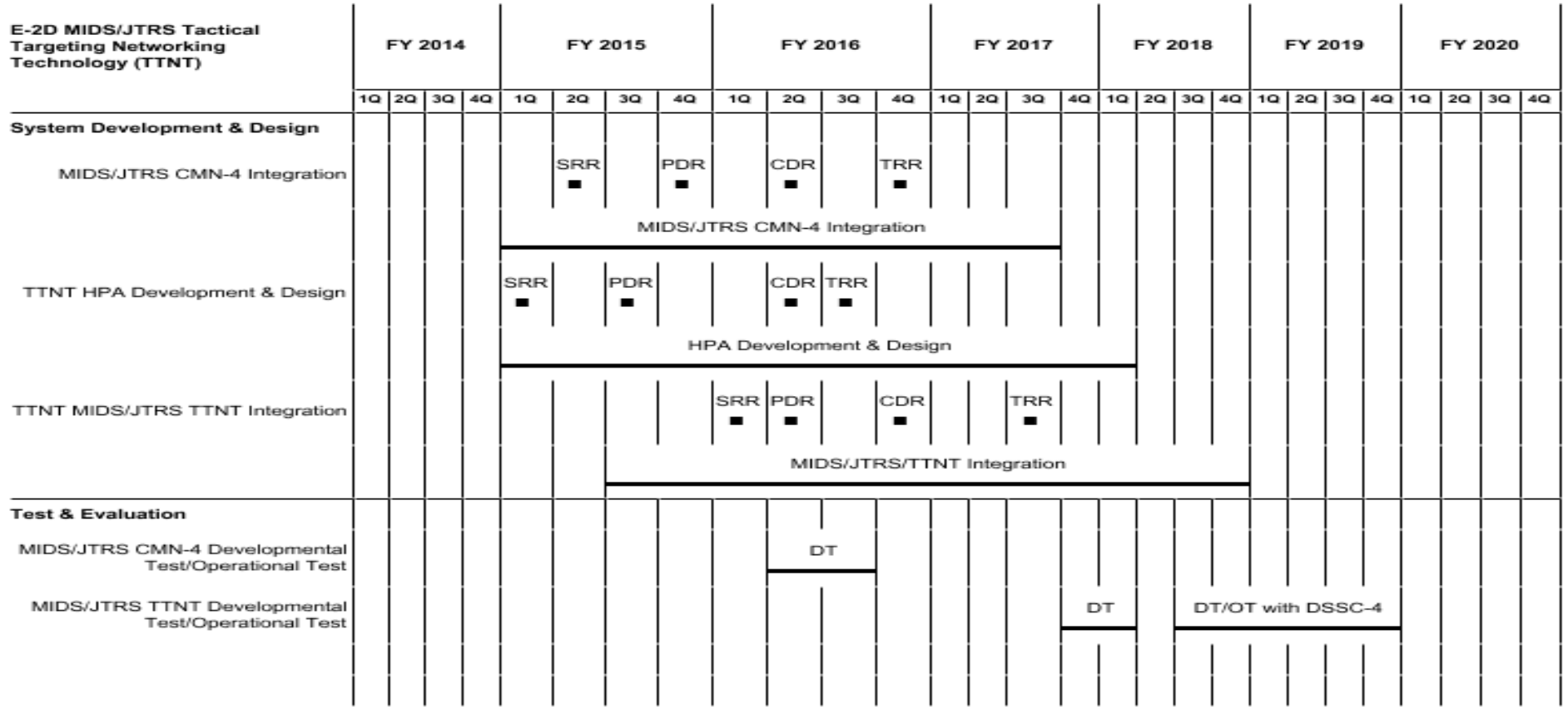
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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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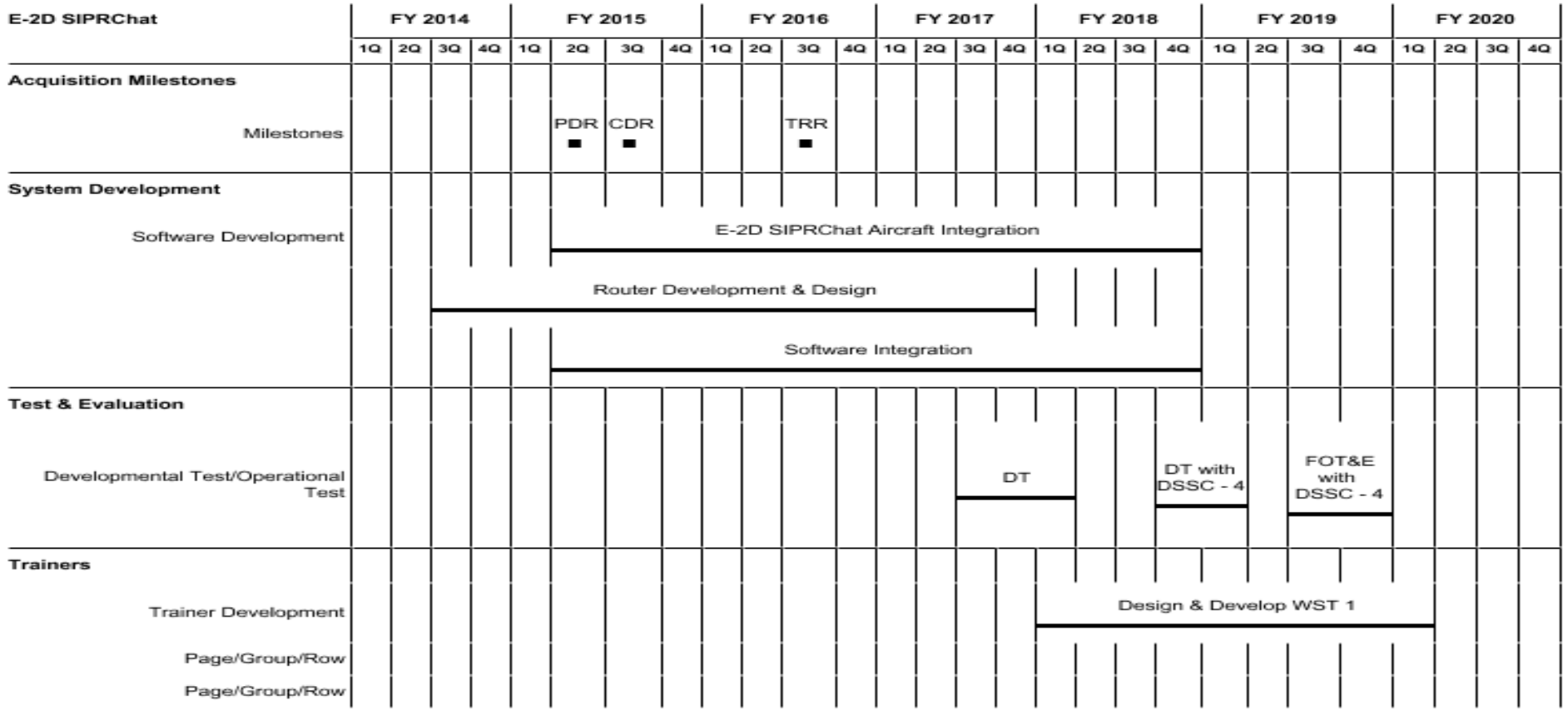
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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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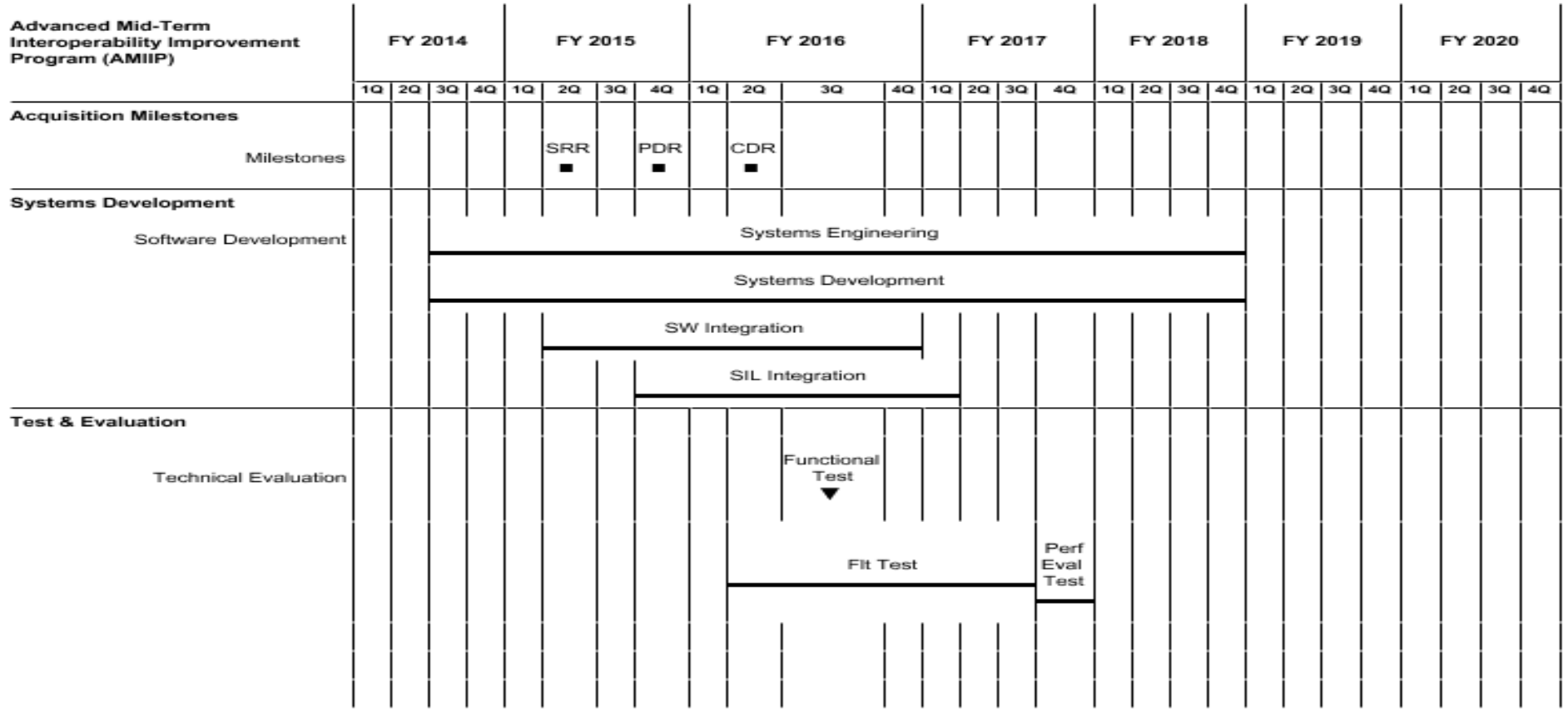
2016PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



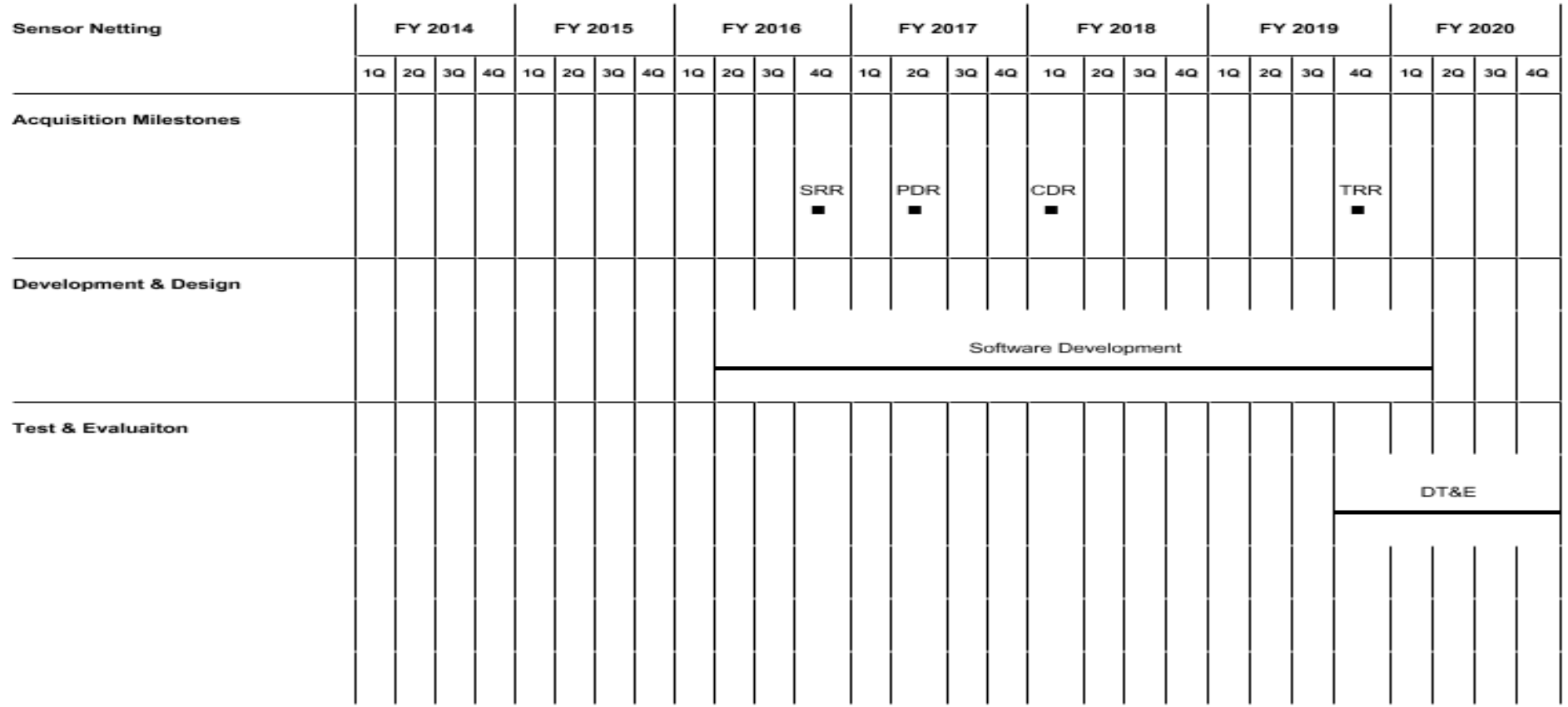
2016PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



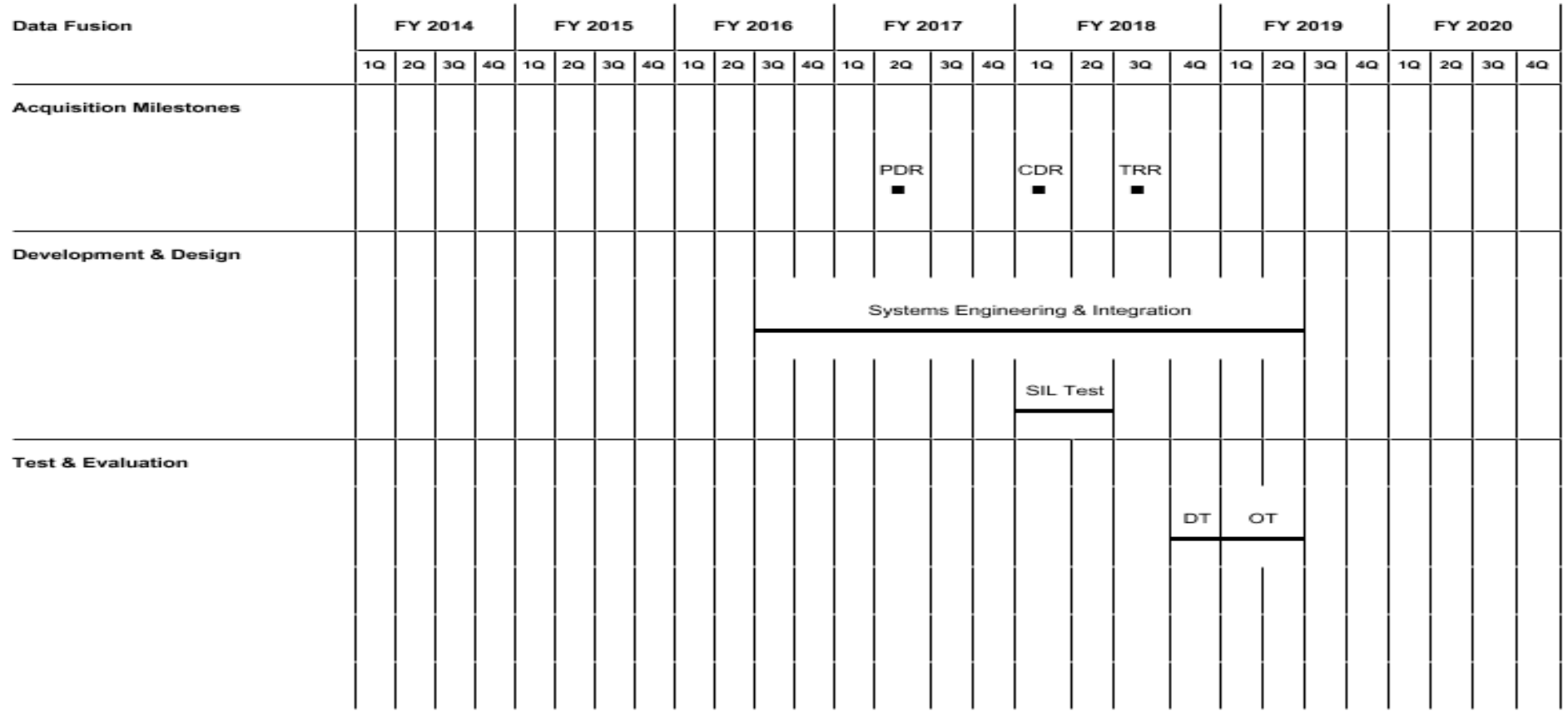
2016PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



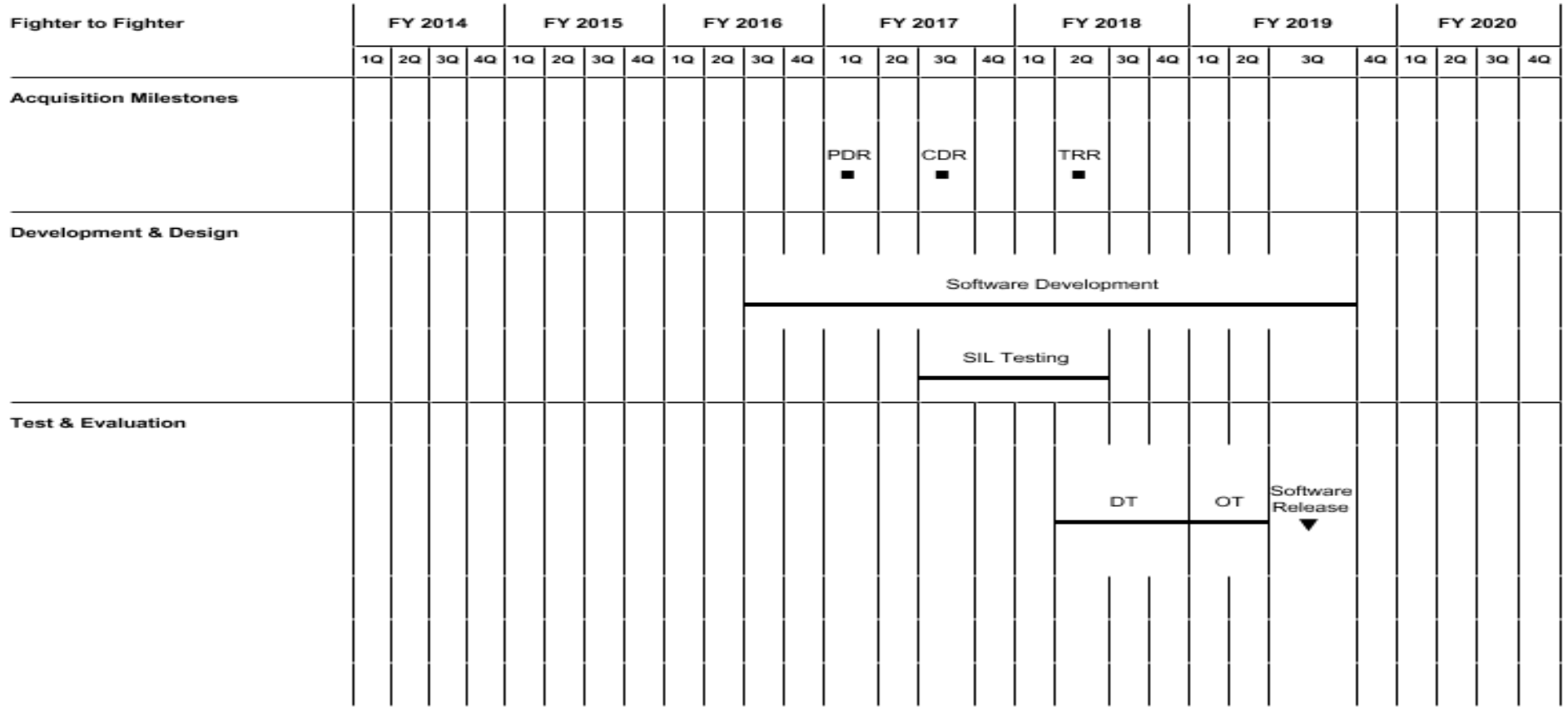
2016PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



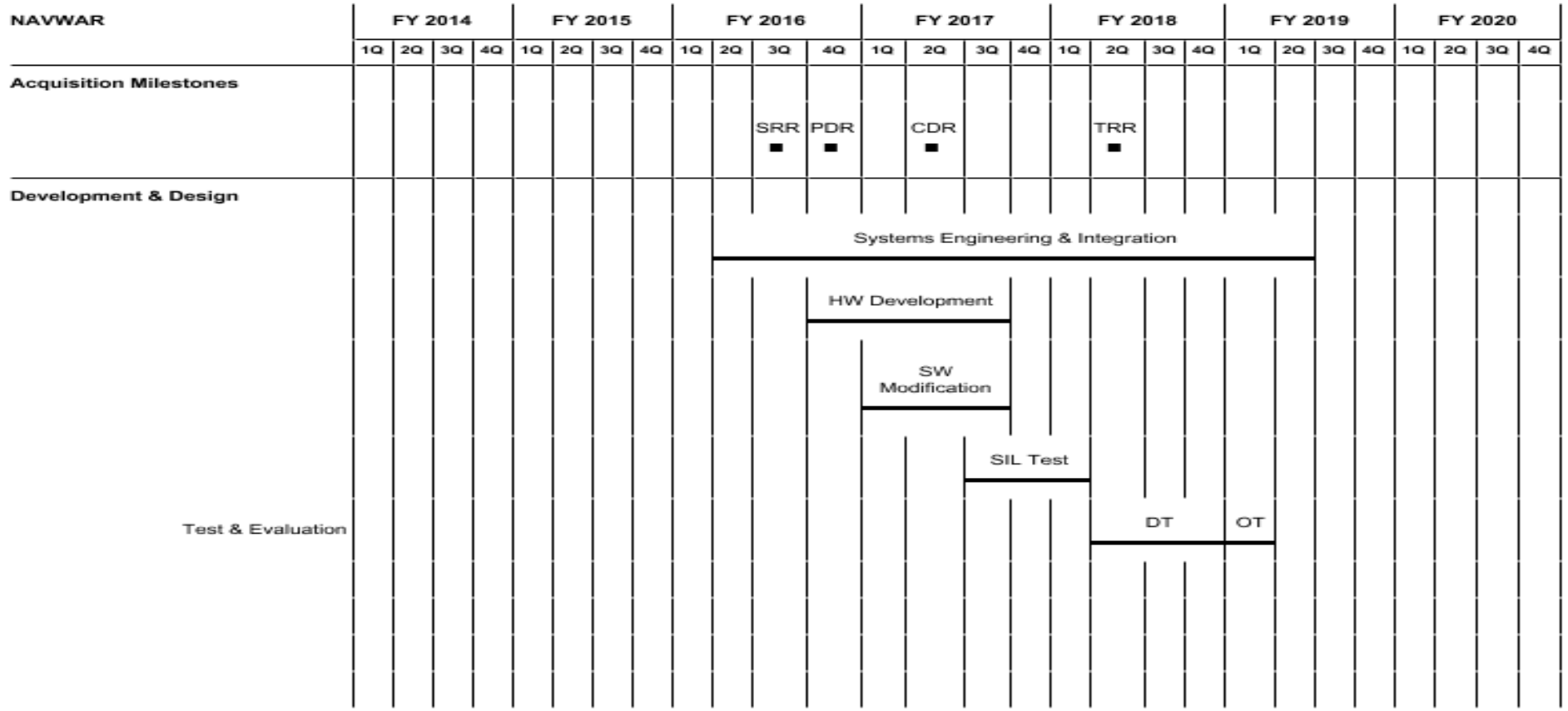
2016PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



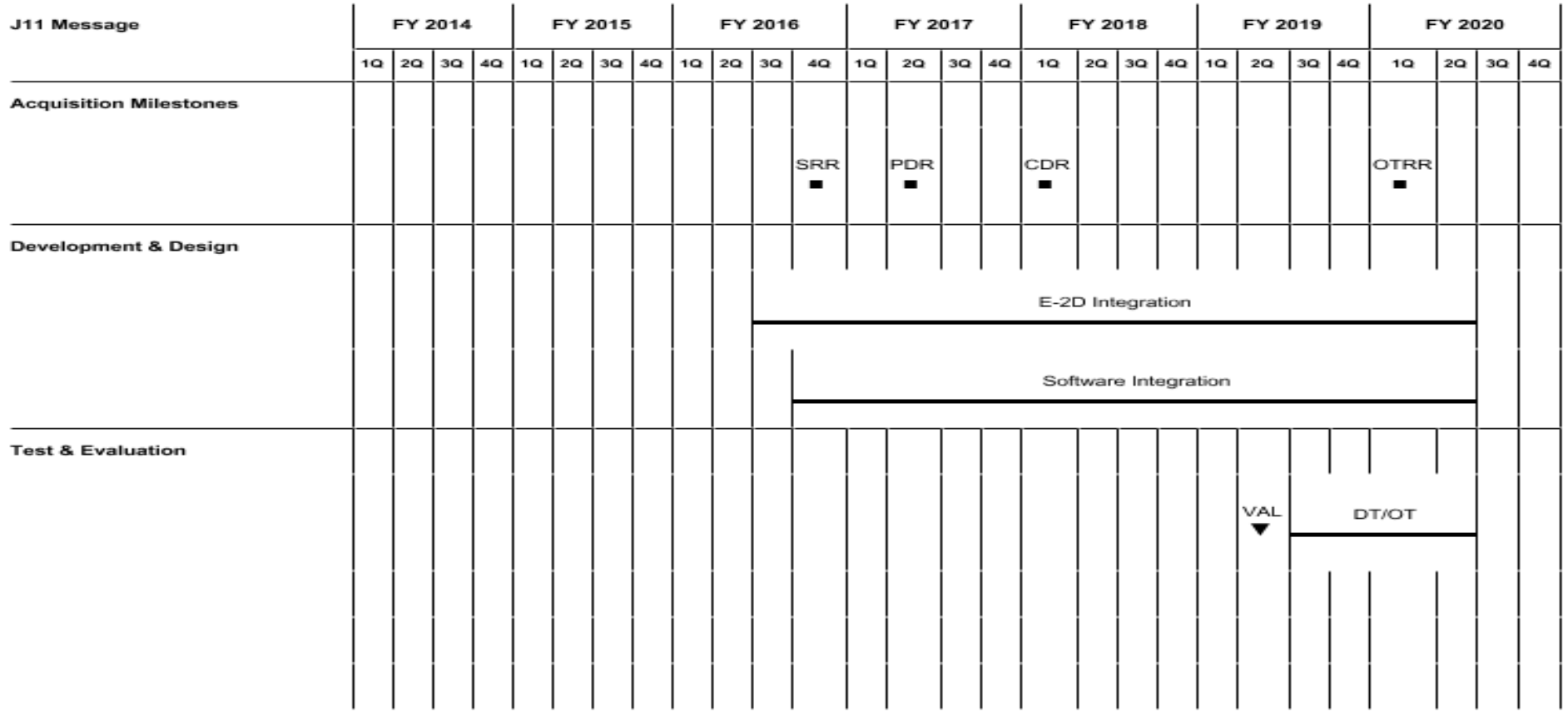
2016PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



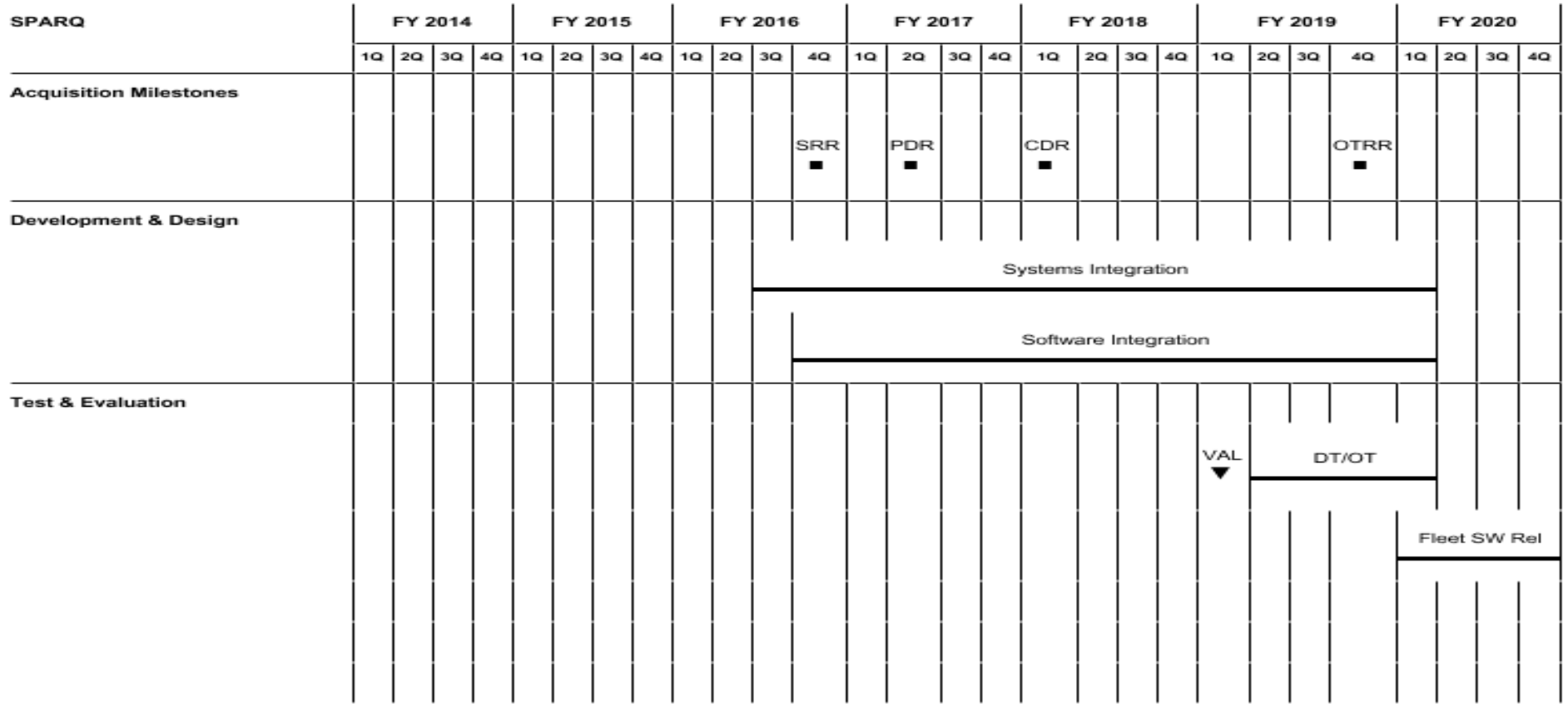
2016PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



2016PB - 0604234N - 3051

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*



2016PB - 0604234N - 3051

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
E-2D Adv Hawkeye				
Acquistion Milestones: Milestones: Acquistion Milestones - Initial Operational Capabilities	1	2015	1	2015
Test & Evaluation: Technical Evaluation: Fatigue Testing	1	2014	4	2020
Test & Evaluation: Operational Evaluation: Verification of Correction of Deficiencies (VCD)	1	2014	1	2014
Test & Evaluation: Operational Evaluation: Integrated Test D2	1	2014	1	2014
Test & Evaluation: Operational Evaluation: Integrated Test D3	2	2014	4	2014
Test & Evaluation: Operational Evaluation: Follow On Test & Evaluation	1	2014	4	2017
Production Milestones: Contract Awards: Production Milestones - FRP Lot II CA	3	2014	3	2014
Production Milestones: Contract Awards: Production Milestones - FRP Lot III CA	2	2015	2	2015
Production Milestones: Contract Awards: Production Milestones - FRP Lot IV CA	2	2016	2	2016
Production Milestones: Contract Awards: Production Milestones - FRP Lot V CA	2	2017	2	2017
Production Milestones: Contract Awards: Production Milestones - FRP Lot VI CA	2	2018	2	2018
Production Milestones: Contract Awards: Production Milestones - FRP Lot VII CA	2	2019	2	2019
Production Milestones: Contract Awards: Production Milestones - FRP Lot VIII CA	2	2020	2	2020
Deliveries: Production Deliveries - LRIP III (5 A/C APN)	1	2014	4	2014
Deliveries: Production Deliveries - LRIP IV (5 A/C APN)	1	2015	4	2015
Deliveries: Production Deliveries - FRP I (5 A/C)	1	2016	3	2016
Deliveries: Production Deliveries - FRP II (5 A/C)	4	2016	3	2017
Deliveries: Production Deliveries - FRP III (5 A/C)	4	2017	4	2018
Deliveries: Production Deliveries - FRP IV (5 A/C)	4	2018	4	2019
Deliveries: Production Deliveries - FRP V (6 A/C)	1	2020	4	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
E-2D Adv Hawkeye Aerial Refueling				
System Development: Hardware/Software Development: Aerial Refueling - Engineering & Manufacturing Development	1	2014	4	2019
System Development: Reviews: Aerial Refueling - System Requirements Review2/ System Functional Review	2	2014	2	2014
System Development: Reviews: Aerial Refueling - Preliminary Design Review	4	2014	4	2014
System Development: Reviews: Aerial Refueling - Critical Design Review	3	2015	3	2015
System Development: Reviews: Aerial Refueling - Test Readiness Review	1	2017	1	2017
System Development: Reviews: Aerial Refueling - Production Readiness Review	3	2017	3	2017
System Development: Reviews: Aerial Refueling - Operational Test Readiness Review	3	2018	3	2018
Test & Evaluation: Technical Evaluation: Aerial Refueling - SIL Probe Static Test	3	2014	4	2019
Test & Evaluation: Technical Evaluation: Aerial Refueling - Fuel Rig Test	2	2015	4	2015
Test & Evaluation: Technical Evaluation: Aerial Refueling - Probe Static Test	2	2016	3	2016
Test & Evaluation: Technical Evaluation: Aerial Refueling - Aircraft Installation	2	2016	4	2017
Test & Evaluation: Technical Evaluation: Aerial Refueling - First Flight	1	2017	1	2017
Test & Evaluation: Developmental Flight Test: Developmental Flight Test	1	2017	3	2018
Test & Evaluation: Developmental Flight Test: Opertational Flight Test	3	2018	1	2019
Test & Evaluation: Developmental Flight Test: Flying Qualities Evaluation Test Phase 1 & 2	3	2014	4	2014
E-2D Counter Electronic Attack				
System Development: Software Development: Counter Electronic Attack - SW Development	1	2014	1	2017
System Development: Software Development: Counter Electronic Attack - SIL Integration	2	2017	3	2018
System Development: Software Development: Counter Electronic Attack Increment 2 - SW Development	1	2020	4	2020
System Development: Software Development: Counter Electronic Attack - System Requirements Review	2	2016	2	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
System Development: Software Development: Counter Electronic Attack - Preliminary Design Review	4	2016	4	2016
System Development: Software Development: Counter Electronic Attack - Critcial Design Review	3	2017	3	2017
System Development: Software Development: Counter Electronic Attack - TRR/FRR	3	2018	3	2018
Test & Evaluation: Developmental T&E: Counter Electronic Attack - DT&E Tech Evaluation	1	2020	2	2020
Test & Evaluation: Operational T&E: Counter Electronic Attack - OT&E	4	2020	4	2020
E-2D MIDS/JTRS Tactical Targeting Networking Technology (TTNT)				
System Development & Design: MIDS/JTRS CMN-4 Integration: TTNT - System Readiness Review	2	2015	2	2015
System Development & Design: MIDS/JTRS CMN-4 Integration: TTNT - Preliminary Design Review	4	2015	4	2015
System Development & Design: MIDS/JTRS CMN-4 Integration: TTNT - Critical Design Review	2	2016	2	2016
System Development & Design: MIDS/JTRS CMN-4 Integration: TTNT -Test Readiness Review	4	2016	4	2016
System Development & Design: MIDS/JTRS CMN-4 Integration: E-2D TTNT MIDS/ JTRS Integration	1	2015	3	2017
System Development & Design: TTNT HPA Development & Design: TTNT - System Readiness Review	1	2015	1	2015
System Development & Design: TTNT HPA Development & Design: TTNT High Power Amplifier Preliminary Design Review	3	2015	3	2015
System Development & Design: TTNT HPA Development & Design: TTNT High Power Amplifier Critical Design Review	2	2016	2	2016
System Development & Design: TTNT HPA Development & Design: TTNT High Power Amplifier Test Readiness Review	3	2016	3	2016
System Development & Design: TTNT HPA Development & Design: TTNT Hight Power Amplifier Development & Design	1	2015	1	2018

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT - System Readiness Review	1	2016	1	2016
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT - Preliminary Design Review	2	2016	2	2016
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT - Critical Design Review	4	2016	4	2016
System Development & Design: TTNT MIDS/JTRS TTNT Integration: TTNT -Test Readiness Review	3	2017	3	2017
System Development & Design: TTNT MIDS/JTRS TTNT Integration: E-2D MIDS/ JTRS/TTNT Integration	3	2015	4	2018
Test & Evaluation: MIDS/JTRS CMN-4 Developmental Test/Operational Test: Developmental Test	2	2016	3	2016
Test & Evaluation: MIDS/JTRS TTNT Developmental Test/Operational Test: Developmental Test - Operational Test	3	2018	4	2019
Test & Evaluation: MIDS/JTRS TTNT Developmental Test/Operational Test: MIDS/ JTRS/TTNT - Developmental Test	4	2017	1	2018
E-2D SIPRChat				
Acquisition Milestones: Milestones: SIPRChat - Preliminary Design Review	2	2015	2	2015
Acquisition Milestones: Milestones: SIPRChat - Critical Design Review	3	2015	3	2015
Acquisition Milestones: Milestones: SIPRChat -Test Readiness Review	3	2016	3	2016
System Development: Software Development: E-2D SIPRChat Aircraft Integration	2	2015	4	2018
System Development: Software Development: Router Development & Design	3	2014	4	2017
System Development: Software Development: Software Integration	2	2015	4	2018
Test & Evaluation: Developmental Test/Operational Test: Developmental Test	3	2017	1	2018
Test & Evaluation: Developmental Test/Operational Test: DT With DSSC - 4	4	2018	1	2019
Test & Evaluation: Developmental Test/Operational Test: FOT&E With DSSC - 4	3	2019	4	2019
Trainers: Trainer Development: SIPRChat Trainer Design & Developo WST 1	1	2018	1	2020
Advanced Mid-Term Interoperability Improvement Program (AMIIP)				

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Milestones: Milestones: System Readiness Review	2	2015	2	2015
Acquisition Milestones: Milestones: Preliminary Design Review	4	2015	4	2015
Acquisition Milestones: Milestones: Critical Design Review	2	2016	2	2016
Systems Development: Software Development: Systems Engineering	3	2014	4	2018
Systems Development: Software Development: Systems Development	3	2014	4	2018
Systems Development: Software Development: Software Integration	2	2015	4	2016
Systems Development: Software Development: System Integration Lab Integration	4	2015	1	2017
Test & Evaluation: Technical Evaluation: Functional Test	3	2016	3	2016
Test & Evaluation: Technical Evaluation: Flight Test	2	2016	3	2017
Test & Evaluation: Technical Evaluation: Performance Evaluation Test II	4	2017	4	2017
Sensor Netting				
Acquisition Milestones: System Readiness Review	4	2016	4	2016
Acquisition Milestones: Preliminary Design Review	2	2017	2	2017
Acquisition Milestones: Critical Design Review	1	2018	1	2018
Acquisition Milestones: Test Readiness Review	4	2019	4	2019
Development & Design: Software Development	2	2016	1	2020
Test & Evaluaiton: Developmental Test & Evaluaiton	4	2019	4	2020
Data Fusion				
Acquisition Milestones: Preliminary Design Review	2	2017	2	2017
Acquisition Milestones: Critical Design Review	1	2018	1	2018
Acquisition Milestones: Test Readiness Review	3	2018	3	2018
Development & Design: Systems Engineering & Integration	3	2016	2	2019
Development & Design: System Integration Lab Test	1	2018	2	2018
Test & Evaluation: Developmental Testing	4	2018	4	2018
Test & Evaluation: Operational Testing	1	2019	2	2019
Fighter to Fighter				

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Milestones: Preliminary Design Review	1	2017	1	2017
Acquisition Milestones: Critical Design Review	3	2017	3	2017
Acquisition Milestones: Test Readiness Review	2	2018	2	2018
Development & Design: Software Development	3	2016	3	2019
Development & Design: SIL	3	2017	2	2018
Test & Evaluation: Developmental Test & Evaluation	2	2018	4	2018
Test & Evaluation: Software Release	3	2019	3	2019
Test & Evaluation: Operational Test & Evaluation	1	2019	2	2019
NAVWAR				
Acquisition Milestones: System Readiness Review	3	2016	3	2016
Acquisition Milestones: Preliminary Design Review	4	2016	4	2016
Acquisition Milestones: Critical Design Review	2	2017	2	2017
Acquisition Milestones: Test Readiness Review	2	2018	2	2018
Development & Design: Systems Engineering & Integration	2	2016	2	2019
Development & Design: Hardware Development	4	2016	3	2017
Development & Design: Software Modification	1	2017	3	2017
Development & Design: System Integration Lab Test	3	2017	1	2018
Development & Design: Test & Evaluation: Developmental Test	2	2018	4	2018
Development & Design: Test & Evaluation: Operational Testing	1	2019	1	2019
J11 Message				
Acquisition Milestones: System Readiness Review	4	2016	4	2016
Acquisition Milestones: Preliminary Design Review	2	2017	2	2017
Acquisition Milestones: Critical Design Review	1	2018	1	2018
Acquisition Milestones: Operational Test Readiness Review	1	2020	1	2020
Development & Design: E-2D Integration	3	2016	2	2020
Development & Design: Software Integration	4	2016	2	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604234N / *Advanced Hawkeye*	**Project (Number/Name)** 3051 / *E-2D Adv Hawkeye*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Test & Evaluation: Validation	2	2019	2	2019
Test & Evaluation: Developmental Test/Operational Test	3	2019	2	2020
SPARQ				
Acquisition Milestones: System Readiness Review	4	2016	4	2016
Acquisition Milestones: Preliminary Design Review	2	2017	2	2017
Acquisition Milestones: Critical Design Review	1	2018	1	2018
Acquisition Milestones: Opeational Test Readiness Review	4	2019	4	2019
Development & Design: Systems Integration	3	2016	1	2020
Development & Design: Software Integration	4	2016	1	2020
Test & Evaluation: Validation	1	2019	1	2019
Test & Evaluation: Developmental Test/Operational Test	2	2019	1	2020
Test & Evaluation: DSSC 5 Fleet Software Release	1	2020	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604245N *I H-1 Upgrades*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	48.994	44.115	27.235	-	27.235	27.020	28.277	29.457	30.160	Continuing	Continuing
3359: *H-1 Improvements*	0.000	48.994	44.115	27.235	-	27.235	27.020	28.277	29.457	30.160	Continuing	Continuing

A. Mission Description and Budget Item Justification

The mission of the AH-1 attack helicopter is to provide rotary wing close air support, anti-armor, armed escort, armed/visual reconnaissance, survivability enhancements, and fire support coordination capabilities under day/night and adverse weather conditions. The mission of the UH-1 utility helicopter is to provide command and control and combat assault support under day/night and adverse weather conditions and special operations support; supporting arms coordination and aeromedical evacuation. Major modifications for both aircraft include 37 AH-1Ws converted to AH-1Zs, build 152 new AH-1Zs, remanufacture ten (10) H-1N helicopters and build 150 new UH-1Y models. AH-1Z and UH-1Y models include a 4-bladed, composite rotor system with semi-automatic bladefold, performance-matched transmissions, T700 Engine Digital Electronic Control Units, 4-bladed tail rotors and drive systems, more effective stabilizers, upgraded landing gear, and common, fully integrated cockpits and avionics systems. These upgrades will add 10,000 flight hours to AH-1Z/UH-1Y airframes. The fully integrated cockpits reduce operator workload and improve situational awareness, thus increasing safety and reducing the rate of aircraft attrition. They will provide considerable growth potential for future weapon systems and avionics, which will significantly increase mission effectiveness and survivability. The cockpits will also include integration of onboard mission planning, communications, digital fire control, self-navigation, night navigation/targeting, air-to-ground missile and air-launched intercept missile weapon systems management in nearly identical crew stations, which significantly reduces training requirements. These upgrades maximize commonality between the two aircraft and provide needed improvements in crew and passenger survivability, payload, power available, endurance, range, airspeed, maneuverability and supportability.

Follow-on improvements for H-1 aircraft sensors and weapons integration, avionics, and air vehicle components will address deficiencies, systems safety, obsolescence, reliability, supportability and cost growth issues. Improvements will include all associated System Configuration Set (SCS) updates as well as integration and testing related to the aircraft platforms.

B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	47.123	44.115	27.433	-	27.433
Current President's Budget	48.994	44.115	27.235	-	27.235
Total Adjustments	1.871	-	-0.198	-	-0.198
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.466	-			
• SBIR/STTR Transfer	-0.595	-			
• Rate/Misc Adjustments	-	-	-0.198	-	-0.198

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604245N *I H-1 Upgrades*

Change Summary Explanation

Technical: Beginning in FY 2016, technical content of fleet-driven corrections of deficiencies and increased capabilities will be scaled to the reduced budget.

Schedule: SCS 7.0, SCS 8.1, and SCS 8.2 deliveries extended to accommodate reduced budget profile. DT and OT extended to FY20 to allow for planned future test efforts including development & testing of upgrades to avionics, air vehicle, sensors & weapons, and system configuration set improvements.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604245N / *H-1 Upgrades*	Project (Number/Name) 3359 / *H-1 Improvements*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3359: *H-1 Improvements*	-	48.994	44.115	27.235	-	27.235	27.020	28.277	29.457	30.160	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The objective of H-1 Improvements is to provide follow-on Research, Development, Test and Evaluation efforts in support of all H-1 aircraft.

H-1 Improvements include System Configuration Set (SCS) development and testing. SCS involves the integration of the entire set of airborne electronics connected via the 1553 data bus and includes much of the electronic hardware and software described in air vehicle, avionics, and sensors and weapons below. This includes correction of hardware and software deficiencies as identified through test and/or due to obsolescence issues.

Air Vehicle and Engine improvements include analysis of structural data to formulate Damage Limits and Tolerances for structural components to reduce life cycle costs and maintenance workload; and redesign of structural components and drive system components to minimize excessive and premature wear, increase reliability, and improve existing design deficiencies. Additional air vehicle upgrades include: redesign of the aircraft power-generating components (generators, inverters, wiring) to support power requirements for existing and future systems (avionics, sensors, and weapons) and to reduce aircraft weight, redesign of the Environmental Control System /Thermal Redesign to support cooling of Technology Refresh Mission Computer and other avionics, and redesign to add an aerial refueling capability.

Avionics improvements target digital inter-operability, integrated avionics, safety & survivability, and situational awareness for both the pilot and aircrew safety. This includes integrating Blue Force Tracking, Joint Battle Command-Platform (JBC-P), Full Motion Video (FMV), Degraded Visual Environment (DVE), Helmet Mounted Display improvements, cockpit displays, precision and GPS non-precision landing capability, Crash Survivable Flight Incident Recorder, collision avoidance, improved Embedded Global Positioning System (EGI), Inertial Navigation System (INS), targeting sensor systems and mission computer. H-1 capability improvements include improved Aircraft Survivability Equipment (ASE), digital operations & transfer of data, digital interoperability, digital video recording, video and data networking, and information integration with aviation combat elements and Marine Air Ground Task Force elements. Mandated capability efforts include CNS/ATM, Required Navigation Performance/Area Navigation (RNP/RNAV), GPS Selective Availability Anti-Spoofing Module (SAASM), Automatic Dependent Surveillance - Broadcast (ADS-B), Crash Survivable Flight Incident Recorder, development efforts required for Depot standup and incorporation of technology and information protection/Information Assurance in critical avionics and sensor systems. In addition, the goal is to reduce total ownership cost for H-1 aircraft and related support systems by improving reliability and maintainability of critical flight and avionics systems along with associated peculiar avionics support equipment and incorporating fact-of-life obsolescence solutions.

Sensors and Weapons improvements include upgrades and reliability initiatives, hardware and infrared improvements for the Targeting Sight System and BRITE Star Sensors. These enhancements will provide upgraded performance, improve overall design, producibility and maintainability. In addition, several aircraft stores integration efforts are being performed. The AN/ALQ-231 (V) Intrepid Tiger II Electronic Warfare Pod will be integrated to provide a new Electronic Warfare capability. The Joint Air-to-Ground Missile (JAGM) and AGM-114 Romeo Hellfire missiles began integration efforts starting in FY14. These missiles will provide new interfaces to the aircraft that allow for better targeting capabilities with a new millimeter wave sensor (JAGM), provide enhanced lethality with greater fuze functionality and incorporate a new multi-effects warhead. Continued improvements to aircraft armament systems and ordnance systems will continue with additional operational testing of Advanced Precision Kill Weapons (APKWS), and M299 Launcher improvements.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604245N / *H-1 Upgrades*	**Project (Number/Name)** 3359 / *H-1 Improvements*

These improvements will provide considerable growth potential for future weapon systems, air vehicle improvements, software improvements, and avionics upgrades, which will significantly increase mission effectiveness & survivability, while potentially reducing life cycle costs. The cockpits will also include integration of onboard mission planning, communications, digital fire control, self-navigation, night navigation/targeting, precision guided munitions, and air-launched intercept missile weapon systems management in nearly identical crew stations, which significantly reduce training requirements. These upgrades maximize commonality between all H-1 Type/Model/Series aircraft and provide needed improvements in crew and passenger reliability, survivability, payload, power available, endurance, range, airspeed, maneuverability and supportability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: System Configuration Set Development	24.761	19.838	17.272	-	17.272
Articles:	-	-	-	-	-
FY 2014 Accomplishments: SCS 8.0- continue requirements definition and completion of design/development process. Correction of hardware and software correction of deficiencies as identified through test and/or due to obsolescence issues.					
FY 2015 Plans: FY 2015 plans - SCS 8.0 - Correction of hardware and software deficiencies as identified through test and/or due to obsolescence issues. SCS 8.0 is planned in two increments, SCS 8.1 and SCS 8.2, and will address key avionics and sensors obsolescence issues that affect Aircraft Production Lots. SCS 8.1 will continue development and flight test of Tech Refresh Mission Computer (avionics obsolescence issue required to support delivery of production aircraft beginning with Lot 11/FY 2014), Target Sight System (TSS) Turret Electronics Unit (TEU) (electro-optical sensor obsolescence issue required to support production aircraft beginning with Lot 13/ FY 2016), and the associated System Security Engineering (SSE) improvements required as DoD mandates for both updated avionics and updated sensor electronics. SCS 8.2 will continue the design and development of Radar Warning Set AN/APR-39 D(V)2 (sensor/avionics obsolescence issue required to support Lot 14/FY 2017), the Advanced Data Transfer System (ADTS) needed for digital map data to meet Terrain Awareness Warning System (TAWS) mandate, and Airborne Network Switch (ANS) needed to switch multiple devices to communicate with the TRMC via ethernet.					
FY 2016 Base Plans: SCS 8.1 development completion. Continue SCS 8.2 with the design and development of Radar Warning Set AN/APR-39 D(V)2 (sensor/avionics) to correct obsolescence issue required to support Lot 14/FY 2017. Integrate the Advanced Data Transfer System (ADTS) needed for digital map data to meet Terrain Awareness Warning System (TAWS) mandate, and Airborne Network Switch (ANS) needed to switch multiple devices to communicate with the Tech Refresh Mission Computer (TRMC) via Ethernet. Integrate and test AN/ALE-47					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Dispensing System software updgrades to increase the survivability of platforms against Infrared (IR) threats. Integrate Target Sight System (TSS) Laser Spot Tracker (LST) to increase platform target acquisition capability. Complete Developmental Test (DT) and Operation Testing (OT) for SCS 8.2. ***FY 2016 OCO Plans:*** N/A					
Title: Weapons and Sensors Testing and Integration	6.192	6.105	2.989	-	2.989
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continue Target Sight System turret test and evaluation for hardware and infrared improvement efforts; initiate aircraft stores development, integration, and testing efforts including Advanced Precision Kill Weapon System, the M299A1 launcher, and Air-Launched Intercept Missiles on the AH-1Z. ***FY 2015 Plans:*** Develop, test and integrate hardware, software changes to address parts obsolescence and deficiencies identified in test for aircraft sensors; Target Sight Systems (TSS) and the BRITE Star II. Begin software integration of Joint Air to Ground Missile and AGM-114 Romeo Missile to test functionality and compatibility with aircraft software. Collect flight test data, to include captive carriage noise and vibration as well conduct safe separation analysis. Continue to refine rocket boresight and launch profiles to improve effectively of the Advanced Precision Kill System (APKWS). Conduct captive carriage and development/operational testing of the AN/ALQ-231 Intrepid Tiger, to include conducting feasibility studies as well as operational evaluations. ***FY 2016 Base Plans:*** Flight testing of TSS Laser Spot Tracker/HDTV/1K FLIR Software and Hardware improvements as well as begin conducting captive carriage and development testing of the Joint Air-to-Ground Missile as part of SCS 8.2 or later version. ***FY 2016 OCO Plans:*** N/A					
Title: Air Vehicle and Engines Improvements	15.356	15.455	2.989	-	2.989
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Initiate redesign of structural components including UH-1Y floor boards attach beams/belly access panels, the elevator, the landing gear skid tubes, UH-1Y cargo doors, and the Improved Defensive Armament System;					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604245N / *H-1 Upgrades*	**Project (Number/Name)** 3359 / *H-1 Improvements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Environmental Control System/Thermal Redesign to support cooling of Tech Refresh Mission Computer (TRMC)/Mission Computer (MC); redesign of the aircraft power generating components (generator, inverters, wiring) to support power requirements for existing and future system (avionics, sensors and weapons) and to reduce aircraft weight; and redesign of the environmental control system for cooling of the TRMC/MC, and redesign of the drive system components to increase reliability and reduce high cost and/or failure deficiencies. ***FY 2015 Plans:*** Complete aircraft flight load survey and conduct analysis of structural data to formulate Damage Limits and Tolerances for rotor components to reduce life cycle costs, and maintenance workload; continue redesign of structural components to minimize excessive and premature wear, increase reliability, and improve existing design deficiencies. Initiate redesign of the auxiliary fuel system, and initiate aerial refueling capability. Initiate component fatigue testing to increase component life limits (Tailboom, rotor system components). Continue air vehicle and engine improvements upgrades to include redesign of the aircraft power-generating components (generator, inverters, wiring) to support power requirements for existing and future systems (avionics, sensors and weapons) and to reduce aircraft weight. Continue redesign of structural components including UH-1Y floor boards, attach beams/belly access panels, the elevator, the landing gear skid tubes, UH-1Y cargo doors, and the Improved Defensive Armament System; continue Environmental Control System/Thermal Redesign to support cooling of Tech Refresh Mission Computer/Mission Computer and other avionics. Continue redesign of the drive system components (rotor brake/slip ring/standpipe/gearboxes/drive shaft & couplers/chip detectors) to increase reliability and reduce high cost and/or failure deficiencies. ***FY 2016 Base Plans:*** Continue redesign of structural components to minimize excessive and premature wear, increase reliability, and improve existing design deficiencies. Initiate redesign of the auxiliary fuel system, and initiate aerial refueling capability. Continue air vehicle and engine improvements upgrades to include redesign of the aircraft power-generating components (generator, inverters, wiring) to support power requirements for existing and future systems (avionics, sensors and weapons) and to reduce aircraft weight. Continue Environmental Control System/Thermal Redesign to support other avionics on the UH-1Y/AH-1Z. ***FY 2016 OCO Plans:*** N/A					
Title: Avionics Improvements	2.685	2.717	3.985	-	3.985
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue avionics development & testing on Digital Map and data storage capability, avionics components obsolescence and regression testing begun in 2279; initiate development efforts on Terrain Awareness Warning System, which determines whether there is high risk of controlled flight into terrain in support of the Ground Proximity Warning System. Continue Full Motion Video design/development and digital interoperability efforts. ***FY 2015 Plans:*** Continue avionics development & testing on Digital Map and data storage capability, digital video recording, digital systems upgrades, avionics components obsolescence and regression testing; continue development efforts on Terrain Awareness Warning System. Continue enhanced digital capability efforts, Aircraft Survivability Equipment (ASE) improvements, Helmet Mounted Display improvements, avionics systems obsolescence mitigation efforts, development of peculiar avionics support equipment, and development of automatic test equipment. Continue Full Motion Video design/development and digital interoperability efforts to receive and send video imagery for situational awareness and to reduce the kill chain while complying with rules of engagement for targeting accuracy, maintaining positive ID, and for timely Battle Damage Assessment. ***FY 2016 Base Plans:*** Continue avionics development & testing on Digital Map and data storage capabilities, digital video recording, avionics components obsolescence and regression testing; continue development efforts on Terrain Awareness Warning System (TAWS). Continue enhanced digital capability efforts, Aircraft Survivability Equipment (ASE) improvements, Helmet Mounted Display improvements, avionics systems obsolescence mitigation efforts, development of peculiar avionics support equipment, and development of automatic test equipment. Continue Full Motion Video (FMV) design/development and digital interoperability efforts. Initiate development efforts on Wireless Intercommunication Systems (WICS), Joint Battlefield Command - Platform (JBC-P), Mobile User Objective System (MUOS) for over the horizon communication, Degraded Visual Environment and collision avoidance capability. Initiate Embedded Global Positioning System/Inertial Navigation System (EGI) upgrade for Aircraft Dependent Surveillance Broadcast (ADS-B), Selective Availability Anti-Spoofing Module (SAASM), GPS non-precision approach capability and Navigation Warfare (NAVWAR) GPS signal protection efforts. Also initiate UH-1Y aft cabin display for situational awareness and portable tablet Marine Air-Ground Task Force (MAGTF) digital interoperability coordination capability along with digital helmet mounted display capabilities. Initiate integration of Crash Survivable Flight Incident Recorder and Improved Vehicle Health and Monitoring System. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	48.994	44.115	27.235	-	27.235

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604245N / *H-1 Upgrades*	**Project (Number/Name)** 3359 / *H-1 Improvements*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/017800: *UH-1Y/AH-1Z APN1*	600.617	839.057	800.057	-	800.057	860.485	841.163	921.532	16.889	-	4,879.800
• APN/01780C: *UH-1Y/AH-1Z APN1 Advance Procurement*	60.000	63.354	56.168	-	56.168	57.232	58.324	-	-	-	295.078

Remarks

D. Acquisition Strategy

Both UH-1Y and AH-1Z are currently in the follow-on test and evaluation period. Planning and testing has begun to evaluate enhancements such as incorporating improvements to address critical reliability deficiencies, avionics upgrades to improve existing capability including sending/receiving data in battlefield conditions, additional weapons and sensor capabilities, and Engineering Change Proposals as they are funded and approved. Test and Evaluation Master Plan revisions will be developed in support of testing for future enhancements. Future engineering changes will be funded to correct deficiencies as identified by test and fleet usage. Additional upgrades to the aircraft will be completed incrementally as requirements are defined and funded.

E. Performance Metrics

System Configuration Set (SCS) 7.0 software delivery 3Q FY 2015. SCS 8.1 software delivery 4Q FY 2016. SCS 8.2 software delivery 1Q FY 2019. Successfully complete Developmental Test and Operational Test for H-1 Improvements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604245N / *H-1 Upgrades*	Project (Number/Name) 3359 / *H-1 Improvements*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPFF	BHTI : Amarillo, TX	0.000	8.866	Jan 2014	6.906	Jan 2015	1.237	Jan 2016	-		1.237	11.767	28.776	28.776
Primary Hardware Development	SS/CPFF	Northrup Grumman : Woodland Hills, CA	0.000	-		2.066	Nov 2014	0.648	Nov 2015	-		0.648	-	2.714	2.714
Systems Engineering	WR	NAWCAD : Patuxent River, MD	0.000	0.951	Nov 2013	0.962	Nov 2014	0.519	Nov 2015	-		0.519	2.142	4.574	-
		Subtotal	0.000	9.817		9.934		2.404		-		2.404	13.909	36.064	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	SS/CPFF	BHTI : Amarillo, TX	0.000	13.941	Feb 2014	6.257	Feb 2015	8.198	Feb 2016	-		8.198	32.313	60.709	60.709
Software Development	SS/FP	Northrup Grumman : Woodland Hills, CA	0.000	-		3.201	Nov 2014	1.814	Nov 2015	-		1.814	7.356	12.371	12.371
Software Development	WR	NAWCWD : China Lake, CA	0.000	11.885	Nov 2013	10.406	Nov 2014	7.359	Nov 2015	-		7.359	29.862	59.512	-
		Subtotal	0.000	25.826		19.864		17.371		-		17.371	69.531	132.592	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test and Evaluation	WR	COMOPTEVFOR : Norfolk, VA	0.000	2.163	Nov 2013	2.189	Nov 2014	0.802	Nov 2015	-		0.802	3.280	8.434	-
Development Test and Evaluation	WR	NAWCAD : Patuxent River, MD	0.000	9.990	Nov 2013	10.712	Nov 2014	5.418	Nov 2015	-		5.418	22.756	48.876	-
		Subtotal	0.000	12.153		12.901		6.220		-		6.220	26.036	57.310	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604245N / *H-1 Upgrades*	**Project (Number/Name)** 3359 / *H-1 Improvements*

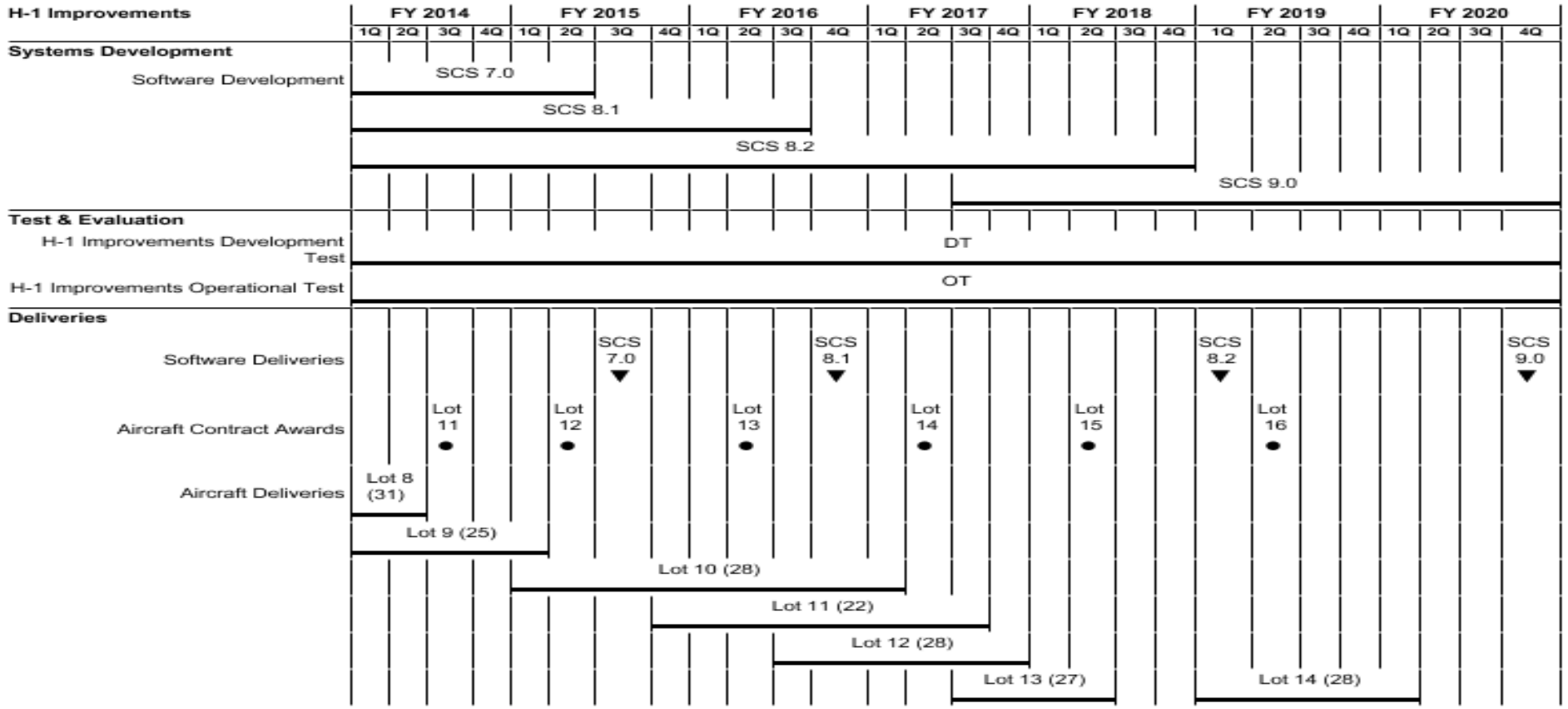
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	0.000	0.318	Nov 2013	0.322	Nov 2014	0.326	Nov 2015	-		0.326	1.343	2.309	2.309
Program Management Support	Various	Various : Various	0.000	0.671	Nov 2013	0.894	Nov 2014	0.679	Nov 2015	-		0.679	2.799	5.043	-
Travel	WR	NAVAIR : Patuxent River, MD	0.000	0.209	Oct 2013	0.200	Oct 2014	0.235	Oct 2015	-		0.235	Continuing	Continuing	Continuing
		Subtotal	0.000	1.198		1.416		1.240		-		1.240	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	48.994		44.115		27.235		-		27.235	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604245N / *H-1 Upgrades*	**Project (Number/Name)** 3359 / *H-1 Improvements*



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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604245N / *H-1 Upgrades*	**Project (Number/Name)** 3359 / *H-1 Improvements*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
H-1 Improvements				
Systems Development: Software Development: SCS 7.0 Software Development	1	2014	2	2015
Systems Development: Software Development: SCS 8.1 Software Development	1	2014	3	2016
Systems Development: Software Development: SCS 8.2 Software Development	1	2014	4	2018
Systems Development: Software Development: SCS 9.0 Software Development	3	2017	4	2020
Test & Evaluation: H-1 Improvements Development Test: H-1 Improvements Development Test	1	2014	4	2020
Test & Evaluation: H-1 Improvements Operational Test: H-1 Improvements Operational Test	1	2014	4	2020
Deliveries: Software Deliveries: SCS 7.0	3	2015	3	2015
Deliveries: Software Deliveries: SCS 8.1	4	2016	4	2016
Deliveries: Software Deliveries: SCS 8.2	1	2019	1	2019
Deliveries: Software Deliveries: SCS 9.0	4	2020	4	2020
Deliveries: Aircraft Contract Awards: Lot 11	3	2014	3	2014
Deliveries: Aircraft Contract Awards: Lot 12	2	2015	2	2015
Deliveries: Aircraft Contract Awards: Lot 13	2	2016	2	2016
Deliveries: Aircraft Contract Awards: Lot 14	2	2017	2	2017
Deliveries: Aircraft Contract Awards: Lot 15	2	2018	2	2018
Deliveries: Aircraft Contract Awards: Lot 16	2	2019	2	2019
Deliveries: Aircraft Deliveries: Lot 8 FRP Y + Z	1	2014	2	2014
Deliveries: Aircraft Deliveries: Lot 9 FRP Y + Z	1	2014	1	2015
Deliveries: Aircraft Deliveries: Lot 10 FRP Y + Z	1	2015	1	2017
Deliveries: Aircraft Deliveries: Lot 11 FRP Y + Z	4	2015	3	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Deliveries: Aircraft Deliveries: Lot 12 FRP Y + Z	3	2016	4	2017
Deliveries: Aircraft Deliveries: Lot 13 FRP Y + Z	3	2017	2	2018
Deliveries: Aircraft Deliveries: Lot 14 FRP Y + Z	1	2019	1	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604261N *I Acoustic Search Sensors*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	403.529	28.344	23.214	35.763	-	35.763	38.014	39.077	30.686	51.089	Continuing	Continuing
0480: *ASW Sensors & Proc*	316.257	18.098	15.988	26.906	-	26.906	33.120	35.042	26.562	46.875	Continuing	Continuing
3224: *High Altitude ASW*	87.272	10.246	7.226	8.857	-	8.857	4.894	4.035	4.124	4.214	Continuing	Continuing

A. Mission Description and Budget Item Justification

Includes RDT&E funds for engineering development and operational test and evaluation of acoustic search sensors/systems and complementary equipment for Anti-Submarine Warfare (ASW) aircraft.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	29.195	23.227	22.045	-	22.045
Current President's Budget	28.344	23.214	35.763	-	35.763
Total Adjustments	-0.851	-0.013	13.718	-	13.718
• Congressional General Reductions	-	-0.013			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.047	-			
• SBIR/STTR Transfer	-0.804	-			
• Program Adjustments	-	-	14.000	-	14.000
• Rate/Misc Adjustments	-	-	-0.282	-	-0.282

Change Summary Explanation

Technical: Not applicable.

Schedule:
0480 Schedule 1. Received technical correction for MAC Enhancements (MAC-E) with funding in FY16-FY20. Added MAC-E schedule events accordingly. Additional LRIP procurement added in FY14 (awarded 4Q/14) and FRP delayed to FY15 contract award (1Q/15) to accommodate completion of OPEVAL and beyond LRIP reporting.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604261N *I Acoustic Search Sensors*

0480 Schedule 2. No changes.

3224. Moved P-8A (ECP3) Integration Contract Award from 3Q/14 to 1Q/15 and Digital Telemetry Contract Award from 3Q/18 to 2Q/17 to align with the P-8A integrated master schedule.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / *Acoustic Search Sensors*	Project (Number/Name) 0480 / *ASW Sensors & Proc*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0480: *ASW Sensors & Proc*	316.257	18.098	15.988	26.906	-	26.906	33.120	35.042	26.562	46.875	Continuing	Continuing
Quantity of RDT&E Articles		75	200	200	-	200	200	75	100	100		

A. Mission Description and Budget Item Justification

The Anti-Submarine Warfare (ASW) Sensors and Processing project provides the tools and methods necessary to maintain naval superiority by preventing threat submarines from disrupting the U.S. Navy's ability to control the sea lines of communication and completing their hostile missions. This project encompasses the Engineering & Manufacturing Development phase and the follow on Production and Deployment Phase of sensor systems to improve the mission effectiveness of airborne ASW platforms in cueing, searching, localizing, tracking, and attacking subsurface targets. Smaller and quieter threat submarines drive the requirement for continued advancement in ASW sensor capabilities for both blue water and littoral environments. The littoral regions of the world create an additional ASW challenge to overcome the increase in background clutter caused by the shallow water depth, high volume of shipping, and commercial radio frequency interference. Project 0480 provides funding to the multi-static active ASW family of systems for the engineering development of solutions that detect, classify, and track threat submarines. The Multi-Static Active Coherent (MAC) program encompasses modifications to the active coherent (electronic) source sonobuoy and the Air Deployable Active Receiver sonobuoy and development, integration, and test of aircraft software. It also provides upgrades to the Multi-static mission planning tool, the tactical crew trainers and the tactical ground replay system. This program includes MAC Enhancements that will shorten the ASW kill chain by enabling the warfighter to search larger areas in less time with more precision. Project 0480 also provides funding for the Advanced Processing Builds (APB) program which provides software enhancements for signal processing improvements, clutter reduction, automation, improved displays and controls, as well as improved communication links for reduced operator workload resulting in increased target detection and classification capabilities and interoperability. APB also includes an Air ASW Engineering Measurement Program that collects ASW system data and identifies areas where beneficial improvements can be made and provides common software and hardware solutions across all Air ASW platforms. The sonobuoy test articles in FY14-FY20 will support software and hardware integration flight tests and Technical Evaluation/Follow-On Test & Evaluation for the MAC program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: APB System Qualification Test/Fleet Release for P-3C. Rapid Capability Insertion (RCI)/Fleet Release for P-8A	6.959	12.114	12.906	-	12.906
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued software development/integration for APB(3). Released APB(2) software to Fleet. Conducted APB(3) SQT and prepared software for Fleet release. Commenced system Fleet Introduction Training.					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 0480 / *ASW Sensors & Proc*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Release APB(3) software to Fleet. Final APB release for P-3. Commence software development/Engineering Measurement Program (EMP) for P-8A RCI(2). Continue system Fleet Introduction Training. ***FY 2016 Base Plans:*** Continue software development/Engineering Measurement Program (EMP) for P-8A RCI (2). Continue system Fleet Introduction Training. ***FY 2016 OCO Plans:*** N/A					
Title: Multi-static Active Coherent (MAC)	11.139	3.874	14.000	-	14.000
Articles:	75	200	200	-	200
FY 2014 Accomplishments: Completed OT and released MAC software to Fleet. Delivered software for FOT&E. Conducted decision brief for limited initial rate production on SSQ-125. Completed FOT&E. Continued SSQ-125A ECP effort to increase source level. ***FY 2015 Plans:*** Continue SSQ-125A ECP. Commence SSQ-125A EDM production to support ECP test. ***FY 2016 Base Plans:*** Deliver SSQ-125A EDM units in 1Q/2Q. Complete Hardware development and ECP testing. Commence MAC-E Software development. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	18.098	15.988	26.906	-	26.906

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/4048: *Sonobuoys - All Types*	41.101	54.719	32.298	-	32.298	37.266	47.508	48.458	47.074	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 0480 / *ASW Sensors & Proc*

D. Acquisition Strategy

To develop and integrate MAC into the P-3C and P-8A Aircraft using coherent source technology. Sole source contracts have been awarded for Sensor Development (ERAPSCO) and for Displays and Control and Integration on P-3C aircraft (Lockheed Martin) and P-8A aircraft (Boeing).

E. Performance Metrics

Develop and test a MAC coherent source and related software that will satisfy the Multi-static Active wide area ASW search requirement.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / *Acoustic Search Sensors*	Project (Number/Name) 0480 / *ASW Sensors & Proc*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Development	SS/CPIF	ERAPSCO : FT. WAYNE IN	8.758	4.791	Dec 2013	2.547	Dec 2014	2.500	Dec 2015	-		2.500	17.500	36.096	36.096
Prior year Prod Dev no longer funded in the FYDP	Various	VARIOUS : VARIOUS	19.905	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	28.663	4.791		2.547		2.500		-		2.500	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	WR	NAWCAD : PATUXENT RIVER, MD	21.204	1.000	Nov 2013	1.000	Nov 2014	4.797	Dec 2015	-		4.797	Continuing	Continuing	Continuing
Software Development	SS/CPIF	LOCKHEED MARTIN : MANASSAS VA	7.000	1.000	Nov 2013	1.000	Nov 2014	1.273	Dec 2015	-		1.273	3.727	14.000	14.000
Software Development	Various	VARIOUS : VARIOUS	8.788	0.500	Nov 2013	0.500	Nov 2014	2.750	Dec 2015	-		2.750	Continuing	Continuing	Continuing
Studies & Analysis	WR	NAWCAD : PATUXENT RIVER, MD	13.902	0.700	Nov 2013	1.000	Nov 2014	1.469	Dec 2015	-		1.469	Continuing	Continuing	Continuing
Technical Data	WR	NAWCAD : PATUXENT RIVER, MD	15.359	-		-		1.000	Dec 2015	-		1.000	Continuing	Continuing	Continuing
Training	WR	NAWCAD : PATUXENT RIVER, MD	0.000	-		-		1.500	Dec 2015	-		1.500	Continuing	Continuing	Continuing
		Subtotal	66.253	3.200		3.500		12.789		-		12.789	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / *Acoustic Search Sensors*	Project (Number/Name) 0480 / *ASW Sensors & Proc*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Eval	WR	NAWCAD : PATUXENT RIVER, MD	22.458	3.034	Nov 2013	4.051	Nov 2014	3.996	Dec 2015	-		3.996	Continuing	Continuing	Continuing
		Subtotal	22.458	3.034		4.051		3.996		-		3.996	-	-	-

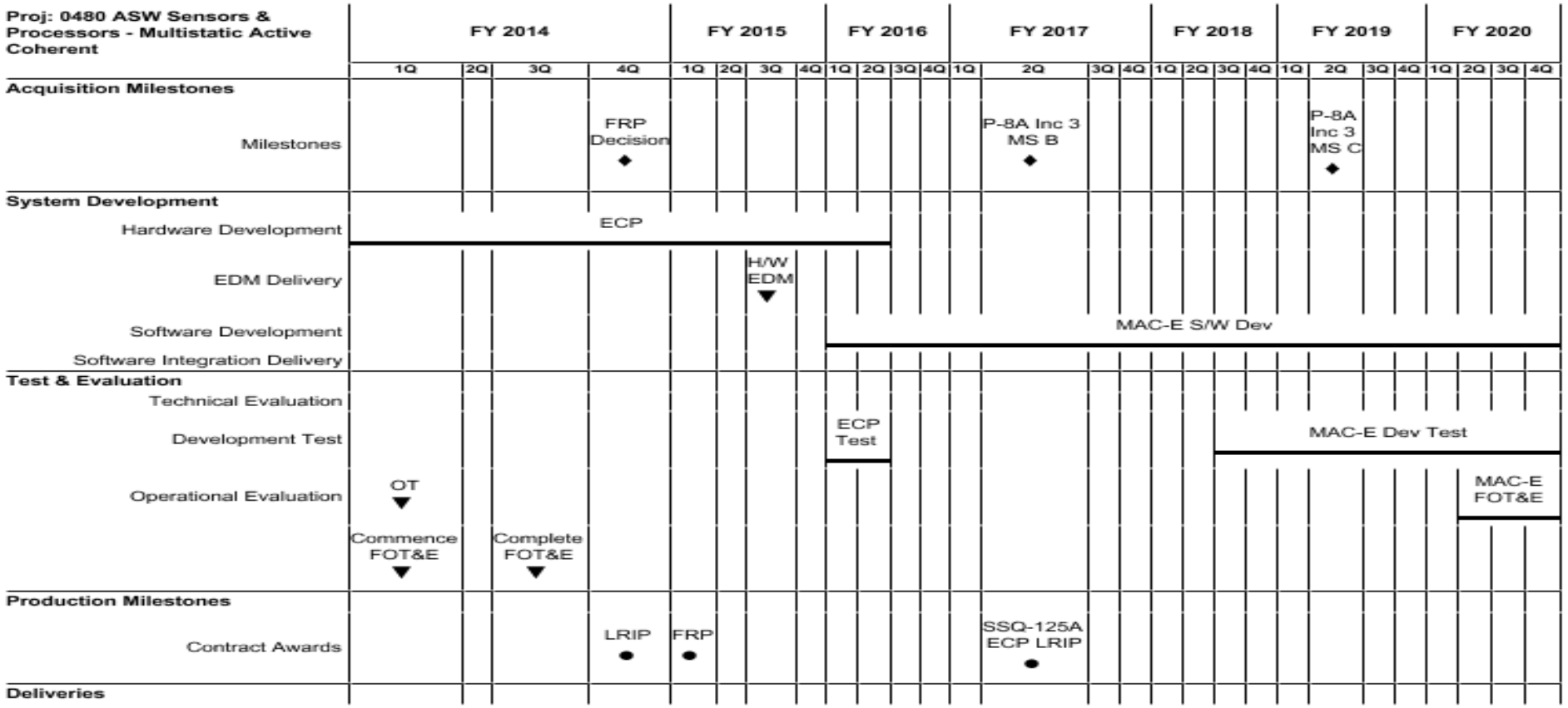
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Eng Spt (APB)	Various	VARIOUS : VARIOUS	36.109	2.500	Nov 2013	1.758	Nov 2014	3.238	Dec 2015	-		3.238	Continuing	Continuing	Continuing
Contractor Eng Spt (APB)	C/CPFF	NAVMAR APPLIED SCIENCES CORP : WARMINSTER, PA	2.837	1.500	Nov 2013	1.190	Nov 2014	1.290	Dec 2015	-		1.290	2.810	9.627	9.627
Government Eng Spt	WR	NAWCAD : PATUXENT RIVER, MD	94.813	1.740	Nov 2013	1.745	Nov 2014	2.005	Dec 2015	-		2.005	Continuing	Continuing	Continuing
Eng & Tech Spt Srvc (NON-FFRDC)	Various	VARIOUS : VARIOUS	54.450	1.121	Nov 2013	1.008	Nov 2014	0.907	Dec 2015	-		0.907	Continuing	Continuing	Continuing
Mgt & Prof SptT Srvc (FFRDC)	Various	VARIOUS : VARIOUS	9.806	0.212	Nov 2013	0.189	Nov 2014	0.181	Dec 2015	-		0.181	Continuing	Continuing	Continuing
Prior Years Mgmt Svcs no longer funded in the FYDP	Various	VARIOUS : VARIOUS	0.868	-		-		-		-		-	-	0.868	-
		Subtotal	198.883	7.073		5.890		7.621		-		7.621	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	316.257	18.098		15.988		26.906		-		26.906	-	-	-

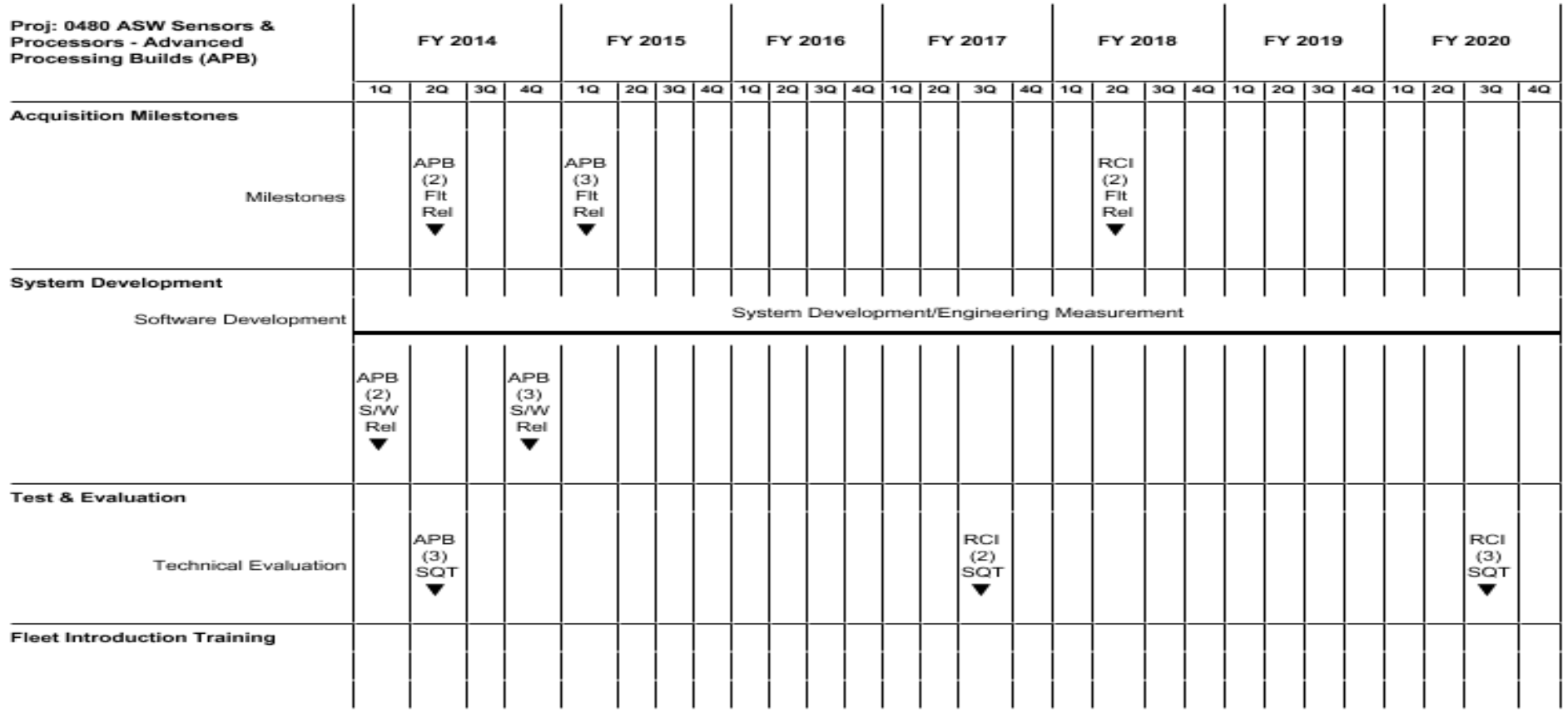
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 0480 / *ASW Sensors & Proc*



2016PB - 0604261N - 0480

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 0480 / *ASW Sensors & Proc*



2016PB - 0604261N - 0480 Transitioning to P8 RCI FY15-FY17

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 0480 / *ASW Sensors & Proc*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj: 0480 ASW Sensors & Processors - Multistatic Active Coherent				
Acquisition Milestones: Milestones: Full Rate Production (FRP) Decision	4	2014	4	2014
Acquisition Milestones: Milestones: P-8A Increment 3 MS B	2	2017	2	2017
Acquisition Milestones: Milestones: P-8A Increment 3 MS C	2	2019	2	2019
System Development: Hardware Development: Engineering Change Proposal	1	2014	2	2016
System Development: EDM Delivery: Eng Dev Model (H/W EDM) 2	3	2015	3	2015
System Development: Software Development: MAC-E Software Development	1	2016	4	2020
Test & Evaluation: Development Test: Engineering Change Proposal Test	1	2016	2	2016
Test & Evaluation: Development Test: MAC-E Development Test	3	2018	4	2020
Test & Evaluation: Operational Evaluation: OT	1	2014	1	2014
Test & Evaluation: Operational Evaluation: MAC-E FOT&E	2	2020	4	2020
Test & Evaluation: Operational Evaluation: Commence FOT&E	1	2014	1	2014
Test & Evaluation: Operational Evaluation: Complete FOT&E	3	2014	3	2014
Production Milestones: Contract Awards: Low Rate Initial Production (LRIP)	4	2014	4	2014
Production Milestones: Contract Awards: Full Rate Production (FRP)	1	2015	1	2015
Production Milestones: Contract Awards: SSQ-125A Engineering Change Proposal LRIP	2	2017	2	2017
Proj: 0480 ASW Sensors & Processors - Advanced Processing Builds (APB)				
Acquisition Milestones: Milestones: APB (2) Fleet Release	2	2014	2	2014
Acquisition Milestones: Milestones: APB (3) Fleet Release	1	2015	1	2015
Acquisition Milestones: Milestones: RCI (2) Fleet Release	2	2018	2	2018
System Development: Software Development: System Development/Engineering Measurement	1	2014	4	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 0480 / *ASW Sensors & Proc*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
System Development: Software Development: APB (2) Software Release	1	2014	1	2014
System Development: Software Development: APB (3) Software Release	4	2014	4	2014
Test & Evaluation: Technical Evaluation: APB (3) SQT	2	2014	2	2014
Test & Evaluation: Technical Evaluation: RCI (2) SQT	3	2017	3	2017
Test & Evaluation: Technical Evaluation: RCI (3) SQT	3	2020	3	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / *Acoustic Search Sensors*	Project (Number/Name) 3224 / *High Altitude ASW*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3224: *High Altitude ASW*	87.272	10.246	7.226	8.857	-	8.857	4.894	4.035	4.124	4.214	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The High Altitude Anti-Submarine Warfare (HAASW) program increases P-8A operational flexibility and effectiveness throughout the kill chain at higher than traditional ASW altitudes. FY10-FY16 activities include Sonobuoy Technology Development (TD), P-8A Aircraft integration, Training, Test & Evaluation, and Initial Operational Capability. TD includes hardware modifications to current production sonobuoys and software development for the aircraft. Global Positioning System (GPS) integration will provide precise sonobuoy location regardless of aircraft altitude/location to enhance wide area ASW search, localization, track and targeting. The digital telemetry will improve sonobuoy communication performance in high Radio Frequency Interference environments, increase Air Deployable Active Receiver (SSQ-101) channel availability, and provide NATO compatibility. FY16-FY19 activities include the integration of an algorithm that will adjust sonobuoy release/drop points for more accurate sonobuoy placement and integrating digital telemetry into the SSQ-53 and SSQ-62.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Provide precision delivery of sonobuoys	10.246	7.226	8.857	-	8.857
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Finalized the HAASW sonobuoy qualification and certification and integrated the ECP into the SSQ-53, SSQ-62, and SSQ-101 sonobuoys. Continue HAASW software development and P-8A Integrated Test (IT).					
FY 2015 Plans: Continued P-8A IT. Initiate P-8A Inc 2 FOT&E.					
FY 2016 Base Plans: Continue P-8A Increment 2 Follow-On Operational Test & Evaluation (FOT&E) and reach Initial Operational Capabilities (IOC).					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	10.246	7.226	8.857	-	8.857

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/4048: *Sonobuoys - All Types*	-	182.946	168.763	-	168.763	171.509	201.086	202.384	206.665	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 3224 / *High Altitude ASW*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

A 15 March 12 Acquisition Decision Memorandum from PEO(A) (Milestone Decision Authority) approved the transition from a planned Acquisition Category (ACAT) Program to a series of Engineering Change Proposal (ECP) modifications to the AN/SSQ-53, AN/SSQ-62 and AN/SSQ-101 sonobuoys. Affordability deferred the digital telemetry requirement in the SSQ-53 and SSQ-62 sonobuoys to FY17-FY19. All major contracts (ERAPSCO & Boeing) to meet P-8A Inc2 ECP2 requirements have been awarded. IOC is planned for P-8A Inc2 ECP2 in FY16. The P-8A Inc2 ECP3 contract award that develops and integrates the GPS drop vector algorithm (GDVA) will be awarded in FY15. P-8A Inc2 ECP3 IOC is planned for FY17.

E. Performance Metrics

Schedule and cost variances are used to track sonobuoy development. Should Cost methodology has also been employed to manage the development and production costs of the HAASW capable sonobuoys.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / *Acoustic Search Sensors*	Project (Number/Name) 3224 / *High Altitude ASW*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Development	SS/CPIF	ERAPSCO : FT. WAYNE IN	30.052	2.654	Nov 2013	-		-		-		-	0.823	33.529	33.529
Primary Hdw Development	TBD	TBD : TBD	0.000	-		-		1.000	Nov 2015	-		1.000	Continuing	Continuing	Continuing
Prior year Prod Dev no longer funded in the FYDP	Various	VARIOUS : VARIOUS	5.863	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	35.915	2.654		-		1.000		-		1.000	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
A/C Software Integration	C/CPFF	BOEING : SEATTLE WA	19.705	3.336	Nov 2013	3.519	Nov 2014	5.385	Nov 2015	-		5.385	2.443	34.388	34.388
Prior year Support cost no longer funded in the FYDP	Various	VARIOUS : VARIOUS	4.861	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	24.566	3.336		3.519		5.385		-		5.385	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Eval	Various	VARIOUS : VARIOUS	2.450	1.362	Nov 2013	1.135	Nov 2014	-		-		-	Continuing	Continuing	Continuing
		Subtotal	2.450	1.362		1.135		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Eng Spt	Various	VARIOUS : VARIOUS	2.176	0.723	Nov 2013	0.700	Nov 2014	0.135	Nov 2015	-		0.135	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / *Acoustic Search Sensors*	Project (Number/Name) 3224 / *High Altitude ASW*	

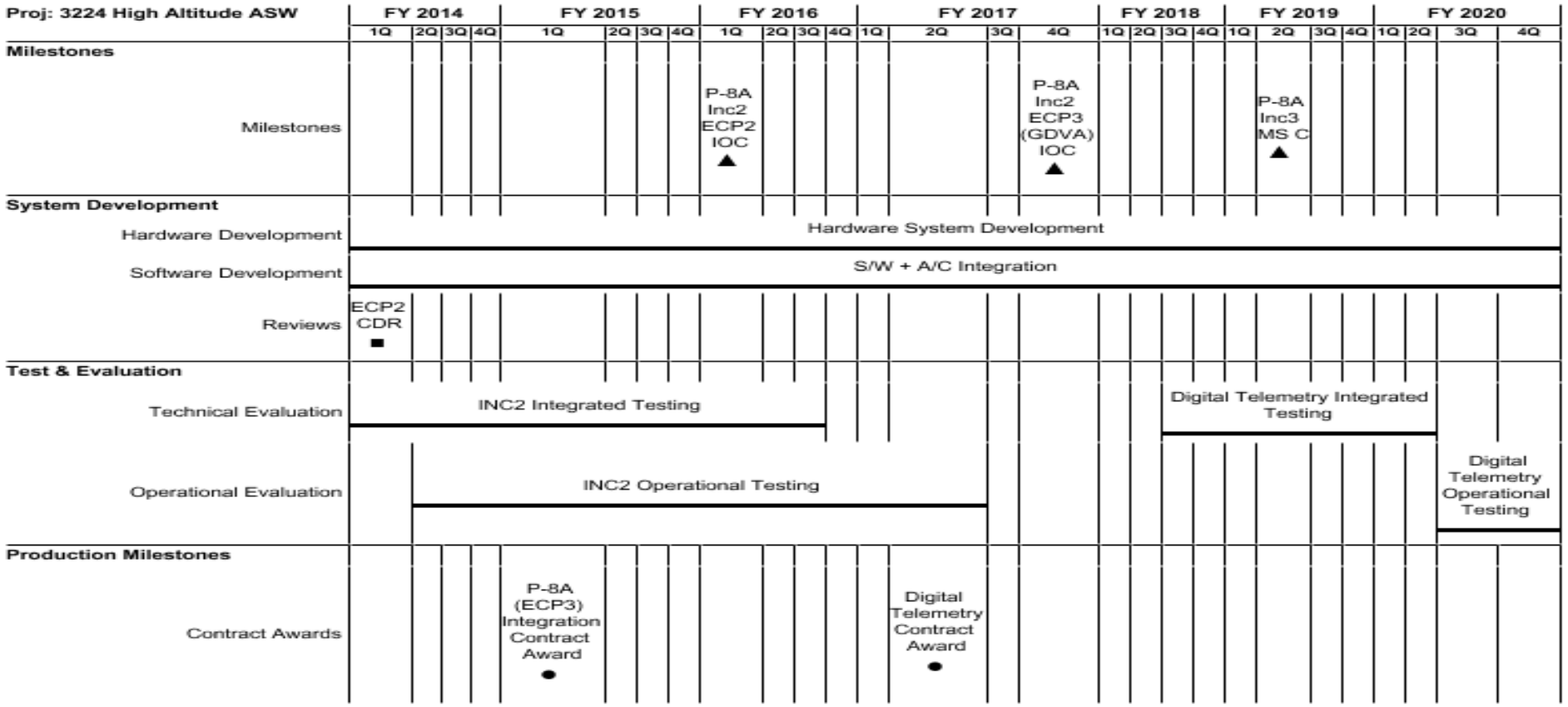
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ENG & TECH SVCS (NON-FFRDC)	Various	VARIOUS : VARIOUS	3.013	-	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Government Eng Spt	WR	NAWCAD : PATUXENT RIVER, MD	18.620	2.154	Nov 2013	1.845	Nov 2014	2.337	Nov 2015	-		2.337	Continuing	Continuing	Continuing
Travel	C/T&M	VARIOUS : VARIOUS	0.532	0.017	Nov 2013	0.027	Nov 2014	-		-		-	Continuing	Continuing	Continuing
		Subtotal	24.341	2.894		2.572		2.472		-		2.472	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	87.272	10.246		7.226		8.857		-		8.857	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 3224 / *High Altitude ASW*



2016PB - 0604261N - 3224

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604261N / *Acoustic Search Sensors*	**Project (Number/Name)** 3224 / *High Altitude ASW*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj: 3224 High Altitude ASW				
Milestones: Milestones: P-8A Inc2 ECP2 IOC	1	2016	1	2016
Milestones: Milestones: P-8A Inc2 ECP3 (GDVA) IOC	4	2017	4	2017
Milestones: Milestones: P-8A Inc3 MS C	2	2019	2	2019
System Development: Hardware Development: Hardware System Development	1	2014	4	2020
System Development: Software Development: Aircraft Software Development/ Integration	1	2014	4	2020
System Development: Reviews: ECP2 CDR	1	2014	1	2014
Test & Evaluation: Technical Evaluation: INC2 Integrated Testing	1	2014	3	2016
Test & Evaluation: Technical Evaluation: Digital Telemetry Integrated Testing	3	2018	2	2020
Test & Evaluation: Operational Evaluation: INC2 Operational Testing	2	2014	2	2017
Test & Evaluation: Operational Evaluation: Digital Telemetry Operational Testing	3	2020	4	2020
Production Milestones: Contract Awards: P-8A (ECP3) Integration Contract Award	1	2015	1	2015
Production Milestones: Contract Awards: Digital Telemetry Contract Award	2	2017	2	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604262N / *V-22A*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	9,037.414	42.205	57.749	87.918	-	87.918	138.217	126.239	88.584	56.037	253.671	9,888.034
1425: *V-22*	9,037.414	42.205	57.749	87.918	-	87.918	138.217	126.239	88.584	56.037	253.671	9,888.034
MDAP/MAIS Code: 212												

A. Mission Description and Budget Item Justification

The V-22 Osprey is an Acquisition Category IC Joint Program led by the Department of the Navy for the purpose of developing, testing, evaluating, procuring and fielding a tilt rotor, vertical takeoff and landing aircraft for Joint Service application. The V-22 program is designed to provide an aircraft to meet the amphibious/ vertical assault needs of the Marine Corps, the utility/rescue needs of the Navy, and the special operations needs of the Air Force and the United States Special Operations Command (USSOCOM). The V-22 is replacing the CH-46E and CH53A/D in the Marine Corps with the MV-22; will supplement the H-60 in the Navy with the MV-22; and replace the MH-53J and MH-53M as well as augment the C-130 in the Air Force and USSOCOM with the CV-22. The V-22 is capable of flying over 2,100 nautical miles, with a single refueling, giving the services the advantage of a Vertical/Short Take-off and Landing aircraft that can rapidly self-deploy to any location in the world. This program is funded under Engineering Manufacturing and Development for correction of deficiencies and includes Block A and Block B upgrades which encompassed engineering and manufacturing development of new end-items prior to the production incorporation decision as well as Block C suitability and effectiveness development upgrades. Capability Development Document interoperability requirements were addressed through a spiral upgrade acquisition strategy. It was the first spiral providing Key Enabling Department of Defense mandated open systems architecture upgrades for the mission computer hardware and software while simultaneously addressing required interoperability common avionics upgrades and current avionics obsolescence issues. Future development efforts will include Pre-Planned-Product-Improvements (P3I) in the Capability Development Document as prioritized by the United States Marine Corps (USMC) or a Urgent Universal Needs Statement (UUNS). Development efforts include Block C Upgrade, Mission System Upgrade, Electrical System Upgrades Mid-Wing Process Unit, ARC 210 Generation 5 Radio, Mission Computer Obsolescence Initiative, Weapon Systems Development, AAR-47 Hostile Fire Indicator, Time on Wing, Digital Interoperability, and Blue Force Tracker/Netted Weather. FY16 will provide for additional Aircraft Mission Maneuvering Envelope Expansion, Velocity Not to Exceed Expansion, Digital Interoperability, and Time on Wing efforts such as Improved Inlet Solution (IIS).

The New V-22 Instrumented Aircraft continues to be funded and delivery of aircraft is expected in 2nd Quarter of FY15. In FY16 aircraft will perform structural fatigue, envelope expansion, software airframe loads, structures and bonded blade tab developmental testing.

The MV-22 Hardware Development Airframe continues to fund development efforts by Bell-Boeing. Continue development in support of MV-22 Block upgrades and Time on Wing efforts such as IIS. Continued engineering, logistics, flight test, flight test support and address the correction of deficiencies and obsolescence. Continue MV-22 software development/sustainment efforts. Continue V-22 Integrated Aircraft Survivability Equipment to include correcting deficiencies of the current radar warning system, integration with an upgraded missile warning and active infrared countermeasure system, and providing integrated threat warning information on the aircraft main flight displays.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*

MV-22 Hardware Development Propulsion will continue to fund the flight/engine hours necessary for developmental testing at the Patuxent River squadron. Rolls-Royce will continue to provide engine support and development of MV-22 flight testing.

MV-22 Digital Interoperability is the United States Marine Corps Aviation wide implementation of software defined radios, such as Software Reprogrammable Payload (SRP), capable of migration to advanced waveforms and payloads, providing enhanced digital connectivity between forces using dissimilar waveforms and/or protocols. Digital Interoperability will enable fleet integration of new capability through the use of tablets with custom applications. Digital Interoperability is also envisioned to include logistics tracking (cargo and personnel) with the use of Radio Frequency Identification technology, advanced Electronic Warfare/Cyber capability, and threat data capturing/off-boarding.

FY16 starts MV-22 SRP, is a single common payload module that is open architecture, government owned, flexible, and reconfigurable to support simultaneous missions and applications making maximum use of available bandwidth and ensuring interoperability. Provides a bridge and translator to allow various systems/ waveforms to collaborate and provides the V-22 operator and passenger with a common operating picture. MV-22 is the lead platform for integration of SRP Spiral II.

FY16 starts Navy Variant Hardware Development which consists of an Engineering Change Proposal (ECP) to modify MV-22 into the Navy Variant configuration to perform the Carrier Onboard Delivery (COD) mission. The ECP will add such things as (1) the capability to meet the range requirements that the COD mission demands (2) an high frequency radio to transmit/receive beyond line of sight over water and (3) a public address (PA) system for use while transporting passengers.

FY16 starts the V-22 Aerial Refueling System (VARS) capability. VARS will provide V-22 tanker capability to the Marine Air Ground Task Force, enabling safe and efficient execution of all missions, tactical or humanitarian. The system will allow the V-22 to provide fuel to other Air Combat Element (ACE) aircraft, such as F-35B and CH-53E/K, while en-route, in the objective area, or during recovery, extending the operational reach/duration. With the V-22 deployed onboard, amphibious assault ships would gain an organic aerial refueling capability, maximizing response time and agility.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	43.084	61.249	58.893	-	58.893
Current President's Budget	42.205	57.749	87.918	-	87.918
Total Adjustments	-0.879	-3.500	29.025	-	29.025
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-3.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.879	-			
• Program Adjustments	-	-	29.720	-	29.720
• Rate/Misc Adjustments	-	-	-0.695	-	-0.695

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*

Change Summary Explanation

Technical: Not applicable

Schedule: Not applicable

Cost: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604262N / *V-22A*	Project (Number/Name) 1425 / *V-22*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1425: *V-22*	9,037.414	42.205	57.749	87.918	-	87.918	138.217	126.239	88.584	56.037	253.671	9,888.034
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The V-22 Osprey is an Acquisition Category IC Joint Program led by the Department of the Navy for the purpose of developing, testing, evaluating, procuring and fielding a tilt rotor, vertical takeoff and landing aircraft for Joint Service application. The V-22 program is designed to provide an aircraft to meet the amphibious/ vertical assault needs of the Marine Corps, the utility/rescue needs of the Navy, and the special operations needs of the Air Force and the United States Special Operations Command (USSOCOM). The V-22 is replacing the CH-46E and CH53A/D in the Marine Corps with the MV-22; will supplement the H-60 in the Navy with the MV-22; and replace the MH-53J and MH-53M as well as augment the C-130 in the Air Force and USSOCOM with the CV-22. The V-22 is capable of flying over 2,100 nautical miles, with a single refueling, giving the services the advantage of a Vertical/Short Take-off and Landing aircraft that can rapidly self-deploy to any location in the world. This program is funded under Engineering Manufacturing and Development for correction of deficiencies and includes Block A and Block B upgrades which encompassed engineering and manufacturing development of new end-items prior to the production incorporation decision as well as Block C suitability and effectiveness development upgrades. Capability Development Document interoperability requirements were addressed through a spiral upgrade acquisition strategy. It was the first spiral providing Key Enabling Department of Defense mandated open systems architecture upgrades for the mission computer hardware and software while simultaneously addressing required interoperability common avionics upgrades and current avionics obsolescence issues. Future development efforts will include Pre-Planned-Product-Improvements (P3I) in the Capability Development Document as prioritized by the United States Marine Corps (USMC) or a Urgent Universal Needs Statement (UUNS). Development efforts include Block C Upgrade, Mission System Upgrade, Electrical System Upgrades Mid-Wing Process Unit, ARC 210 Generation 5 Radio, Mission Computer Obsolescence Initiative, Weapon Systems Development, AAR-47 Hostile Fire Indicator, Time on Wing, Digital Interoperability, and Blue Force Tracker/Netted Weather. FY16 will provide for additional Aircraft Mission Maneuvering Envelope Expansion, Velocity Not to Exceed Expansion, Digital Interoperability, and Time on Wing efforts such as Improved Inlet Solution (IIS).

The New V-22 Instrumented Aircraft (NVIA) continues to be funded and delivery of aircraft is expected in 2nd Quarter of FY15. In FY16 aircraft will perform structural fatigue, envelope expansion, software airframe loads, structures and bonded blade tab developmental testing.

The MV-22 Hardware Development Airframe continues to fund development efforts by Bell-Boeing. Continue development in support of MV-22 Block upgrades and Time on Wing efforts such as IIS. Continued engineering, logistics, flight test, flight test support and address the correction of deficiencies and obsolescence. Continue MV-22 software development/sustainment efforts. Continue V-22 Integrated Aircraft Survivability Equipment to include correcting deficiencies of the current radar warning system, integration with an upgraded missile warning and active infrared countermeasure system, and providing integrated threat warning information on the aircraft main flight displays.

MV-22 Hardware Development Propulsion will continue to fund the flight/engine hours necessary for developmental testing at the Patuxent River squadron. Rolls-Royce will continue to provide engine support and development of MV-22 flight testing.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*

MV-22 Digital Interoperability is the United States Marine Corps Aviation wide implementation of software defined radios, such as Software Reprogrammable Payload (SRP), capable of migration to advanced waveforms and payloads, providing enhanced digital connectivity between forces using dissimilar waveforms and/or protocols. Digital Interoperability will enable fleet integration of new capability through the use of tablets with custom applications. Digital Interoperability is also envisioned to include logistics tracking (cargo and personnel) with the use of Radio Frequency Identification technology, advanced Electronic Warfare/Cyber capability, and threat data capturing/off-boarding.

FY16 starts MV-22 SRP, is a single common payload module that is open architecture, government owned, flexible, and reconfigurable to support simultaneous missions and applications making maximum use of available bandwidth and ensuring interoperability. Provides a bridge and translator to allow various systems/ waveforms to collaborate and provides the V-22 operator and passenger with a common operating picture. MV-22 is the lead platform for integration of SRP Spiral II.

FY16 starts Navy Variant Hardware Development which consists of an Engineering Change Proposal (ECP) to modify MV-22 into the Navy Variant configuration to perform the Carrier Onboard Delivery (COD) mission. The ECP will add such things as (1) the capability to meet the range requirements that the COD mission demands (2) an high frequency radio to transmit/receive beyond line of sight over water and (3) a public address (PA) system for use while transporting passengers.

FY16 starts the V-22 Aerial Refueling System (VARS) capability. VARS will provide V-22 tanker capability to the Marine Air Ground Task Force, enabling safe and efficient execution of all missions, tactical or humanitarian. The system will allow the V-22 to provide fuel to other Air Combat Element (ACE) aircraft, such as F-35B and CH-53E/K, while en-route, in the objective area, or during recovery, extending the operational reach/duration. With the V-22 deployed onboard, amphibious assault ships would gain an organic aerial refueling capability, maximizing response time and agility.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: MV-22 New Instrumented Aircraft (NVIA)	-	4.029	-	-	-
Articles:	-	-	-	-	-

Description: The purpose of the NVIA is to (a) augment existing V-22 structural test capability by supplementing and eventually replacing Aircraft 90008; and (b) provide improved, comprehensive flight test data with increased reliability/maintainability over existing Aircraft 90008 to support the V-22 development roadmap. The NVIA continues to be funded and delivery of aircraft is expected in 2nd Quarter of FY15. In FY16 aircraft will perform structural fatigue, envelope expansion, software airframe loads, structures and bonded blade tab developmental testing.

FY 2014 Accomplishments:
N/A

FY 2015 Plans:
FY15: Final incremental funding for the NVIA, expected to deliver in 3rd quarter of FY15.

FY 2016 Base Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 OCO Plans:*** N/A					
Title: MV-22 Hardware Development Airframe	23.297	30.259	19.143	-	19.143
Articles:	-	-	-	-	-
Description: The MV-22 Hardware Development Airframe continues to fund development efforts by Bell-Boeing. Continue development in support of MV-22 Block upgrades and Time on Wing efforts such as Improved Inlet Solution. Continued engineering, logistics, flight test, flight test support and address the correction of deficiencies and obsolescence. Continue MV-22 software development/sustainment efforts. Continue V-22 Integrated Aircraft Survivability Equipment to include correcting deficiencies and obsolescence issues, to include the current radar warning system, integration with an upgraded missile warning and active infrared countermeasure system, cockpit interface units, electrical power system, and providing integrated threat warning information on the aircraft main flight displays. Continue electrical system capacity and reliability improvement efforts. ***FY 2014 Accomplishments:*** Continue MV-22 development efforts by Bell-Boeing. Rolls-Royce will continue to provide engine support and development of MV-22 flight testing. Continue MV-22 software development/sustainment efforts. Continue development in support of MV-22 Block upgrades and Time on Wing efforts such as Improved Inlet Solution. Continue engineering, logistics, flight test, flight test support and address correction of deficiencies. Continue contracted development efforts on test aircraft. ***FY 2015 Plans:*** Continue MV-22 development efforts by Bell-Boeing. Rolls-Royce will continue to provide engine support and development of MV-22 flight testing. Continue MV-22 software development/sustainment efforts. Continue development in support of MV-22 Block upgrades and Time on Wing efforts such as Improved Inlet Solution (IIS). Continue engineering, logistics, flight test and flight test support. Conduct Modular Software Study. FY15 funds used to address correction of deficiencies and obsolescence issues in cockpit interface units and electrical power system, as well as address other obsolescence issues as part of additive manufacturing process development for V-22 components. ***FY 2016 Base Plans:*** Continue MV-22 development efforts by Bell-Boeing. Rolls-Royce will continue to provide engine support and development of MV-22 flight testing. Continue MV-22 software development/sustainment efforts. Continue development in support of MV-22 Block upgrades and Time on Wing efforts such as IIS. Continue engineering,					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
logistics, flight test, flight test support and address correction of deficiencies. Continue contracted development efforts on test aircraft. Continue electrical system capacity and reliability improvement efforts. ***FY 2016 OCO Plans:*** N/A					
Title: MV-22 Hardware Development Propulsion/Mission Care ***Articles:*** ***Description:*** The funding of Mission Care relates to our RDTE program as it funds the flight/engine hours necessary for developmental testing at the Patuxent River squadron. In addition, it pays for Rolls Royce engine support at Patuxent River. ***FY 2014 Accomplishments:*** Funds are provided for Mission Care flight & engine hours for developmental testing at Patuxent River squadron. ***FY 2015 Plans:*** Funds are provided for continued Mission Care flight & engine hours for developmental testing at Patuxent River squadron. ***FY 2016 Base Plans:*** Funds continued for Mission Care flight & engine hours for developmental testing at Patuxent River squadron. ***FY 2016 OCO Plans:*** N/A	0.300 -	0.306 -	0.312 -	- -	0.312 -
Title: MV-22 Digital Interoperability ***Articles:*** ***Description:*** Digital Interoperability is the United States Marine Corps Aviation wide implementation of software defined radios, such as Software Reprogrammable Payload (SRP), capable of migration to advanced waveforms and payloads, providing enhanced digital connectivity between forces using dissimilar waveforms and/or protocols. Digital Interoperability will enable fleet integration of new capability through the use of tablets with custom applications. Digital Interoperability is also envisioned to include logistics tracking (cargo and personnel) with the use of Radio Frequency Identification technology, advanced Electronic Warfare/Cyber capability, and threat data capturing/off-boarding. ***FY 2014 Accomplishments:***	- -	4.700 -	4.700 -	- -	4.700 -

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2015 Plans:*** Funds begin for MV-22 Digital Interoperability providing MV-22 Gateway functionality to provide digital connectivity between Air and Ground forces using dissimilar protocols. Begin development of SRP Spiral II Critical Design Review, including Interface Control Document. ***FY 2016 Base Plans:*** Funds continue for development and demonstration of Digital Interoperability, including spiral development of Software Reprogrammable Payload (SRP), tablets and the custom applications, Radio Frequency Identification technology, Electronic Warfare/Cyber capability and threat data capturing/off-boarding. ***FY 2016 OCO Plans:*** N/A					
Title: MV-22 Software Reprogrammable Payload (SRP)	-	-	11.200	-	11.200
Articles:	-	-	-	-	-
Description: SRP is a single common payload module that is open architecture, government owned, flexible, and reconfigurable to support simultaneous missions and applications making maximum use of available bandwidth and ensuring interoperability. Provides a bridge and translator to allow various systems/waveforms to collaborate and provides the V-22 operator and passenger with a common operating picture. MV-22 is the lead platform for integration of SRP Spiral II. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Funds start for MV-22 SRP Spiral II integration. ***FY 2016 OCO Plans:*** N/A					
Title: V-22 Aerial Refueling System Development	-	-	15.000	-	15.000
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: V-22 Aerial Refueling System will provide V-22 tanker capability to the Marine Air Ground Task Force, enabling safe and efficient execution of all missions, tactical or humanitarian. The system will allow the V-22 to provide fuel to other Air Combat Element aircraft, such as F-35B and CH-53E/K, while en-route, in the objective area, or during recovery, extending the operational reach/duration. With the V-22 deployed onboard, amphibious assault ships would gain an organic aerial refueling capability, maximizing response time and agility. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Begin funding the V-22 Aerial Refueling System Development Capability. V-22 Aerial Refueling System will provide V-22 tanker capability to the Marine Air Ground Task Force, enabling safe and efficient execution of all missions, tactical or humanitarian. ***FY 2016 OCO Plans:*** N/A					
Title: MV-22 Navy Variant Development	-	-	17.170	-	17.170
Articles:	-	-	-	-	-
Description: Funding supports the development of an Engineering Change Proposal (ECP) to modify a MV-22 into the Navy Variant configuration to perform the Carrier On-board Delivery (COD) mission. The ECP will add such things as (1) the capability to meet the range requirements that the COD mission demands (2) an HF radio to transmit/receive beyond line of sight over water and (3) a Public Address system for use while transporting passengers. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Funds provided for the MV-22 Navy Variant to perform the COD mission. Begin development of ECP to meet External Fuel Tank, High Frequency radio and Public Address system requirements. Begin engineering and logistics support needed to develop ECP. ***FY 2016 OCO Plans:*** N/A					
Title: V-22 Development Support, Test and Evaluation	18.608	18.455	20.393	-	20.393
Articles:	-	-	-	-	-
Description: Fund Government Engineering, Contractor Engineering, including Follow-On Test Evaluation (FOT&E) and Developmental Test & Engineering (DT&E) for the MV-22 flight events. Perform Government oversight. Execute test program risk reduction efforts. ***FY 2014 Accomplishments:*** Funds provided for continued support of FOT&E and DT&E includes flight control software, vehicle system operating software, inlet distortion, APR-39D(V)2, structural fatigue, envelope expansion, software airframe loads, flight and ground tests for avionics demonstrations. ***FY 2015 Plans:*** Funds provided for continued support of FOT&E, to include OT-IIK. DT&E includes flight control software, vehicle system operating software, inlet distortion, APR-39D(V)2, structural fatigue, envelope expansion, software airframe loads, structures and bonded blade tab, GAU-21, Nacelle Sail testing, MV Traffic Collision Avoidance System. ***FY 2016 Base Plans:*** Funds provided for continued support of FOT&E as well as DT&E to include flight control software, vehicle system operating software, inlet distortion, APR-39D(V)2, structural fatigue, envelope expansion, software airframe loads, structures and bonded blade tab testing. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	42.205	57.749	87.918	-	87.918

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN 0164: *V-22*	1,410.262	1,527.020	1,480.208	-	1,480.208	1,545.944	893.312	811.173	888.857	4,856.097	36,289.341
• APN 0590: *V-22 Series*	148.448	135.584	122.152	-	122.152	143.048	157.167	153.434	156.557	738.176	2,534.885
• APN 0605: *V-22 Inital Spares*	0.677	-	0.479	-	0.479	0.033	-	-	-	88.488	879.996
• RDTE BA04 0401318F: *CV-22 USAF BA05*	46.705	-	-	-	-	-	-	-	-	-	415.035
• RDTE 1160403BB: *CV-22 Special Operations, Aviation Systems*	2.817	0.182	-	-	-	0.707	14.372	21.806	-	-	39.884
• RDTE BA07 0401318F: *CV-22 USAF BA07*	-	38.719	36.576	-	36.576	17.369	14.324	14.595	14.856	-	136.439

Remarks

D. Acquisition Strategy

The MV-22 is a post Milestone III ACAT-IC program. As a result of mishaps during and subsequent to MV-22 Operational Evaluation (Apr and Dec 00), the program was restructured employing a phased approach to return to flight and tactical introduction. The Contractor and Government defined deficient areas within the program/ aircraft requiring correction prior to return to flight. A Block Upgrade approach was planned, with required efforts identified in Block "A", "B", and "C". Block "A" included those efforts necessary to return the V-22 to safe and operational fleet operations. Block "B" included those efforts necessary to improve the effectiveness and suitability of the aircraft. Block "C" includes mission enhancements like weather radar, cabin effectiveness suitability improvements, i.e., Environmental Control System, and Forward Firing ALE-47. Non-recurring development activities are to be initiated and completed for all efforts identified in Block "A", "B", and "C". The Contractor will develop specific Statements of Work and Preliminary Specification Change Notices required to integrate the Block Upgrade efforts into the baseline Program. A Systems Requirements Review, Initial Design Review, and Final Design Review was held for each of the Block efforts so the design maturity could be reviewed and the Government could redirect activities as appropriate. The CV-22 Engineering Manufacturing and Development program is also structured in Blocks to define an evolutionary approach to achieving full operational capability. Block "0" is the initial baseline CV-22 variant. Block "10" enhances mission capability with the addition of terrain following radar, additional fuel tanks, additional radios, and Block "20" includes capabilities such as radio frequency and infrared countermeasures improvements. Additional Blocks are in the planning stages to continue the growth process throughout the operational life of the weapon system. The Government will issue an RFP to the Contractor and upon award, an Integrated Baseline Review, Preliminary Design Review, Integrated Logistics Assessment and a Critical Design Review will be held to assess the design maturity of the MV-22 Navy Variant.

E. Performance Metrics

Milestone Reviews.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604262N / *V-22A*	Project (Number/Name) 1425 / *V-22*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Instrumented A/C	SS/FPIF	Bell Boeing : Ridley Park, PA	25.784	-		4.029	Nov 2014	-		-		-	-	29.813	29.813
MV-22 Hardware Dev Airframe	SS/CPIF	Bell Boeing : Ridley Park, PA	23.444	23.297	Jan 2014	30.259	Jan 2015	19.143	Jan 2016	-		19.143	209.335	305.478	191.015
MV-22 Hardware Dev Propulsion	SS/CPIF	Rolls-Royce Corp. : Indianapolis, IN	196.300	0.300	Jan 2014	0.306	Jan 2015	0.312	Jan 2016	-		0.312	6.650	203.868	198.524
MV-22 Digital Interoperability	WR	NAWCWD : China Lake, CA	0.000	-		4.700	Jan 2015	4.700	Jan 2016	-		4.700	37.600	47.000	-
MV-22 Software Reprogrammable Payload (SRP)	WR	NAWCWD : China Lake, CA	0.000	-		-		11.200	Jan 2016	-		11.200	6.000	17.200	-
MV-22 Navy Variant Development	C/CPIF	Bell Boeing : Ridley Park, PA	0.000	-		-		17.170	Jan 2016	-		17.170	182.153	199.323	199.323
V-22 Aerial Refueling System (VARS) Development	SS/CPIF	Bell Boeing : Ridley Park, PA	0.000	-		-		15.000	Jan 2016	-		15.000	27.800	42.800	42.800
Prior year Prod Dev no longer funded in the FYDP	Various	Various : Various	5,078.483	-		-		-		-		-	-	5,078.483	-
		Subtotal	5,324.011	23.597		39.294		67.525		-		67.525	469.538	5,923.965	-

Remarks

Begin MV-22 Digital Interoperability efforts in FY15.
Begin MV-22 Navy Variant and V-22 Aerial Refueling System (VARS) Development efforts in FY16.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Govt Engineering Sppt	WR	NAWCAD : Pax River, MD	1,102.631	1.686	Nov 2013	1.710	Nov 2014	1.733	Nov 2015	-		1.733	19.235	1,126.995	-
MV-22 Navy Variant Govt Engineering Sppt	WR	NAWCAD : Pax River, MD	0.000	-		-		1.350	Nov 2015	-		1.350	7.543	8.893	-
Prior Year Support no longer funded in the FYDP	Various	Various : Various	189.718	-		-		-		-		-	-	189.718	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604262N / *V-22A*	Project (Number/Name) 1425 / *V-22*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	1,292.349	1.686		1.710		3.083		-		3.083	26.778	1,325.606	-

Remarks

Begin Govt Engineering Support for MV-22 Navy Variant efforts in FY16.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Dev Test & Evaluation	WR	NAWCAD : Pax River, MD	1,007.366	8.931	Nov 2013	9.055	Nov 2014	9.531	Nov 2015	-		9.531	91.405	1,126.288	-
MV-22 Operational Test & Evaluation	WR	OT&E Force : Norfolk, VA	48.500	4.709	Dec 2013	4.774	Dec 2014	4.841	Dec 2015	-		4.841	42.609	105.433	-
Prior Year T & E no longer funde in the FYDP	Various	Various : Various	48.200	-		-		-		-		-	-	48.200	-
		Subtotal	1,104.066	13.640		13.829		14.372		-		14.372	134.014	1,279.921	-

Management Services ($ in Millions)

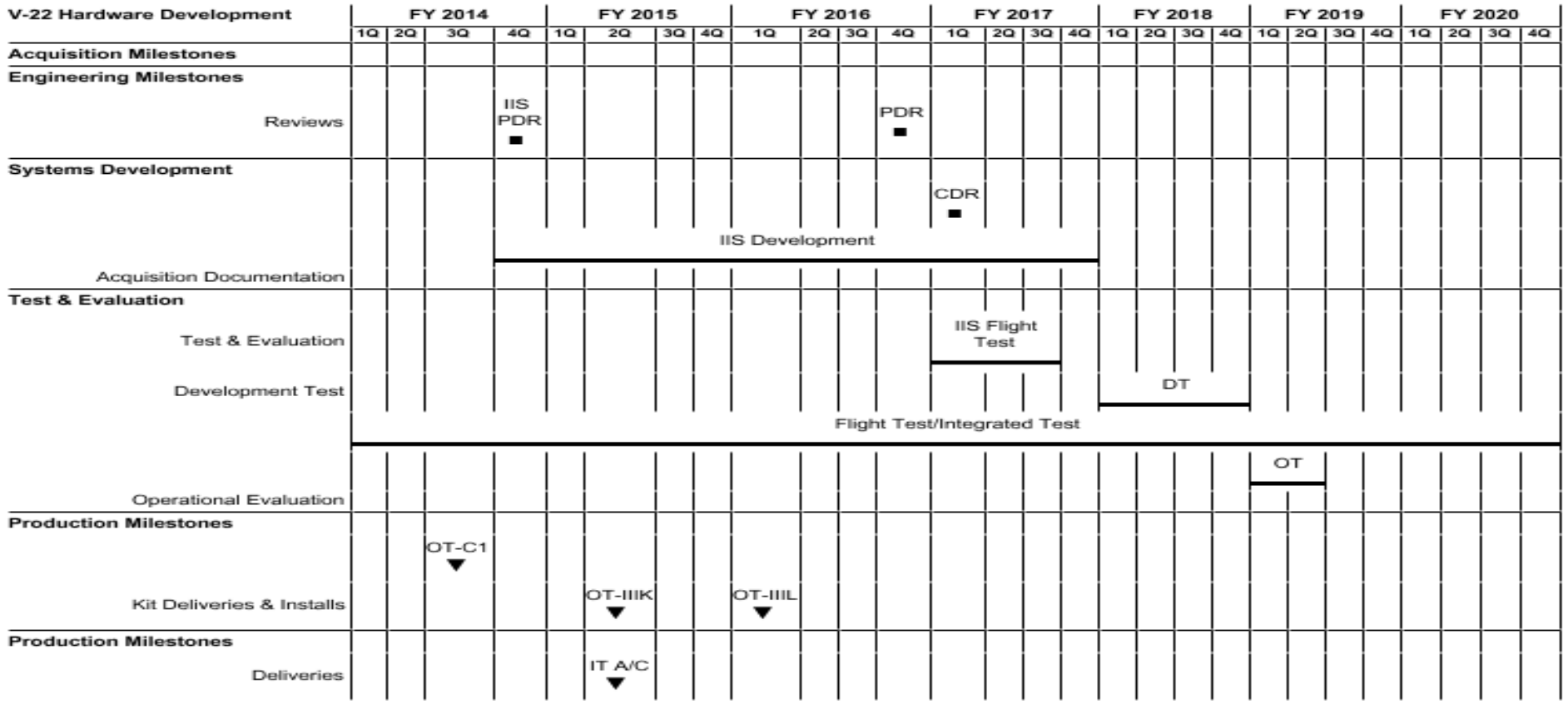
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Engineering Tech Sppt	Various	Various : Various	1,046.434	0.484	Nov 2013	0.309	Nov 2014	0.360	Nov 2015	-		0.360	6.609	1,054.196	-
MV-22 Management Sppt Svc	Various	Various : Various	155.543	0.641	Nov 2013	0.575	Nov 2014	0.550	Nov 2015	-		0.550	7.542	164.851	-
MV-22 Program Mgmt Support	WR	NAWCAD : Pax River, MD	57.930	1.865	Nov 2013	1.764	Nov 2014	1.787	Nov 2015	-		1.787	15.967	79.313	-
MV-22 Travel	WR	NAWCAD : Pax River, MD	15.994	0.292	Jan 2014	0.268	Jan 2015	0.241	Jan 2016	-		0.241	2.300	19.095	-
Prior Year Mgmt Svcs no longer funded in the FYDP	Various	Various : Various	41.087	-		-		-		-		-	-	41.087	-
		Subtotal	1,316.988	3.282		2.916		2.938		-		2.938	32.418	1,358.542	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604262N / *V-22A*	Project (Number/Name) 1425 / *V-22*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	9,037.414	42.205		57.749		87.918		-		87.918	662.748	9,888.034	-

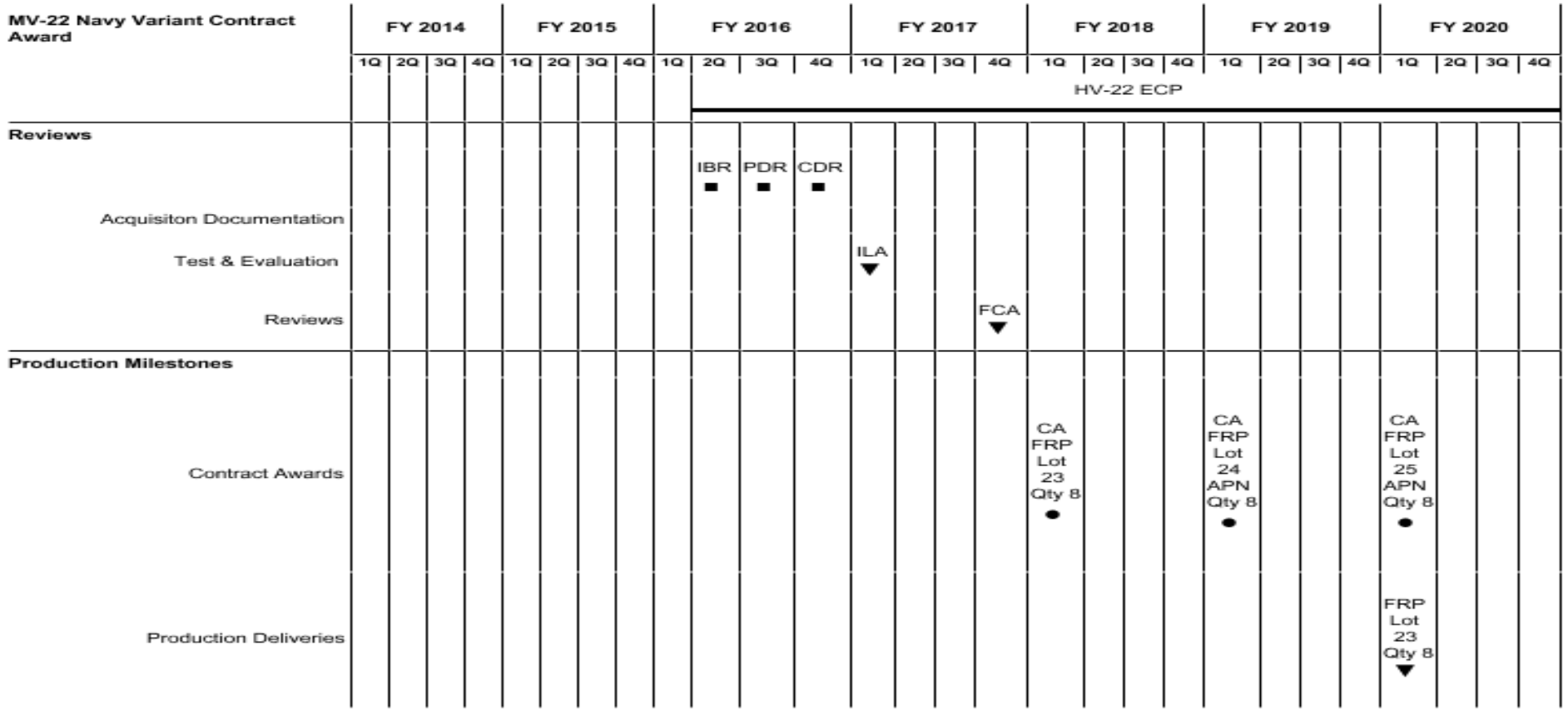
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*



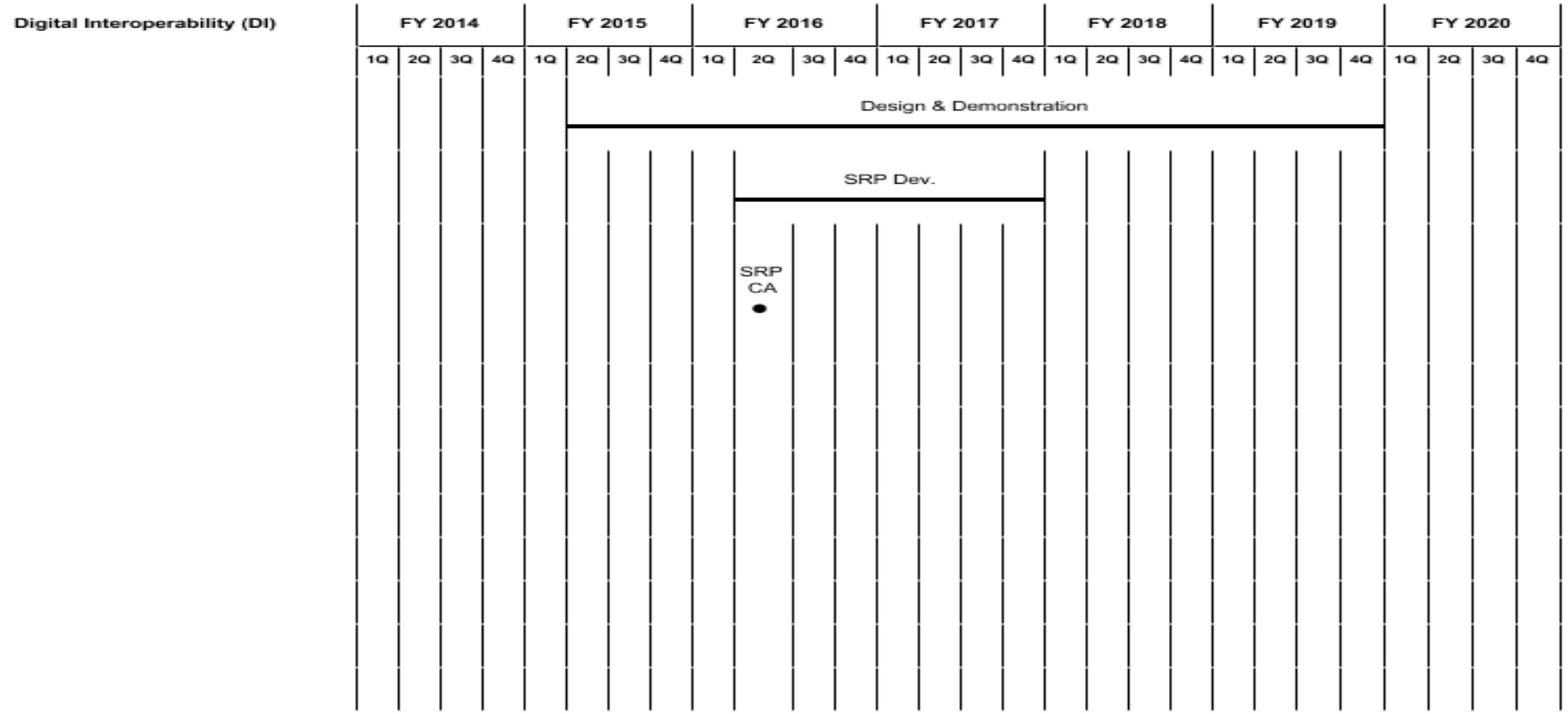
2016PB - 0604262N - 1425

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*



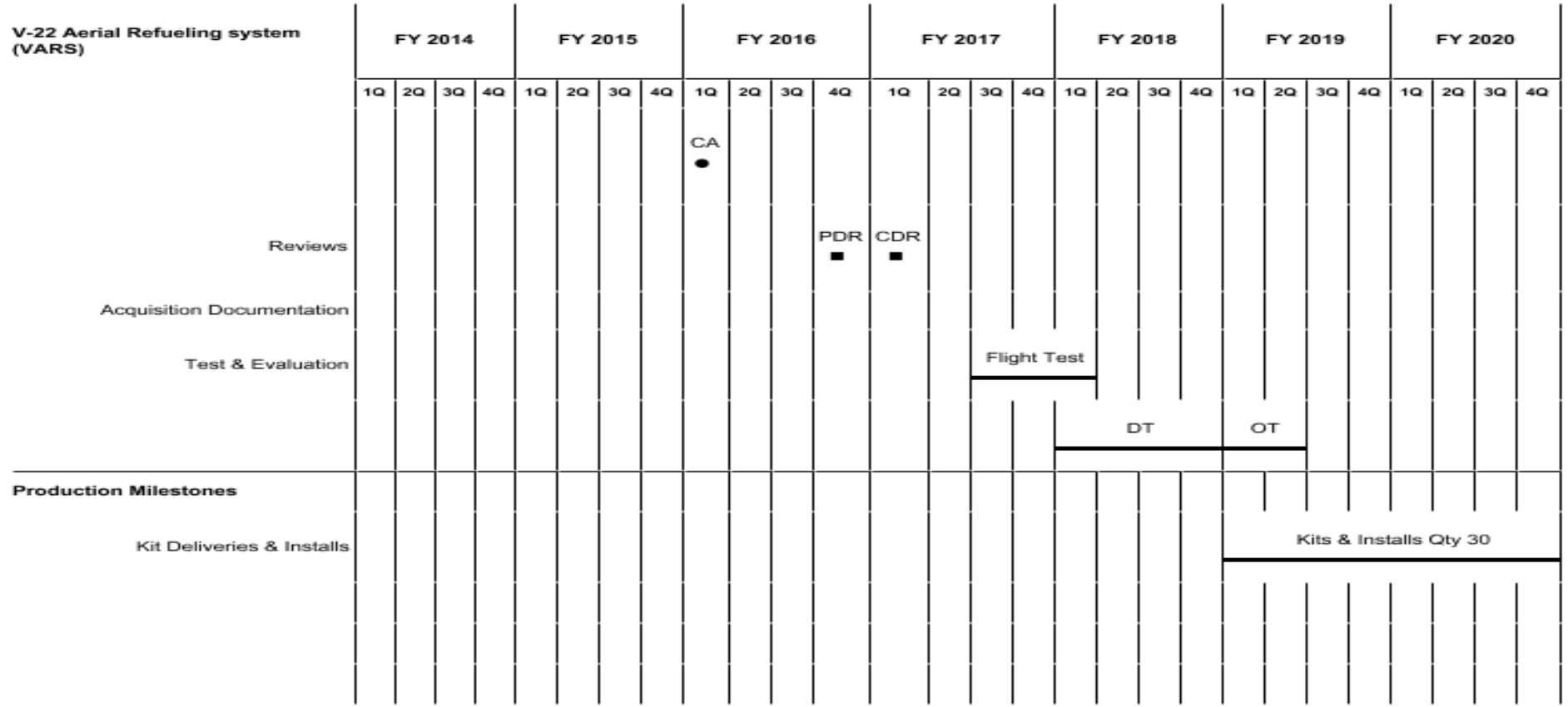
2016PB - 0604262N - 1425

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*



2016PB - 0604262N - 1425

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*



2016PB - 0604262N - 1425

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
V-22 Hardware Development				
Engineering Milestones: Reviews: IIS PDR	4	2014	4	2014
Engineering Milestones: Reviews: Preliminary Design Review	4	2016	4	2016
Systems Development: Critical Design Review	1	2017	1	2017
Systems Development: IIS Contract Award/Development effort	4	2014	4	2017
Test & Evaluation: Test & Evaluation: IIS Flight Test	1	2017	3	2017
Test & Evaluation: Development Test: Developmental Testing	1	2018	4	2018
Test & Evaluation: Development Test: Development Flight Test / Integrated Test (IT-IIID) & Continuous software sustainment developmental testing	1	2014	4	2020
Test & Evaluation: Development Test: Operational Testing	1	2019	2	2019
Production Milestones: Operational Testing (OT-C1)	3	2014	3	2014
Production Milestones: Kit Deliveries & Installs: Operational Testing (OT-IIIK)	2	2015	2	2015
Production Milestones: Kit Deliveries & Installs: Operational Testing (OT-IIIL)	1	2016	1	2016
Production Milestones: Deliveries: Instrumented Test Aircraft Delivery	2	2015	2	2015
MV-22 Navy Variant Contract Award				
Engineering Change Proposal	2	2016	4	2020
Reviews: Integrated Baseline Review	2	2016	2	2016
Reviews: Preliminary Design Review	3	2016	3	2016
Reviews: Critical Design Review	4	2016	4	2016
Reviews: Test & Evaluation: Integrated Logistics assessment	1	2017	1	2017
Reviews: Reviews: Functional Configuration Audit	4	2017	4	2017
Production Milestones: Contract Awards: Lot 23 APN MV22 Navy Variant Qty 8	1	2018	1	2018
Production Milestones: Contract Awards: Lot 24 APN MV22 Navy Variant Qty 8	1	2019	1	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604262N / *V-22A*	**Project (Number/Name)** 1425 / *V-22*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Milestones: Contract Awards: Lot 25 APN MV22 Navy Variant Qty 8	1	2020	1	2020
Production Milestones: Production Deliveries: Lot 23 APN HV22 Qty 8	1	2020	1	2020
Digital Interoperability (DI)				
System Design & Demonstration	2	2015	4	2019
Software Reprogrammable Payload (SRP)	2	2016	4	2017
SRP Contract Award	2	2016	2	2016
V-22 Aerial Refueling system (VARS)				
Contract Award	1	2016	1	2016
Reviews: Preliminary Design Review	4	2016	4	2016
Reviews: Critical Design Review	1	2017	1	2017
Test & Evaluation: Prototype Test	3	2017	1	2018
Test & Evaluation: Developmental Testing	1	2018	4	2018
Test & Evaluation: Operational Testing	1	2019	2	2019
Production Milestones: Kit Deliveries & Installs: Kits & Installs Qty 30	1	2019	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604264N *I Air Crew Systems Development*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	94.849	7.418	15.014	12.679	-	12.679	13.084	5.723	5.606	5.724	Continuing	Continuing
0606: *Aircrew System Development*	94.849	7.418	15.014	12.679	-	12.679	13.084	5.723	5.606	5.724	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Aircrew Systems Development program provides Engineering and Manufacturing Development of Aviation Life Support Systems to protect aircrew and flight deck personnel from current and future threats including: directed energy weapons, chemical/biological/radiological agents/fallout, ballistic projectiles, temperature extremes, heat/fire, low concentration oxygen environments, high dynamic forces during emergency egress, hearing loss, and high "G" forces. The program also provides development for the following capabilities: night vision capability, hearing and head protection, aircrew endurance, aircrew performance, man mounted data display, communications, clothing, in flight restraint and stability emergency egress and descent, escape and evasion, survival and rescue, crash protection, and anthropometric sizing for small aircrew. Acquisition initiatives include: competition, the application of streamlining initiatives, use of non-developmental items, joint and tri-service developments, and the pursuit of NATO/allied cooperative ventures, which expedite introduction of new products into Navy and Marine Corps fixed and rotary wing aircraft, reduce costs, and promote commonality. Cost increase from FY14 to FY15 is due to the ramp up of the Electronic Knee Board program to support Integrated Test and the Enhanced Visual Acuity program to support Preliminary Design Review, Critical Design Review and Test Readiness Review events.

JUSTIFICATION FOR BUDGET ACTIVITY:
This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	9.151	15.014	13.408	-	13.408
Current President's Budget	7.418	15.014	12.679	-	12.679
Total Adjustments	-1.733	-	-0.729	-	-0.729
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.600	-			
• SBIR/STTR Transfer	-0.133	-			
• Rate/Misc Adjustments	-	-	-0.729	-	-0.729

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604264N *I Air Crew Systems Development*

Change Summary Explanation

The FY 2016 funding request was reduced by $628 thousand million to account for the availability of prior year execution balances.

Schedule:

1. Acquisition Milestones:
A. Laser Eye Protection (LEP) - Milestone B added, and Milestone C, Initial Operational Capability (IOC) and Full Rate Prodcution (FRP) delayed due to extended revision of threat requirement and decision not to procure USAF Spectacle.

B. Electronic Knee Board (EKB) - Early Operational Capability (EOC) moved from 3Q FY16 to 3Q FY17. Change reflects alignment of EKB acquisition with Joint Mission Planning System (JMPS) processes for hardware down-select and procurement in FY16 with concurrent test activities. EKB configuration and implementation of information assurance controls to be executed in early FY17. Full Operational Capability milestone corrected to IOC.

C. Enhanced Visual Acuity (EVA) - FRP added.

2. System Development:
A. EKB - An Application Development and Integration period was added to the schedule to depict the on-going developmental EKB efforts.

3. Test and Evaluation:
A. EKB - Integrated Test (IT) was updated based on the EOC change and a second IT period was added which supports the IOC in FY19.

4. Production Milestones:
A. LEP - Engineering Development Model (EDM) contract award added. Low Rate Initial Production (LRIP) and FRP contract awards changed to align with milestone decisions.

B. EVA - Added EDM, FRP 1 and FRP 2 Contract Awards.

5. Deliveries:
A. LEP - EDM quantity added at 50; LRIP 1 quantity added at 350; FRP 1 quantity updated from 461 to 785 and FRP 2 quantity updated from 267 to 801.

B. EVA - Added EDM, FRP 1 and FRP 2 Contract Deliveries.

Technical: N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604264N / *Air Crew Systems Development*	Project (Number/Name) 0606 / *Aircrew System Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0606: *Aircrew System Development*	94.849	7.418	15.014	12.679	-	12.679	13.084	5.723	5.606	5.724	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Cost increase from FY14 to FY15 is due to the ramp up of the Electronic Knee Board (EKB) program to support Integrated Test and the Enhanced Visual Acuity (EVA) program to support Preliminary Design Review (PDR), Critical Design Review (CDR) and Test Readiness Review (TRR) events.

A. Mission Description and Budget Item Justification

AIRCREW SYSTEMS: Laser Eye Protection (LEP), Enhanced Visual Acuity (EVA), and Aircrew Systems (AS).

Under the above projects, LEP provides eye protection solutions that will provide Fixed, Rotary Wing and Patrol pilots and aircrew with multiple wavelength fixed threat and hazard protection during day and night unaided and Night Vision Goggle aided missions. LEP will consist of a suite of products to include spectacles, googles and visors. The LEP (visor, spectacle or goggle format) is being developed for compatibility with all required USN/USMC Aviation Life Support Equipement as well as cockpit displays, night vision and fire control systems. EVA includes enhanced visibility in degraded visual environment technology. AS includes State of the Art (SOA) and Survival Systems which provides for the yearly evaluation of the survival, clothing and other aircrew systems that provide upgraded performance, fill capability gaps, improve aircrew endurance and performance, safety and enhance survivability.

AIRCRAFT SYSTEMS: Aircraft systems include studies for Advanced Crash Protection, SOA, Survival Systems and Electronic Knee Board (EKB). EKB provides digital display that will allow aircrew to store, search, and view significant amounts of data required for mission accomplishment during flight operations. SOA provides for the yearly evaluation of the survival systems that provide upgraded performance, fill capability gaps, improve performance, safety and enhance survivability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Aircrew System Development	4.667	9.990	11.397	-	11.397
Articles:	-	-	-	-	-
Description: Laser Eye Protection (LEP) Spectacles (both Self Protection and Multi-Wavelength), step-in visor and Laser Eye Protection Improvement Program (LEPIP). Enhanced Visual Acuity (EVA) includes enhanced visability in degraded visual environment technology. AS includes SOA.					
FY 2014 Accomplishments: Laser Eye Protection (LEP): Continue research & development for next increment of threat spectacles. Enhanced Visual Acuity (EVA): Continue Technology Development.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
State of the Art (SOA): Continue a yearly evaluation and authorization of the survival, clothing, and other aircrew systems items. Identification, testing and approval of Commercial Off-the-Shelf (COTS) items that provide upgrade performance, fill capability gaps, improve aircrew endurance, aircrew performance, safety and enhance survivability. ***FY 2015 Plans:*** Laser Eye Protection (LEP): Continue research & development for next increment of threat spectacles. Enhanced Visual Acuity (EVA): Continue development. State of the Art (SOA): Continue a yearly evaluation and authorization of the survival, clothing, and other aircrew systems items. Identification, testing and approval of COTS items that provide upgrade performance, fill capability gaps, improve aircrew endurance, aircrew performance, safety and enhance survivability. ***FY 2016 Base Plans:*** Laser Eye Protection (LEP): Continue research & development for next increment of threat spectacles. Enhanced Visual Acuity (EVA): Continue development. State of the Art (SOA): Continue a yearly evaluation and authorization of the survival, clothing, and other aircrew systems items. Identification, testing and approval of items that provide upgraded performance, fill capability gaps, improve aircrew endurance, aircrew performance, safety and enhance survivability. ***FY 2016 OCO Plans:*** N/A					
Title: Aircraft Systems Development	2.751	5.024	1.282	-	1.282
Articles:	-	-	-	-	-
Description: Aircraft Systems include studies for Advance Crash Protection, Crashworthy Troop Seats, State of the Art (SOA), and Electronic Knee Board (EKB). ***FY 2014 Accomplishments:*** Electronic Knee Board (EKB): Conduct development, design reviews, and Authorization to Work. ***FY 2015 Plans:*** Electronic Knee Board (EKB): Continue development, complete design review, conduct integrated testing, and Authorizations to Work. ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Electronic Knee Board (EKB): Continue development, complete design review, select configuration 1 hardware, conduct integrated testing, and Authorizations to Work. Establish logistics support plan to support first hardware procurement. State of the Art (SOA): Continue a yearly evaluation and authorization to include identification, testing and approval of items that provide upgraded performance, fill capability gaps, improve endurance, performance, safety and enhance survivability. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	7.418	15.014	12.679	-	12.679

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/4244: *Aviation Life Support*	29.588	-	-	-	-	-	-	-	-	-	318.357
• OPN/4268: *Aviation Life Support*	-	28.602	30.586	-	30.586	31.110	29.554	30.472	44.390	Continuing	Continuing

Remarks

D. Acquisition Strategy

Commercial Off-The-Shelf /Non-Developmental Items where possible, cost type contracts. Majority of programs non-ACAT programs.

E. Performance Metrics

Electronic Knee Board: Performance Metrics to include Design Review, Early Operational Capability (EOC) and Initial Operational Capability (IOC).
Enhanced Visual Acuity: Performance Metrics to include Preliminary Design Review (PDR), Critical Design Review (CDR), Milestone B, Milestone C and IOC.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604264N / *Air Crew Systems Development*	Project (Number/Name) 0606 / *Aircrew System Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Eng Laser Eye Protection (LEP)	WR	NAWCAD : Patuxent River, MD	5.580	1.163	Jan 2014	0.992	Apr 2015	1.694	Apr 2016	-		1.694	2.159	11.588	-
Systems Eng Laser Eye Protection (LEP)	C/FFP	NAVAIR : Patuxent River, MD	0.000	-		-		0.255	Feb 2016	-		0.255	-	0.255	0.255
Systems Eng Aircrew Systems	WR	Various : Various	6.818	0.787	Jan 2014	0.801	Feb 2015	0.439	Feb 2016	-		0.439	20.548	29.393	-
Systems Eng Aircraft Systems	WR	Various : Various	40.942	0.640	Feb 2014	0.821	Feb 2015	0.404	Feb 2016	-		0.404	0.522	43.329	-
System Eng Enhanced Visual Acuity	WR	Various : Various	0.352	2.997	Feb 2014	8.569	Feb 2015	9.009	Feb 2016	-		9.009	11.969	32.896	-
System Eng Electronic Knee Board	WR	NAWCAD : Patuxent River, MD	0.000	0.802	Feb 2014	0.851	Feb 2015	0.834	Feb 2016	-		0.834	1.402	3.889	-
System Eng Electronic Knee Board	Various	Various : Various	0.000	0.995	Feb 2014	2.940	Feb 2015	-		-		-	1.024	4.959	-
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	28.147	-		-		-		-		-	-	28.147	-
		Subtotal	81.839	7.384		14.974		12.635		-		12.635	37.624	154.456	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	Various : Various	1.087	0.034	Dec 2013	0.040	Dec 2014	0.044	Dec 2015	-		0.044	Continuing	Continuing	Continuing
Prior year Mgmt Svcs no longer funded in the FYDP	Various	Various : Various	11.923	-		-		-		-		-	-	11.923	-
		Subtotal	13.010	0.034		0.040		0.044		-		0.044	-	-	-

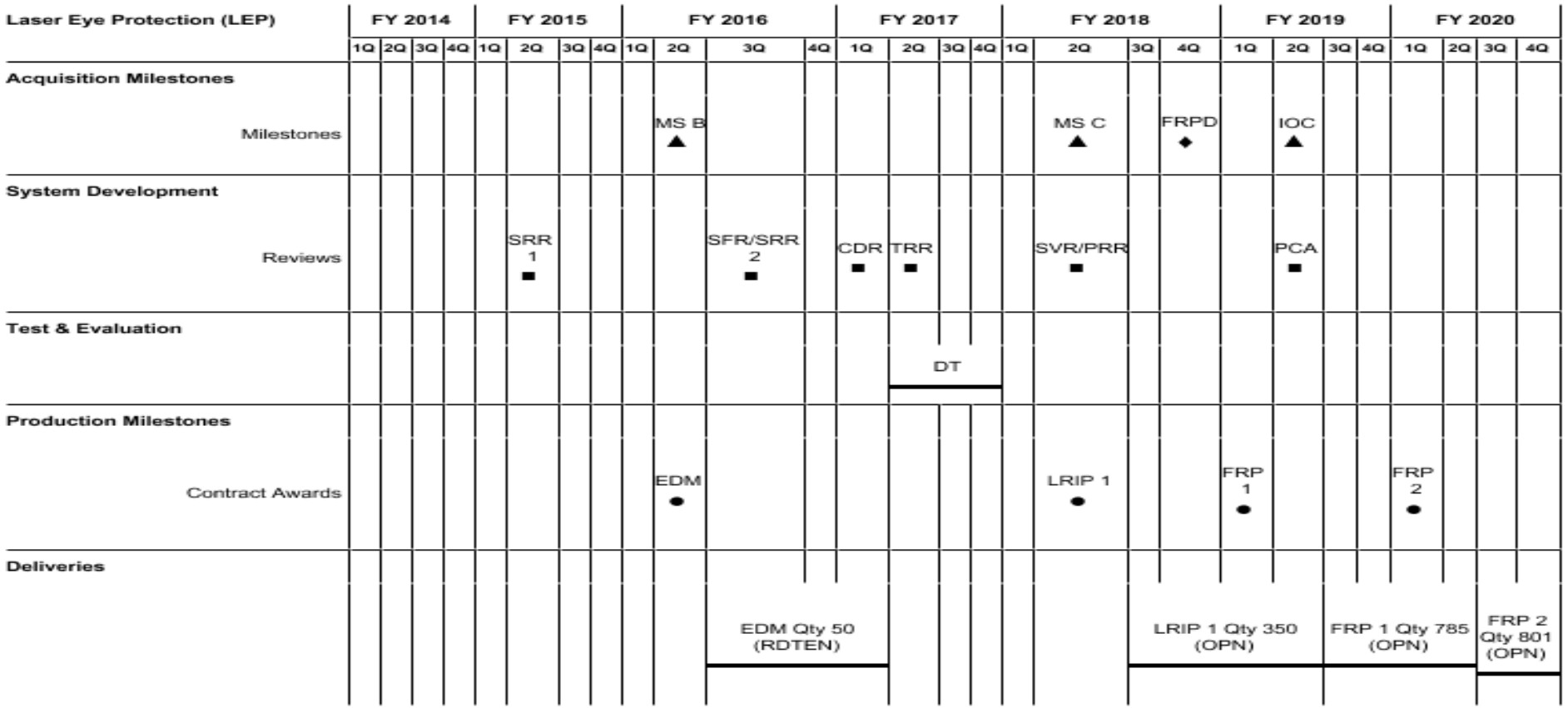
	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	94.849	7.418		15.014		12.679		-		12.679	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604264N / *Air Crew Systems Development*	Project (Number/Name) 0606 / *Aircrew System Development*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

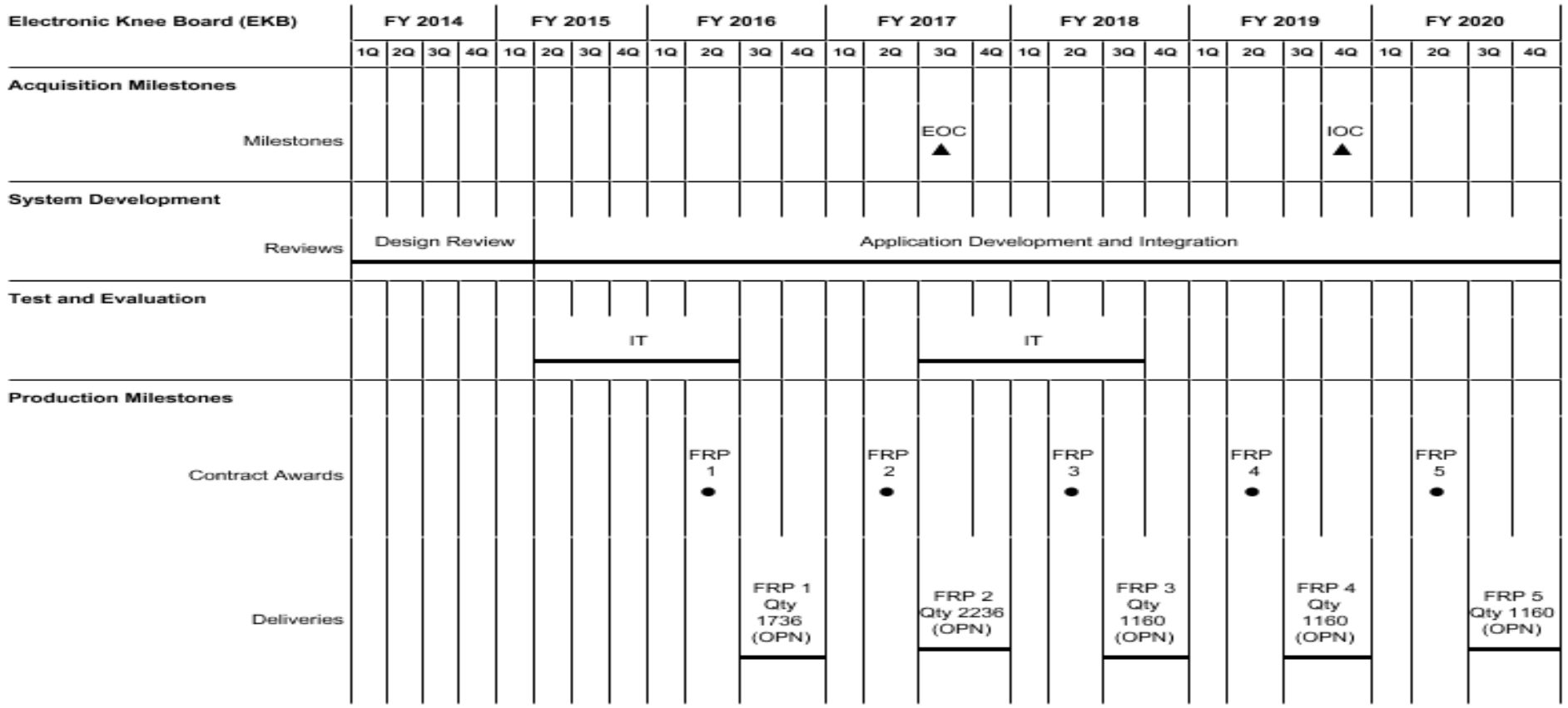
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*



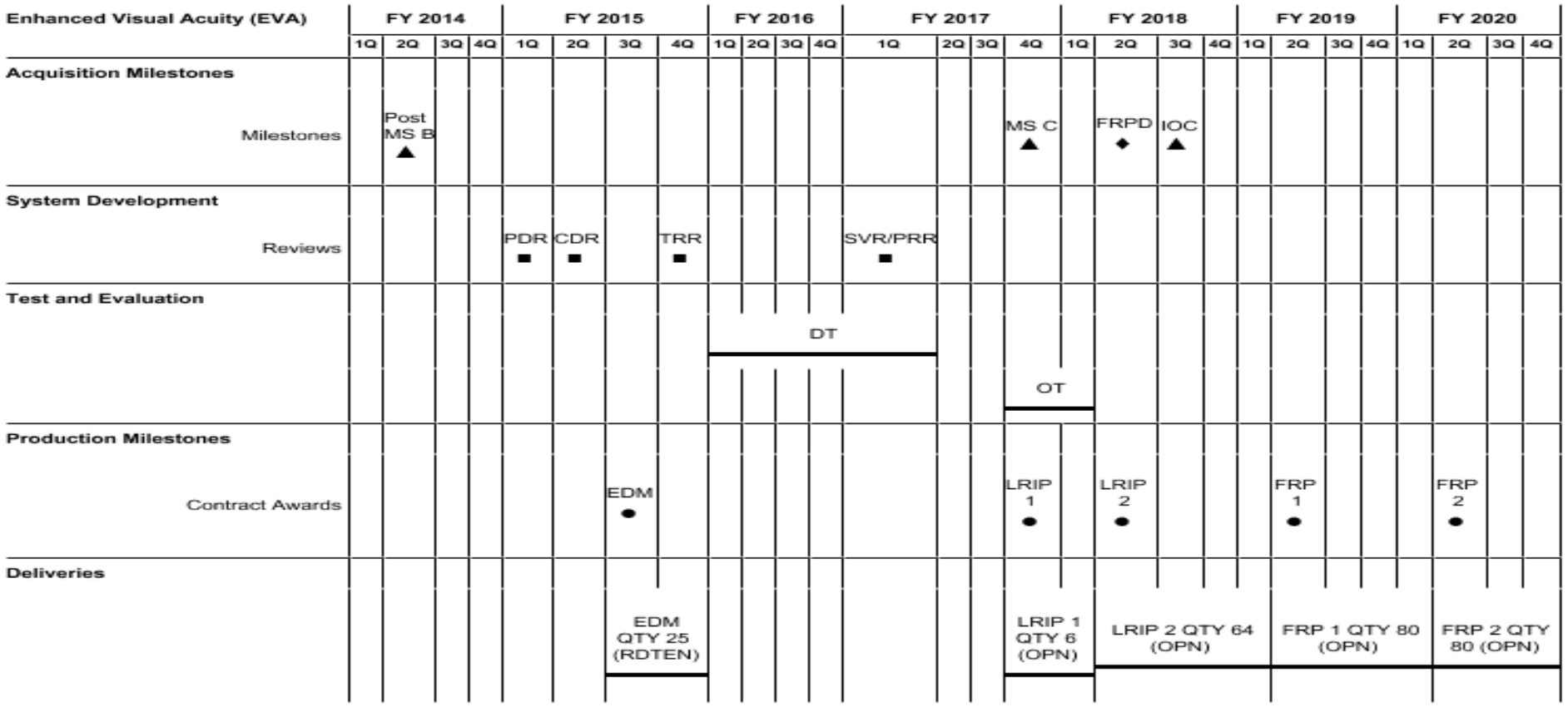
2016PB - 0604264N - 0606

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*



2016PB - 0604264N - 0606

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*



2016PB - 0604264N - 0606 EDM Units will be used for Operational Testing

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Laser Eye Protection (LEP)				
Acquisition Milestones: Milestones: LEP Milestone B	2	2016	2	2016
Acquisition Milestones: Milestones: LEP: Milestone C	2	2018	2	2018
Acquisition Milestones: Milestones: LEP: FRP Decision	4	2018	4	2018
Acquisition Milestones: Milestones: LEP IOC	2	2019	2	2019
System Development: Reviews: SRR 1	2	2015	2	2015
System Development: Reviews: SFR/SRR 2	3	2016	3	2016
System Development: Reviews: CDR	1	2017	1	2017
System Development: Reviews: TRR	2	2017	2	2017
System Development: Reviews: SVR/PRR	2	2018	2	2018
System Development: Reviews: PCA	2	2019	2	2019
Test & Evaluation: DT	2	2017	4	2017
Production Milestones: Contract Awards: LEP EDM	2	2016	2	2016
Production Milestones: Contract Awards: LEP LRIP 1	2	2018	2	2018
Production Milestones: Contract Awards: LEP FRP 1	1	2019	1	2019
Production Milestones: Contract Awards: LEP FRP 2	1	2020	1	2020
Deliveries: LEP EDM Qty 50	3	2016	1	2017
Deliveries: LEP LRIP Qty 350	3	2018	2	2019
Deliveries: LEP FRP 1 Qty 785	3	2019	2	2020
Deliveries: LEP FRP 2 Qty 801	3	2020	4	2020
Electronic Knee Board (EKB)				
Acquisition Milestones: Milestones: EKB EOC	3	2017	3	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Milestones: Milestones: EKB IOC	4	2019	4	2019
System Development: Reviews: Design Review Complete	1	2014	1	2015
System Development: Reviews: Application Development and Integration	2	2015	4	2020
Test and Evaluation: EKB Integrated Testing to Support EOC	2	2015	2	2016
Test and Evaluation: EKB Integrated Testing to Support IOC	3	2017	3	2018
Production Milestones: Contract Awards: EKB FRP 1 (OPN)	2	2016	2	2016
Production Milestones: Contract Awards: EKB FRP 2 (OPN)	2	2017	2	2017
Production Milestones: Contract Awards: EKB FRP 3 (OPN)	2	2018	2	2018
Production Milestones: Contract Awards: EKB FRP 4 (OPN)	2	2019	2	2019
Production Milestones: Contract Awards: EKP FRP 5 (OPN)	2	2020	2	2020
Production Milestones: Deliveries: EKB FRP 1 Qty 1736	3	2016	4	2016
Production Milestones: Deliveries: EKB FRP 2 Qty 2236	3	2017	4	2017
Production Milestones: Deliveries: EKB FRP 3 Qty 1160	3	2018	4	2018
Production Milestones: Deliveries: EKB FRP 4 Qty 1160	3	2019	4	2019
Production Milestones: Deliveries: EKB FRP 5 Qty 1160	3	2020	4	2020
Enhanced Visual Acuity (EVA)				
Acquisition Milestones: Milestones: EVA Milestone B	2	2014	2	2014
Acquisition Milestones: Milestones: EVA Milestone C	4	2017	4	2017
Acquisition Milestones: Milestones: FRP Decision	2	2018	2	2018
Acquisition Milestones: Milestones: EVA IOC	3	2018	3	2018
System Development: Reviews: EVA PDR	1	2015	1	2015
System Development: Reviews: EVA CDR	2	2015	2	2015
System Development: Reviews: EVA TRR	4	2015	4	2015
System Development: Reviews: EVA SVR/PRR	1	2017	1	2017
Test and Evaluation: EVA Developmental Testing	1	2016	1	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604264N / *Air Crew Systems Development*	**Project (Number/Name)** 0606 / *Aircrew System Development*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Test and Evaluation: EVA Operational Testing	4	2017	1	2018
Production Milestones: Contract Awards: EDM	3	2015	3	2015
Production Milestones: Contract Awards: EVA LRIP 1 (OPN)	4	2017	4	2017
Production Milestones: Contract Awards: EVA LRIP 2 (OPN)	2	2018	2	2018
Production Milestones: Contract Awards: EVA FRP 1	2	2019	2	2019
Production Milestones: Contract Awards: EVA FRP 2	2	2020	2	2020
Deliveries: EMD	3	2015	4	2015
Deliveries: EVA LRIP 1 (OPN)	4	2017	1	2018
Deliveries: EVA LRIP 2 (OPN)	2	2018	1	2019
Deliveries: EVA FRP 1	2	2019	1	2020
Deliveries: EVA FRP 2	2	2020	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604269N *I EA-18 Squadrons*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	1,804.950	10.550	18.730	56.921	-	56.921	47.261	104.359	56.413	40.591	Continuing	Continuing
3063: *EA-18G Development*	1,804.950	10.550	18.730	56.921	-	56.921	47.261	104.359	56.413	40.591	Continuing	Continuing
MDAP/MAIS Code: 378												

A. Mission Description and Budget Item Justification

The EA-18G is replacing the EA-6B aircraft as the primary Electronic Attack platform supporting the Navy and Marine Corps, as the EA-6B is fully phased out the EA-18G will be the sole EA aircraft in the inventory. Capabilities of the EA-18G weapon system and ancillary equipment can be upgraded to accommodate and incorporate new or enhanced weapons as well as advances in technology to respond effectively to emerging future threats. E/A-18G "Flight Plan" spiral capability development is critical to the baseline of the EA-18G next generation mission system capability and maintaining tactical relevance in support of Navy Aviation Plan 2030. Development continues for design and integration of avionics systems, integration of Jamming Techniques Optimization improvements, evolutionary software upgrades via the System Configuration Set block builds and related testing. Continued advanced development engineering for improvements in reliability and maintainability are required to ensure maximum benefit is achieved through reduced cost of ownership and to provide enhanced availability.

The FY 2016 funding request was reduced by $389 thousand to account for the availability of prior year execution balances."

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	11.138	18.730	33.968	-	33.968
Current President's Budget	10.550	18.730	56.921	-	56.921
Total Adjustments	-0.588	-	22.953	-	22.953
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.500	-			
• SBIR/STTR Transfer	-0.088	-			
• Rate/Misc Adjustments	-	-	22.953	-	22.953

Change Summary Explanation

Technical: FY16 Improvements to the ALQ-218 complex emitter to significantly improve lowband geo-location, signal detection, and identification capabilities.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604269N / *EA-18 Squadrons*				Project (Number/Name) 3063 / *EA-18G Development*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
3063: *EA-18G Development*	1,804.950	10.550	18.730	56.921	-	56.921	47.261	104.359	56.413	40.591	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The EA-18G is the replacement aircraft for the EA-6B. The EA-18G development program upgrades the EA-6B's Airborne Electronic Attack capability to detect, identify, locate and suppress hostile emitters; provides enhanced connectivity to National, Theater and Strike assets; and provides organic precision emitter targeting for employment of onboard suppression weapons (High-speed Anti-Radiation Missile family) to fulfill operational requirements. The performance of the aircraft is compatible with the primary strike/fighter aircraft projected to be in the inventory, allowing it to be fully integrated into specific strike packages.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: EA-18G Design and Avionics Integration	0.450	0.450	15.164	-	15.164
Articles:	-	-	-	-	-
Description: The EA-18G has the capability to operate autonomously or as a major node in a network-centric operation and is being designed to perform a range of Electronic Warfare/Electronic Attack functions either simultaneously or independently. Funding will be utilized for design and integration of avionics systems into the EA-18G. ***FY 2014 Accomplishments:*** Continue Air Vehicle design and integration of avionics into the EA-18G. Main effort will be the continuing integration of improvements developed through the Jamming Techniques Optimization teams. Funded Jamming Techniques Optimization efforts have been significantly reduced from prior years to support the development of software related capabilities. ***FY 2015 Plans:*** Continue integration of improvements developed through the Jamming Techniques Optimization teams. ***FY 2016 Base Plans:*** Continue integration of improvements developed through the Jamming Techniques Optimization teams. Addtition of ALQ-218 complex emitter upgrade to improve low band geo-location, signal detection, and identification capabilities necessary for complex emitter geo-location and identification. ***FY 2016 OCO Plans:*** N/A					
Title: EA-18G Software Development	7.500	15.700	10.204	-	10.204

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604269N / *EA-18 Squadrons*	**Project (Number/Name)** 3063 / *EA-18G Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
Description: Continued capability enhancements to improve the EA-18G Airborne Electronic Attack capabilities are predominantly realized through evolutionary software upgrades. Funding will be utilized to develop improved software capabilities for the EA-18G through System Configuration Set block software updates. ***FY 2014 Accomplishments:*** Funded software development efforts have been significantly increased to support the expanded development requirements of software related capabilities. FY14 funds will continue System Configuration Set block software development and integration for the EA-18G, specifically System Configuration Set builds 25X, 27X, H10 and H12. ***FY 2015 Plans:*** Continue System Configuration Set block software development and integration for the EA-18G, specifically System Configuration Set builds 25X, 27C, H10 and H12. ***FY 2016 Base Plans:*** Continue System Configuration Set block software development and integration for the EA-18G, specifically System Configuration Set builds 29C, 31C, H14 and H16. ***FY 2016 OCO Plans:*** N/A					
Title: EA-18G Developmental & Operational Testing	2.500	1.500	3.100	-	3.100
Articles:	-	-	-	-	-
Description: Funding will be utilized to support required test phases of the EA-18G. ***FY 2014 Accomplishments:*** Continued operational test of EA-18G avionics upgrades and System Configuration Set block software updates. ***FY 2015 Plans:*** Continue operational test of EA-18G avionics upgrades and System Configuration Set block software updates to include Flight Tests conducted in conjunction with various Fleet Exercises (i.e. FLEX-15). ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604269N / *EA-18 Squadrons*	**Project (Number/Name)** 3063 / *EA-18G Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue operational and integration test of EA-18G avionics upgrades and System Configuration Set block software updates to include Flight Tests conducted in conjunction with various Fleet Exercises (i.e. FLEX-1X). ***FY 2016 OCO Plans:*** N/A					
Title: EA-18G Flight Plan Engineering / System Configuration Set Development and Integration	-	1.000	28.353	-	28.353
Articles:	-	-	-	-	-
Description: EA-18G "Flight Plan" spiral capability development is critical to the baseline of the Growler next generation mission system capability. Funding will support the development, test and integration efforts required to maintain tactical relevance in support of Navy Aviation Plan 2030. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** Flight Plan Engineering efforts to include EA-18G improvements necessary for Growler relevance and tactical supremacy; Navy Integrated Fire Control-Counter Air system configuration set requirements to support Navy Integrated Air and Missile Defense capability requirements and enhance EA-18G Cooperative Engagement Capability. Funding supports development (hardware and software), test and integration efforts for Flight Plan requirements such as Distributed Targeting Processor-Networked to include Aided Target Recognition, Stationary Target Recognition, Maritime Multiple Target Track and Engagement, Multi-Level Security, Strike Accelerator and Advanced Tactical Data Link; Display Improvements for enhanced sensor integration; Tactical Targeting Network Technology internet protocol capability and Time Difference Of Arrival in support of Integrated Capability Package-3. ***FY 2016 Base Plans:*** Flight Plan Engineering efforts to include EA-18G improvements necessary for Growler relevance and tactical supremacy; Navy Integrated Fire Control-Counter Air system configuration set requirements to support Navy Integrated Air and Missile Defense capability requirements and enhance EA-18G Cooperative Engagement Capability. Funding supports development (hardware and software), test and integration efforts for Flight Plan requirements such as Distributed Targeting Processor-Networked to include Aided Target Recognition, Stationary Target Recognition, Maritime Multiple Target Track and Engagement, Multi-Level Security, Strike Accelerator and Advanced Tactical Data Link; Display Improvements for enhanced sensor integration; Tactical Targeting Network Technology internet protocol capability; Precision Approach and Landing Capability; Flight					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604269N / *EA-18 Squadrons*	**Project (Number/Name)** 3063 / *EA-18G Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Path Control (Magic Carpet); Time Difference Of Arrival in support of Integrated Capability Package-3, and continued updates to Wingman Compatability improvements. ***FY 2016 OCO Plans:*** N/A					
Title: EA-18G Obsolescence Redesign	0.100	0.080	0.100	-	0.100
Articles:	-	-	-	-	-
Description: Develop and test design modifications to address obsolescence issues. ***FY 2014 Accomplishments:*** Develop and test design modifications to hardware components and software systems in response to EA-18G weapon system and ancillary equipment obsolescence issues. ***FY 2015 Plans:*** Develop and test design modifications to hardware components and software systems in response to EA-18G weapon system and ancillary equipment obsolescence issues. ***FY 2016 Base Plans:*** Develop and test design modifications to hardware components and software systems in response to EA-18G weapon system and ancillary equipment obsolescence issues. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	10.550	18.730	56.921	-	56.921

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/014300: *EA-18G*	1,839.918	1,503.547	-	-	-	-	-	-	-	-	15,373.657
• APN/05250: *F-18 Series (OSIP 011-10)*	22.816	22.843	10.871	-	10.871	13.805	39.017	146.341	87.708	208.613	569.862
• RDTEN/1662: *F/A-18 Improvement*	109.670	73.152	103.397	-	103.397	234.368	186.199	167.019	116.663	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604269N / *EA-18 Squadrons*	**Project (Number/Name)** 3063 / *EA-18G Development*

D. Acquisition Strategy

The program achieved Full Rate Production in November 2009. Contractual studies are underway for Operational Requirement Document core Block II activities and those efforts will be integrated into the overall EA-18G plan/roadmap as resources permit. EA-18G software upgrades are incrementally developed, integrated and fielded. Software development and integration are coordinated efforts between government activities and industry partners to field capability upgrades to the EA-18G fleet.

E. Performance Metrics

Completion of Full Rate Production Delivery of EA-18G aircraft scheduled for 1st Quarter FY2017.

Complete incorporation of EA-18G specific upgrades into the System Configuration Set block software builds to meet planned Fleet Release dates.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604269N / *EA-18 Squadrons*	**Project (Number/Name)** 3063 / *EA-18G Development*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering (System Configuration Set / Software)	WR	NAWCAD : Pax River, MD	30.805	1.400	Aug 2014	1.500	Feb 2015	1.000	Nov 2015	-		1.000	Continuing	Continuing	Continuing
Systems Engineering (SCS/SW)	WR	NAWCWD : China Lake, CA	82.813	3.101	Nov 2013	4.814	Nov 2014	17.352	Nov 2015	-		17.352	Continuing	Continuing	Continuing
Systems Engineering (JATO/SCS/SW)	WR	NAWCWD : Pt. Mugu, CA	63.233	3.436	Nov 2013	8.012	Nov 2014	9.512	Nov 2015	-		9.512	Continuing	Continuing	Continuing
Systems Engineering (JATO/ALQ-218)	WR	Naval Research Laboratory : Washington, DC	2.522	0.200	Feb 2014	0.200	Feb 2015	0.200	Feb 2016	-		0.200	Continuing	Continuing	Continuing
Systems Engineering (JATO)	WR	NAVSEASYSCOM : Washington, DC	4.814	0.250	Feb 2014	0.250	Feb 2015	0.250	Feb 2016	-		0.250	Continuing	Continuing	Continuing
System Engineering (ALQ-218)	C/CPFF	Boeing : St. Louis	0.000	-		-		14.714	Dec 2015	-		14.714	-	14.714	14.714
Prior Year Prod Dev no longer funded in FYDP	Various	Various : Various	1,093.867	-		-		-		-		-	-	1,093.867	-
		Subtotal	1,278.054	8.387		14.776		43.028		-		43.028	-	-	-

Remarks

Addition of Systems Engineering for ALQ-218 improvement design and integration effort.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Obsolescence Redesign	TBD	TBD : TBD	0.000	0.100	Jun 2014	0.080	Jun 2015	0.100	Jun 2016	-		0.100	Continuing	Continuing	Continuing
Flight Plan Engineering/ SCS Development and Integration	Various	Various : Various	0.000	-		-		8.239	Dec 2015	-		8.239	-	8.239	-
Prior Year Support no longer funded in FYDP	Various	Various : Various	235.789	-		-		-		-		-	-	235.789	-
		Subtotal	235.789	0.100		0.080		8.339		-		8.339	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604269N / *EA-18 Squadrons*	**Project (Number/Name)** 3063 / *EA-18G Development*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration & Operational Testing	WR	Various : Various	112.025	0.700	Jul 2014	1.500	Jul 2015	2.000	Jul 2016	-		2.000	Continuing	Continuing	Continuing
AIM-9X Test Assets	C/CPFF	Raytheon : Tuscon, AZ	1.033	-		-		1.100	Nov 2015	-		1.100	-	2.133	2.133
Prior Year T&E no longer funded in FYDP	Various	Various : Various	106.400	-		-		-		-		-	-	106.400	-
		Subtotal	219.458	0.700		1.500		3.100		-		3.100	-	-	-

Remarks

Test Assets (AIM-120, AIM-9X) procured as live fire and E3/HERO test assets in support of EA-18G software development and weapons integration efforts specific to the EA-18G.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support (Seaport-CSS)	C/CPFF	Wyle Lab : Pax River, MD	12.723	0.616	Nov 2013	0.616	Nov 2014	0.616	Nov 2015	-		0.616	1.073	15.644	15.644
Government Engineering Support	WR	NAWCAD : Pax River, MD	32.315	0.420	Nov 2013	0.425	Nov 2014	0.435	Nov 2015	-		0.435	Continuing	Continuing	Continuing
Program Management Support	WR	NAWCAD : Pax River, MD	22.665	0.277	Nov 2013	0.283	Nov 2014	0.283	Nov 2015	-		0.283	Continuing	Continuing	Continuing
Travel	WR	Various : Various	2.605	0.050	Nov 2013	0.050	Nov 2014	0.050	Nov 2015	-		0.050	Continuing	Continuing	Continuing
Flight Plan Engineering / System Configuration Set Development & Integration	WR	NAWCAD : Pax River, MD	0.000	-		0.700	Nov 2014	0.750	Nov 2015	-		0.750	Continuing	Continuing	Continuing
Flight Plan Engineering / System Configuration Set Development & Integration	WR	NAWCWD : China Lake, CA	0.000	-		0.300	Nov 2014	0.320	Nov 2015	-		0.320	Continuing	Continuing	Continuing
Prior Year Mgmt Svcs no longer funded in FYDP	Various	Various : Various	1.341	-		-		-		-		-	-	1.341	-
		Subtotal	71.649	1.363		2.374		2.454		-		2.454	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604269N / *EA-18 Squadrons*	Project (Number/Name) 3063 / *EA-18G Development*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,804.950	10.550		18.730		56.921		-		56.921	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604269N / *EA-18 Squadrons*	**Project (Number/Name)** 3063 / *EA-18G Development*

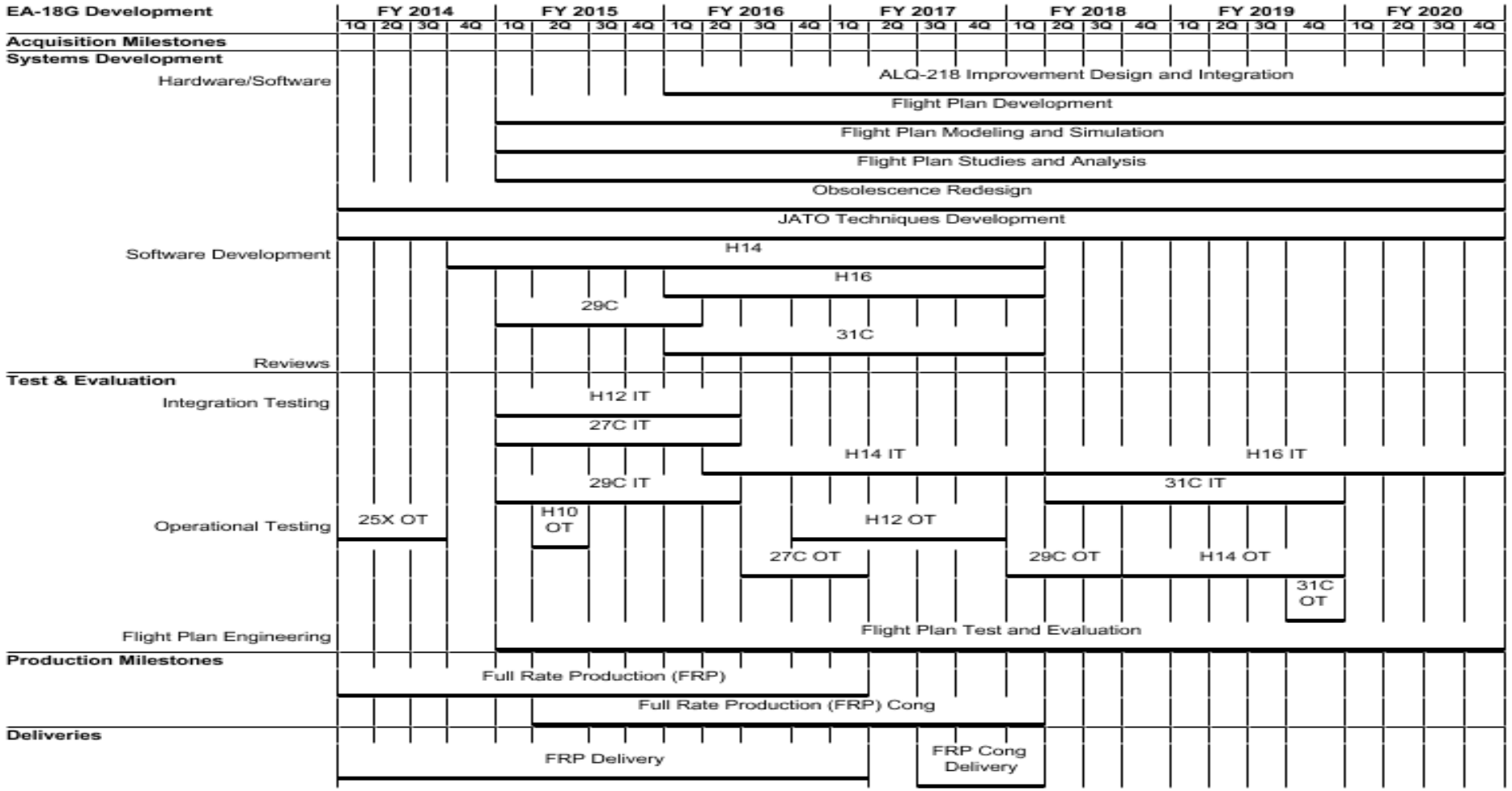
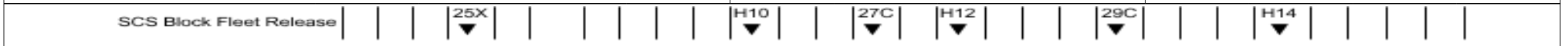


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604269N / *EA-18 Squadrons*	**Project (Number/Name)** 3063 / *EA-18G Development*



2016PB - 0604269N - 3063

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604269N / *EA-18 Squadrons*	**Project (Number/Name)** 3063 / *EA-18G Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
EA-18G Development				
Systems Development: Hardware/Software: ALQ-218 Improvement Design and Integration	1	2016	4	2020
Systems Development: Hardware/Software: Flight Plan Development	1	2015	4	2020
Systems Development: Hardware/Software: Flight Plan Modeling and Simulation	1	2015	4	2020
Systems Development: Hardware/Software: Flight Plan Studies and Analysis	1	2015	4	2020
Systems Development: Hardware/Software: Obsolescence Redesign Development and Testing	1	2014	4	2020
Systems Development: Hardware/Software: JATO Techniques Development	1	2014	4	2020
Systems Development: Software Development: H14 Software Development	4	2014	1	2018
Systems Development: Software Development: H16 Software Development	1	2016	1	2018
Systems Development: Software Development: 29C Software Development	1	2015	1	2016
Systems Development: Software Development: 31C Software Development	1	2016	1	2018
Test & Evaluation: Integration Testing: H12 Integration Testing	1	2015	2	2016
Test & Evaluation: Integration Testing: 27C Integration Testing	1	2015	2	2016
Test & Evaluation: Integration Testing: H14 Integration Testing	2	2016	1	2018
Test & Evaluation: Integration Testing: H16 Integration Testing	2	2018	4	2020
Test & Evaluation: Integration Testing: 29C Integration Testing	1	2015	2	2016
Test & Evaluation: Integration Testing: 31C Integration Testing	2	2018	4	2019
Test & Evaluation: Operational Testing: H10 Operational Testing	2	2015	2	2015
Test & Evaluation: Operational Testing: H12 Operational Testing	4	2016	4	2017
Test & Evaluation: Operational Testing: 25X Operational Testing	1	2014	3	2014
Test & Evaluation: Operational Testing: 27C Operational Testing	3	2016	1	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604269N / *EA-18 Squadrons*	**Project (Number/Name)** 3063 / *EA-18G Development*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Test & Evaluation: Operational Testing: H14 Operational Testing	4	2018	4	2019
Test & Evaluation: Operational Testing: 29C Operational Testing	1	2018	3	2018
Test & Evaluation: Operational Testing: 31C Operational Testing	4	2019	4	2019
Test & Evaluation: Flight Plan Engineering: Developmental, Integration and Operational Testing	1	2015	4	2020
Production Milestones: Full Rate Production	1	2014	1	2017
Production Milestones: Full Rate Production - Congressional add	2	2015	1	2018
Deliveries: FRP Delivery	1	2014	1	2017
Deliveries: FRP Cong Delivery	3	2017	1	2018
Deliveries: SCS Block Fleet Release: H10 Fleet Release	3	2016	3	2016
Deliveries: SCS Block Fleet Release: H12 Fleet Release	4	2017	4	2017
Deliveries: SCS Block Fleet Release: 25X Fleet Release	4	2014	4	2014
Deliveries: SCS Block Fleet Release: 27C Fleet Release	2	2017	2	2017
Deliveries: SCS Block Fleet Release: 29C Fleet Release	4	2018	4	2018
Deliveries: SCS Block Fleet Release: H14 Fleet Release	4	2019	4	2019

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604270N *I Electronic Warfare (EW) Dev*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	911.361	34.239	28.742	23.685	-	23.685	20.306	20.278	21.724	22.167	Continuing	Continuing
0556: *EW Counter Response*	427.585	19.478	15.782	15.462	-	15.462	16.345	16.508	17.869	18.231	Continuing	Continuing
1742.: *EW Technical Development and T&E*	28.687	1.303	1.152	1.629	-	1.629	1.651	1.585	1.617	1.652	Continuing	Continuing
2175: *Tactical Air Electronic Warfare*	455.089	13.458	11.808	6.594	-	6.594	2.310	2.185	2.238	2.284	-	495.966
MDAP/MAIS Code: 418												

A. Mission Description and Budget Item Justification

This program element includes development of Electronic Warfare (EW) systems for the United States Navy (USN), United States Marine Corps (USMC), and United States Army tactical aircraft, USMC helicopters, surface combatants, data link vulnerability assessments, precision targeting, USN and USMC radio frequency jammers, and development and testing of electronic warfare devices for emerging threats and emergency contingencies.

This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	34.964	28.742	23.292	-	23.292
Current President's Budget	34.239	28.742	23.685	-	23.685
Total Adjustments	-0.725	-	0.393	-	0.393
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.725	-			
• Rate/Misc Adjustments	-	-	0.393	-	0.393

Change Summary Explanation

Technical: Not Applicable.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604270N *I Electronic Warfare (EW) Dev*

Schedule:
Project Unit 0556 / EW COUNTER RESPONSE: Removed ICAP III Block 7 events due to slide of software update and utilization of other funding.

Project Unit 2175 / Tactical Air Electronic Warfare:

IDECM Block 4: IDECM Block 4 OT Flights completion date changed from 1st Qtr FY 2015 to 4th Qtr FY 2015. Specifically, the availability of test aircraft, ranges and threats are impacting execution of IDECM Block 4 flight testing.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / *Electronic Warfare (EW) Dev*	Project (Number/Name) 0556 / *EW Counter Response*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0556: *EW Counter Response*	427.585	19.478	15.782	15.462	-	15.462	16.345	16.508	17.869	18.231	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project develops upgrades to combat the increasingly complex and dense Electronic Warfare (EW) threat environment. Required improvements in Airborne Electronic Attack (AEA) will achieve application of state-of-the-art signal exploitation, processing, display techniques, improved tactics, and jamming capabilities against EW threats.

Efforts include continued development of Force Protection/Overseas Contingency Operations (classified discussion available upon request) Navigation and Information Operations applications and enhanced communications jamming. Efforts also include risk reduction activities to support the upgrade of the ALQ-99 Tactical Jamming System (TJS) capabilities to include technology studies, breadboard/demonstrator development, and testing in laboratory and relevant environments. The efforts under this project provide for electronic countermeasure responses to advanced threat weapon systems and Command, Control, and Communications (C3) networks that are expanding in density and technical complexity. This project funds the continued development and integration of all EW and Electronic Attack systems for the US Navy electronic attack aircraft including improvements within precision Direction of Arrival, geo-location, Specific Emitter Identification, Auto-Electronic Support Measures, and selective reactive jamming.

Electronic Attack Jammer Techniques Optimization (JATO) and test support is required to address and counter new and evolving radar and communications threats in support of existing and emerging systems such as the EA-6B, EA-18G, and Next Generation Jammer (NGJ). JATO will continue to generate techniques, tactics, and procedures that will optimize the capabilities of existing weapon systems, and to assist in requirements definitions of emerging AEA systems.

The Airborne Electronic Attack Expendable provides an expanded war fighting capability on an expendable host platform against EW threats including: Integrated Air Defenses, Command and Control Communications, and Datalinks through an open Electronic Attack Subsystem interface specification. This flexible system allows rapid technology insertion and threat set adaptability that will address AEA capability and sufficiency gaps.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: ICAP III UPDATE	3.286	1.940	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Developed, integrated, and enhanced Link-16 capabilities, ALQ-218 capabilities, USQ-113 capabilities, Jammer Management Rehost, LITENING, Internet Relay Chat, USB ENTR and VACM into ICAP III aircraft, as well as					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 0556 / *EW Counter Response*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
resolving Operational Evaluation (OPEVAL) and Follow-On Test and Evaluation (FOT&E) related deficiencies via ICAP III block releases. ***FY 2015 Plans:*** Continue development, integration, and enhancement of Link-16 capabilities, ALQ-218 capabilities, USQ-113 capabilities, USB ENTR, and VACM into ICAP III Aircraft, as well as resolving OPEVAL and FOT&E related deficiencies via ICAP III Block release. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: MISSION PLANNING	2.086	1.100	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: The mission planning environment developed UPCs, EA-6B Tactical Information & Report Management System and Electronic Warfare Development System database libraries. The Mission Planning Environment developed an upgraded operating framework and transitioned from a Windows XP environment to a Windows 7 operating system environment. New framework was required to counter Microsoft Operating System obsolescence. ***FY 2015 Plans:*** Complete development of all elements and support Operational Test of the EA-6B Mission Planning Environment (MPE), including Unique Planning Component (UPC), Electronic Tactical Information and Report Management System (ETIRMS), and Electronic Warfare Database System (EWDS). Execute all tasks required to obtain Navy and Marines IA accreditation for product and support subsequent MPE fielding. Begin Mission Planning Environment (MPE) development of .NET 64 bit Operating System (OS) migration, synchronizing with new Joint Mission Planning System (JMPS) FW 64 bit evolution for continued Information Assurance (IA) sustainment and OS obsolescence avoidance. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 0556 / *EW Counter Response*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: JAMMER TECHNIQUES OPTIMIZATION (JATO)	13.756	11.242	14.972	-	14.972
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued engineering development and test support required to address new and evolving radar/ communications threats in support of existing and emerging systems such as the EA-6B, EA-18G, and Next Generation Jammer. Jammer Techniques Optimization (JATO) continued to generate techniques, tactics, and procedures to optimize the capabilities of ALQ-99, USQ-113, ALQ-218, ALQ-227, ALQ-231, ALE-43, and Airborne Electronic Attack Expendable (AEAE) systems, and to assist in requirements definitions of emerging Airborne Electronic Attack (AEA) systems. JATO continued to lead efforts in support of Overseas Contingency Operation and Force Protection issues. (Classified discussion available upon request.)					
FY 2015 Plans: Continue engineering development and test support required to address new and evolving radar/ communications threats in support of existing and emerging systems such as the EA-6B, EA-18G, and Next Generation Jammer. Jammer Techniques Optimization (JATO) will continue to generate techniques, tactics, and procedures to optimize the capabilities of ALQ-99, USQ-113, ALQ-218, ALQ-227, ALQ-231, ALE-43, and Airborne Electronic Attack Expendable (AEAE) systems, and to assist in requirements definitions of emerging Airborne Electronic Attack (AEA) systems. JATO continues to lead efforts in support of Overseas Contingency Operation and Force Protection issues. (Classified discussion available upon request.)					
FY 2016 Base Plans: Continue engineering development and test support of existing and emerging systems such as the EA-6B, EA-18G, and Next Generation Jammer to address potential Radio Frequency (RF) and Cyber Electronic Warfare (Cyber/EW) effects on current and evolving radar/communications threats. Jammer Techniques Optimization (JATO) will continue to generate techniques, tactics, and procedures to optimize the capabilities of systems such as, but not limited to, the ALQ-99, USQ-113, ALQ-218, ALQ-227, ALQ-231, ALE-43, and Airborne Electronic Attack Expendable (AEAE) systems; and assist in requirements definitions of emerging Airborne Electronic Attack (AEA) systems. JATO continues to lead efforts in support of Overseas Operations and Force Protection issues. (Classified discussion available upon request.)					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 0556 / *EW Counter Response*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Increase in funding from FY2015 to FY2016 is due to increased flight and ground testing against adversary systems and increased efforts to address Cyber/EW threats. ***FY 2016 OCO Plans:*** N/A					
Title: AIRBORNE ELECTRONIC ATTACK EXPENDABLE (AEAE)	0.350	1.500	0.490	-	0.490
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued development of Instrumented Measurement Vehicles for carrier suitability and airborne flight test and evaluation. Evaluated Electronic Warfare payloads for integration into AEAE platform. Integrated standard payload interface into the vehicle baseline and develop documentation in support of the JCIDS process to include a CDD.					
FY 2015 Plans: Continue integration onto the F/A-18E/F aircraft. Conduct test and evaluation with Instrumented Measurement Vehicles to capture data to be used for the analysis of captive carry airworthiness and carrier suitability. Characterize vibration and shock forces associated with F/A-18E/F captive carry and carrier catapult take-offs and arrested landings. Evaluate modified Stability Augmentation Device for F/A-18E/F specific airflow and aerodynamic effects. Develop accurate mathematical scale models for wind tunnel simulation and test. Perform wind tunnel safe-separation and transition-to-flight tests for vehicle risk analysis and mitigation. Develop F/A-18E/F Airborne Electronic Attack Expendable (AEAE) Unique Planning Component for integration into the F/A-18E/F Joint Mission Planning System Mission Planning Environment and H14 Software Configuration Set. Develop and evaluate Electronic Warfare payload(s) for integration into AEAE platform. Conduct AEAE payload airworthiness, compatibility, and suitability analysis. Integrate standard payload interface into the vehicle baseline and develop documentation in support of the Joint Capabilities Integration and Development System process to include a Capabilities Development Document. Update the navigation system for sustained reliable performance in accordance with Navy mission requirements. Conduct Weapon Data Link (WDL) requirements analysis and evaluate WDL integration. Develop, prototype, test, and evaluate AEAE containers for carrier transport and storage suitability.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 0556 / *EW Counter Response*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue risk reduction efforts including evaluation of Electronic Warfare payload(s) for integration into AEAE platform. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	19.478	15.782	15.462	-	15.462

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/05110: *EA-6 Series*	17.367	10.993	9.799	-	9.799	4.937	3.656	0.313	0.316	-	3,405.777
• APN/05130: *AEA Systems*	44.802	44.768	23.151	-	23.151	40.982	40.069	38.846	39.620	313.239	739.753

Remarks

D. Acquisition Strategy

The Jammer Techniques Optimization Group (JATO), comprised of a partnership between the Government and a University Aligned Research Center (UARC), continues to research Electronic Warfare tactics and techniques. The JATO prime delivery order, a cost plus fixed fee contract that covers the period of FY 2013 through FY 2017, was awarded to Johns Hopkins University in 3Q FY 2013.

E. Performance Metrics

1. Jammer Techniques Optimization development counters enemy radar systems and communication systems to provide techniques to protect allied forces.
2. Airborne Electronic Attack Expendable continues risk reduction.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / *Electronic Warfare (EW) Dev*	Project (Number/Name) 0556 / *EW Counter Response*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HDW Develop - ICAP III	C/FFP	Various : Various	261.204	0.500	Dec 2013	0.400	Dec 2014	-		-		-	-	262.104	262.104
Systems Engineering NRL	WR	Naval Research Lab : Maryland	7.072	1.660	Dec 2013	1.550	Dec 2014	1.578	Dec 2015	-		1.578	Continuing	Continuing	Continuing
Systems Engineering NAWCAD	WR	NAWCAD : Patuxent River, MD	22.214	1.997	Nov 2013	1.740	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Systems Engineering NAWCWD	WR	NAWCWD : Point Mugu, CA	66.825	9.240	Nov 2013	7.628	Nov 2014	8.859	Nov 2015	-		8.859	Continuing	Continuing	Continuing
Systems Engineering NSWC	WR	NSWC Det : Crane, IN	9.931	0.520	Dec 2013	0.536	Dec 2014	0.545	Dec 2015	-		0.545	Continuing	Continuing	Continuing
Systems Engineering VAR	WR	Various : Various	14.335	0.558	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
Prior Year Development cost no longer Funded in the FYDP	Various	Various : Various	1.043	-		-		-		-		-	-	1.043	1.043
		Subtotal	382.624	14.475		11.854		10.982		-		10.982	-	-	-

Remarks

Cost growth in excess of OSD approved inflation indices between FY15 and FY16 for Systems Engineering NAWCWD is due to increased numbers of systems supported by JATO as well as increased efforts to address emerging threats and increased focus on Cyber Electronic Warfare (Cyber/EW).

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support - JATO	SS/CPFF	Johns Hopkins Unv : Maryland	27.277	3.925	Dec 2013	3.428	Dec 2014	4.000	Dec 2015	-		4.000	Continuing	Continuing	Continuing
Eng & Tech Srvc (Non FFRDC)	Various	Various : Various	14.373	0.928	Dec 2013	0.400	Dec 2014	0.400	Dec 2015	-		0.400	Continuing	Continuing	Continuing
Prior year Support costs no longer funded in the FYDP	Various	Various : Various	2.256	-		-		-		-		-	-	2.256	-
		Subtotal	43.906	4.853		3.828		4.400		-		4.400	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / *Electronic Warfare (EW) Dev*	Project (Number/Name) 0556 / *EW Counter Response*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Cost growth in excess of OSD approved inflation indices between FY15 and FY16 for Development Support - JATO is due to increased focus on Cyber Electronic Warfare (Cyber/EW) threats.

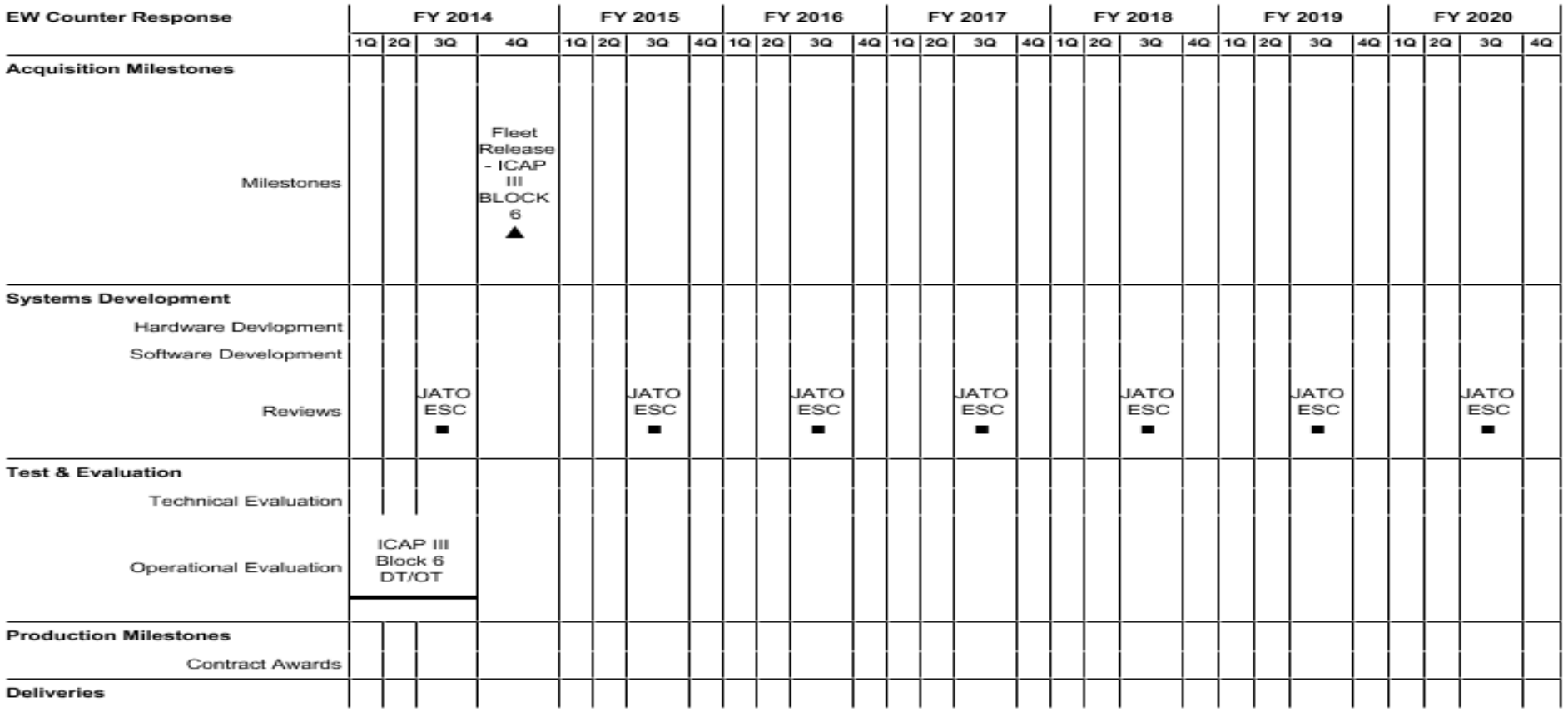
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	Various : Various	1.055	0.150	Dec 2013	0.050	Dec 2014	0.030	Oct 2015	-		0.030	Continuing	Continuing	Continuing
Travel	WR	Various : Various	0.000	-		0.050	Oct 2014	0.050	Oct 2015	-		0.050	-	0.100	-
		Subtotal	1.055	0.150		0.100		0.080		-		0.080	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	427.585	19.478		15.782		15.462		-		15.462	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 0556 / *EW Counter Response*



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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 0556 / *EW Counter Response*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
EW Counter Response				
Acquisition Milestones: Milestones: Fleet Release - ICAP III BLOCK 6	4	2014	4	2014
Systems Development: Reviews: JATO Executive Steering Committee 2014	3	2014	3	2014
Systems Development: Reviews: JATO Executive Steering Committee 2015	3	2015	3	2015
Systems Development: Reviews: JATO Executive Steering Committee 2016	3	2016	3	2016
Systems Development: Reviews: JATO Executive Steering Committee 2017	3	2017	3	2017
Systems Development: Reviews: JATO Executive Steering Committee 2018	3	2018	3	2018
Systems Development: Reviews: JATO Executive Steering Committee 2019	3	2019	3	2019
Systems Development: Reviews: JATO Executive Steering Committee 2020	3	2020	3	2020
Test & Evaluation: Operational Evaluation: ICAP III Block 6 DT/OT	1	2014	3	2014

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / *Electronic Warfare (EW) Dev*	Project (Number/Name) 1742. / *EW Technical Development and T&E*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1742.: *EW Technical Development and T&E*	28.687	1.303	1.152	1.629	-	1.629	1.651	1.585	1.617	1.652	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program element includes development of Electronic Warfare (EW) systems for the United States Navy (USN), United States Marine Corps (USMC), and United States Army tactical aircraft, USMC helicopters, surface combatants, data link vulnerability assessments, precision targeting, USN and USMC radio frequency jammers, and development and testing of electronic warfare devices for emerging threats and emergency contingencies.

This project funds efforts that focus on the quick reaction prototyping of tactical information and electronic warfare systems. This program directly addresses various Fleet requirements across multiple platforms (airborne, surface and subsurface), airborne and surface cryptologic operational requirements documents and the joint oversight council missions needs statement to research, assess, and develop information warfare and electronic warfare systems and capabilities. These systems/ capabilities provide information dominance to friendly forces during conflict, which is necessary for successful mission accomplishment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Electronic Warfare Technical Development Studies and Test & Evaluation	1.303	1.152	1.629	-	1.629
Articles:	-	-	-	-	-
Description: This project funds efforts that focus on the quick reaction prototyping of tactical information and electronic warfare systems.					
FY 2014 Accomplishments: Continue studies and vulnerability analysis on emerging/changing threats/targets for EW programs.					
FY 2015 Plans: Continue studies and vulnerability analysis on emerging/changing threats/targets for EW programs.					
FY 2016 Base Plans: Continue studies and vulnerability analysis on emerging/changing threats/targets for EW programs.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.303	1.152	1.629	-	1.629

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 1742. / *EW Technical Development and T&E*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

BSO 60: Development of classified prototypes and special capabilities.

E. Performance Metrics

BSO 60: Research, assess and develop EW/IW capabilities.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / *Electronic Warfare (EW) Dev*	Project (Number/Name) 1742. / *EW Technical Development and T&E*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	Classified : Various	5.204	-		-		0.160	Oct 2015	-		0.160	-	5.364	-
		Subtotal	5.204	-		-		0.160		-		0.160	-	5.364	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analysis	Various	Classified : Various	17.944	1.140	Oct 2013	0.997	Oct 2014	1.162	Oct 2015	-		1.162	Continuing	Continuing	Continuing
		Subtotal	17.944	1.140		0.997		1.162		-		1.162	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test and Evaluation	C/BA	NRL : Washington, DC	2.890	-		-		-		-		-	-	2.890	-
		Subtotal	2.890	-		-		-		-		-	-	2.890	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Personnel	Various	Classified : Various	1.074	0.100	Oct 2013	0.070	Oct 2014	0.157	Oct 2015	-		0.157	-	1.401	-
Travel	WR	NCWDG : Washington, DC	1.549	0.063	Oct 2013	0.085	Oct 2014	0.150	Oct 2015	-		0.150	-	1.847	-
Acquisition Workforce Fund	Various	Various : Various	0.026	-		-		-		-		-	-	0.026	-
		Subtotal	2.649	0.163		0.155		0.307		-		0.307	-	3.274	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / *Electronic Warfare (EW) Dev*	Project (Number/Name) 1742. / *EW Technical Development and T&E*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	28.687	1.303		1.152		1.629		-		1.629	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 1742. / *EW Technical Development and T&E*

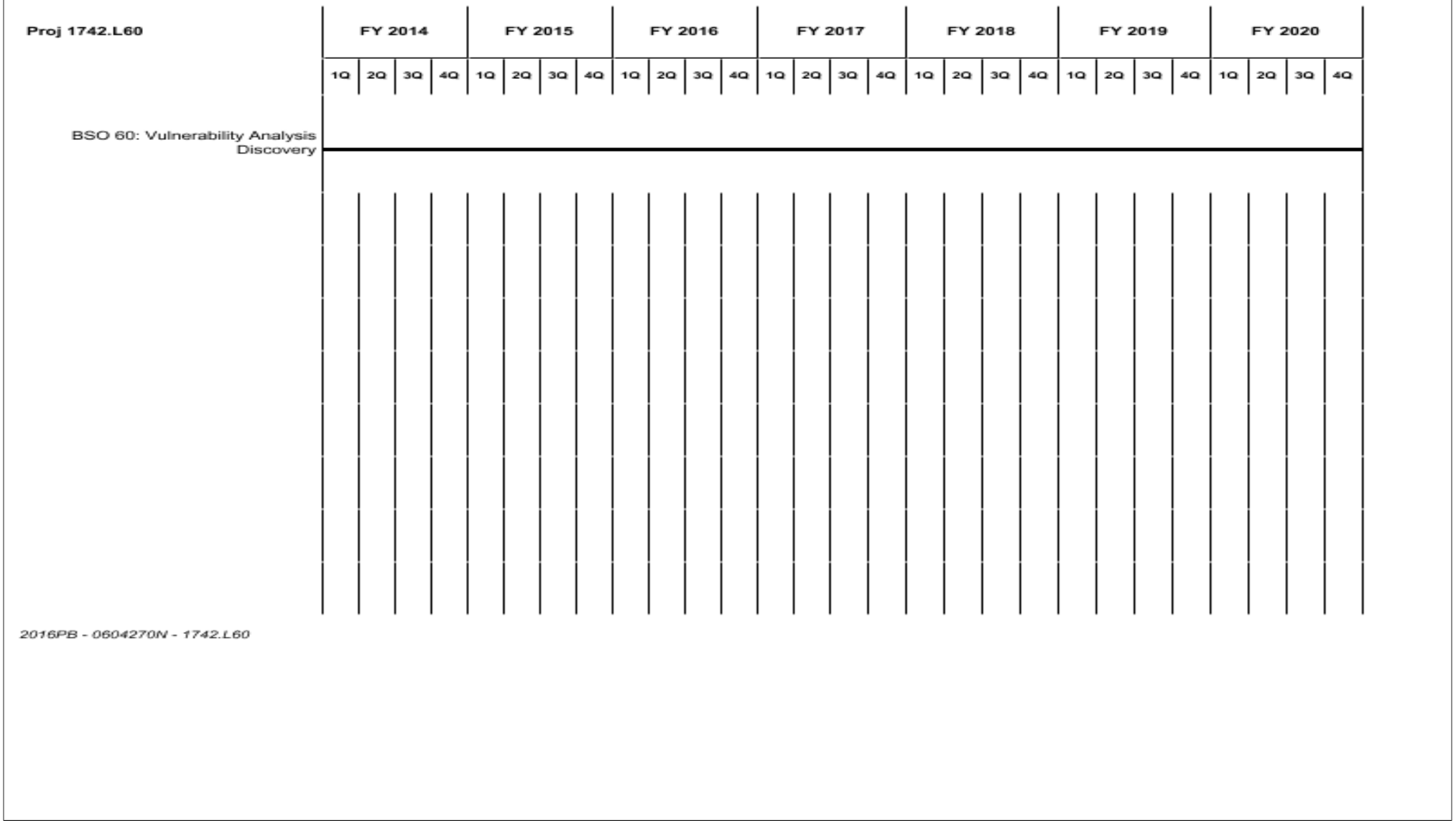


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 1742. / *EW Technical Development and T&E*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1742.L60				
BSO 60: Vulnerability Analysis Discovery: Vulnerability Analysis Discovery	1	2014	4	2020
BSO 60: Vulnerability Analysis Discovery: Development Work	1	2016	4	2020
BSO 60: Vulnerability Analysis Discovery: Database Development	1	2016	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / *Electronic Warfare (EW) Dev*	Project (Number/Name) 2175 / *Tactical Air Electronic Warfare*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2175: *Tactical Air Electronic Warfare*	455.089	13.458	11.808	6.594	-	6.594	2.310	2.185	2.238	2.284	-	495.966
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Integrated Defensive Electronic Countermeasures (IDECM) Block 3 (IB-3) introduced the new Fiber Optic Towed Decoy (FOTD) capability to the IDECM Block 2 Electronic Warfare (EW) suite as a replacement for the ALE-50 decoy. The FOTD, when integrated with the rest of the F/A-18E/F EW suite (i.e., ALQ-214, ALR-67(V)3, ALE-47 and ALE-50), the associated cockpit controls, displays and other avionics significantly improves the survivability of the host aircraft in a radio frequency threat environment. IB-3 MS III (Full Rate Production Decision) was approved in the 4th Qtr FY 2011. IB-3 Initial Operational Capability (IOC) achieved 4th Qtr FY 2011.

IDECM Block 4 (IB-4) is an Engineering Change Proposal (ECP) to the ALQ-214 to render it suitable for operation on F/A-18C/D aircraft (replacing the ALQ-126B and significantly improving F/A-18C/D survivability) while retaining all IDECM suite functionality when installed on F/A-18E/F aircraft. The IB-4 acquisition and contract strategy includes development of the Common On-Board Jammer for the F/A-18 C/D/E/F aircraft through sole source contract awards for modifications to the ALQ-214. IB-4, ALQ-214 ECP, efforts include hardware and software design, development and test, delivery of 17 engineering development models, integration and testing on the host aircraft. The F/A-18C/D EW suite includes the ALR-67(V)2 Radar Warning Receiver (RWR), the ALE-47 Countermeasures Dispensing Set (CMDS), the mission computer and other avionics. In addition to performing the RWR function, the ALR-67(V)2 is the EW bus controller. The EW bus is the primary interface between the EW systems (Jammer, RWR, and CMDS). The mission computer is the avionics bus controller, the interface between the EW suite and other avionics.

ALQ-214 software improvement will provide the ALQ-214 with digital radio frequency memory deny-delay, technique capability significantly improving F/A-18C/D/E/F survivability. Acquisition and contract strategy includes development, integration and test of the ALQ-214 software improvements through sole-source contract award. Minor modification to other avionics are required in order to integrate this new capability. These other avionics may include, but are not limited to, the ALR-67(V)2, ALR-67(V)3, ALE-47, ALE-50, ALE-55, mission computer and fire control radar.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Tactical Air EW	13.458	11.808	6.594	-	6.594
Articles:	-	-	-	-	-
FY 2014 Accomplishments: The IDECM Block 4 ALQ-214 ECP engineering effort will conclude in FY 2015. Flight testing for the ALQ-214-ECP will continue and is scheduled to be completed. The ALQ-214 software improvement contract will continue					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 2175 / *Tactical Air Electronic Warfare*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
into FY 2015 and will include engineering and logistics support. The IDECM Block 4 IPR 5 was completed in 2nd Quarter FY 2014. ***FY 2015 Plans:*** Successfully awarded the ALE-55 FRP 5 contract. IDECM Block 4 In-Process Review (IPR) 6 is planned for FY 2015. ALQ-214 software improvement contract and developmental testing will continue into FY 2015. ***FY 2016 Base Plans:*** The ALQ-214 software improvement contract will continue into FY 2016. Operational testing for software improvement will begin and will continue through FY 2016. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	13.458	11.808	6.594	-	6.594

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0576 004-12: *Common On-Board Jammer*	72.291	93.810	98.095	-	98.095	47.368	58.530	47.635	48.575	58.247	617.373
• PANMC/0182: *Airborne Expendable CM*	20.076	21.574	21.723	-	21.723	22.195	24.810	25.300	25.781	Continuing	Continuing

Remarks

D. Acquisition Strategy

IDECM Block 3 (IB-3) sole source award of Full Rate Production (FRP) in FY 2013. Annual IB-3 production contracts will continue through FY 2046. The ALQ-214 Engineering Change Proposal (ECP) engineering manufacturing & development contract effort was awarded sole source to ITT/EXELIS in December 2009. The contract will conclude in FY 2015. ALQ-214 software improvement acquisition awarded to ITT/EXELIS in FY 2012. ITT is the original developer/manufacturer and current sustainer of the ALQ-214.

E. Performance Metrics

IDECM Block 3: Successfully award ALE-55 FRP 6-10 contract in 2nd Qtr FY 2016. ALE-55 FRP 6-10 is planned as Sole Source Firm Fixed Price (SS/FFP) contract with a base plus 4 options to BAE Systems.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 2175 / *Tactical Air Electronic Warfare*

IDECM Block 4: Successfully conduct In-Process Review (IPR) 6 (Production Transition) in 3rd Qtr FY 2015. Successfully achieve Initial Operational Capability (IOC) in 3rd Qtr FY 2015. Successfully award ALQ-214 FRP 12-16 contract in 3rd Qtr FY 2015. ALQ-214 FRP 12-16 is planned as Sole Source Firm Fixed Price (SS/FFP) contract with a base plus 4 options to ITT/Exelis.

ALQ-214 Software Improvement: Successfully achieve IOC in 1st Qtr FY 2017.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 2175 / *Tactical Air Electronic Warfare*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Aircraft Integration -IDECM Boeing	Various	Various : Various	7.519	-		0.276	Mar 2015	0.282	Mar 2016	-		0.282	1.144	9.221	9.221
Systems Eng - IDECM	SS/CPFF	Various : Various	64.148	0.021	Mar 2014	0.735	Mar 2015	0.496	Mar 2016	-		0.496	0.726	66.126	66.126
Prior Year Prod Dev costs no longer funded in FYDP	Various	Various : Various	235.174	-		-		-		-		-	-	235.174	-
		Subtotal	306.841	0.021		1.011		0.778		-		0.778	1.870	310.521	-

Remarks

Due to delays in flight testing, the aircraft integration effort was moved to the right.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Log Supt-IDECM	WR	NAWCAD : Pax River, MD	0.000	0.113	Nov 2013	0.116	Nov 2014	0.111	Nov 2015	-		0.111	0.474	0.814	-
Software Dev-ALQ-214 SW Dev	SS/CPFF	ITT : Clifton, NJ	21.889	0.338	Dec 2013	-		-		-		-	-	22.227	22.227
Engineering Support	WR	Various : Various	0.000	1.130	Nov 2013	0.781	Nov 2014	2.554	Nov 2015	-		2.554	3.714	8.179	-
Engineering Support	WR	NAWCWD : China Lake, CA	0.000	-		1.828	Oct 2014	-		-		-	-	1.828	-
Engineering Support	WR	NAWCWD : Point Mugu, CA	0.000	2.440	Nov 2013	1.462	Nov 2014	-		-		-	-	3.902	-
Studies and Analysis SW Dev	SS/CR	Johns Hopkins : Baltimore, MD	0.500	0.660	May 2014	-		-		-		-	-	1.160	1.160
Prior Year Support costs no longer funded in FYDP	Various	Various : Various	10.307	-		-		-		-		-	-	10.307	-
		Subtotal	32.696	4.681		4.187		2.665		-		2.665	4.188	48.417	-

Remarks

Additional $2.1 million BTR in prior years not reflected in PB16 budget control.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 2175 / *Tactical Air Electronic Warfare*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval Supt ALQ-214 SW Imp	WR	Various : Various	0.000	0.420	Nov 2013	-	Nov 2014	-		-		-	-	0.420	-
Oper Test & Eval ALQ-214 SW Imp	WR	NAWCWD : China Lake, CA	0.000	-		-		1.577	Oct 2015	-		1.577	-	1.577	-
Dev Test & Eval Supt ALQ-214 SW Imp	WR	NAWCWD : China Lake, CA	0.000	2.980	Nov 2013	4.819	Nov 2014	0.100	Nov 2015	-		0.100	-	7.899	-
Dev Test & Eval Supt ALQ-214 SW IMP	WR	NAWCWD : Point Mugu, CA	0.000	-		0.300	Nov 2014	-		-		-	-	0.300	-
Oper Test & Eval IDECM	WR	NAWCWD : China Lake, CA	0.000	3.587	Mar 2014	-		-		-		-	-	3.587	-
Eng Test & Eval IDECM	WR	Various : Various	0.000	1.172	Nov 2013	0.873	Nov 2014	0.848	Nov 2015	-		0.848	2.710	5.603	-
Eng & Tech Srvcs (Non-FFRDC)	SS/CPFF	Various : Various	0.000	0.517	Dec 2013	0.533	Dec 2014	0.549	Dec 2015	-		0.549	-	1.599	1.599
Prior Year T&E costs no longer funded in FYDP	Various	Various : Various	26.007	-		-		-		-		-	-	26.007	-
		Subtotal	26.007	8.676		6.525		3.074		-		3.074	2.710	46.992	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Allot	NAWCAD : Pax River, MD	0.610	0.080	Oct 2013	0.085	Oct 2014	0.077	Oct 2015	-		0.077	0.249	1.101	-
Prior Year Mgmt costs no longer funded in FYDP	Various	Various : Various	88.935	-		-		-		-		-	-	88.935	-
		Subtotal	89.545	0.080		0.085		0.077		-		0.077	0.249	90.036	-

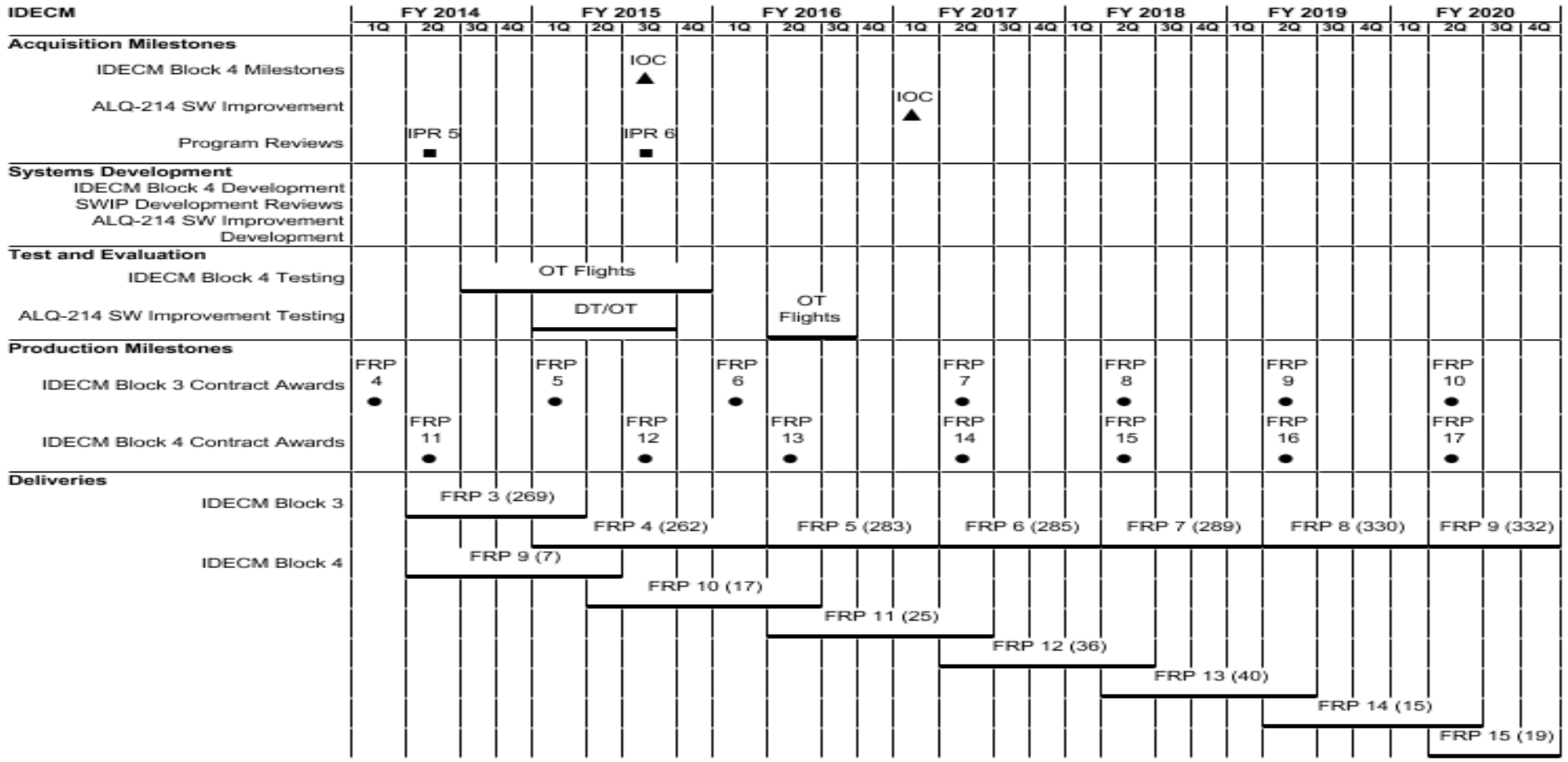
	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	455.089	13.458		11.808		6.594		-		6.594	9.017	495.966	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / *Electronic Warfare (EW) Dev*	Project (Number/Name) 2175 / *Tactical Air Electronic Warfare*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 2175 / *Tactical Air Electronic Warfare*



2016PB - 0604270N - 2175 IDECM Block 4 is an ECP to Block 2

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 2175 / *Tactical Air Electronic Warfare*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
IDECM				
Acquisition Milestones: IDECM Block 4 Milestones: IDECM Block 4 IOC	3	2015	3	2015
Acquisition Milestones: ALQ-214 SW Improvement: ALQ-214 SW Improvement (IOC)	1	2017	1	2017
Acquisition Milestones: Program Reviews: IDECM Block 4 In-Process Review (IPR) 5	2	2014	2	2014
Acquisition Milestones: Program Reviews: IDECM Block 4 In-Process Review (IPR) 6	3	2015	3	2015
Test and Evaluation: IDECM Block 4 Testing: IDECM Block 4 Operational Testing Flights	3	2014	4	2015
Test and Evaluation: ALQ-214 SW Improvement Testing: ALQ-214 SW Improvement Development Testing(DT)/Operational Testing (OT) Flights	1	2015	3	2015
Test and Evaluation: ALQ-214 SW Improvement Testing: ALQ-214 SW Improvement Operational Testing (OT) Flights	2	2016	3	2016
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 4	1	2014	1	2014
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 5	1	2015	1	2015
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 6	1	2016	1	2016
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 7	2	2017	2	2017
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 8	2	2018	2	2018
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 9	2	2019	2	2019
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 10	2	2020	2	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 2175 / *Tactical Air Electronic Warfare*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 11	2	2014	2	2014
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 12	3	2015	3	2015
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 13	2	2016	2	2016
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 14	2	2017	2	2017
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 15	2	2018	2	2018
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 16	2	2019	2	2019
Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 17	2	2020	2	2020
Deliveries: IDECM Block 3: IDECM Block 3 FRP 3 Deliveries (269)	2	2014	1	2015
Deliveries: IDECM Block 3: IDECM Block 3 FRP 4 Deliveries (262)	1	2015	1	2016
Deliveries: IDECM Block 3: IDECM Block 3 FRP 5 Deliveries (283)	2	2016	1	2017
Deliveries: IDECM Block 3: IDECM Block 3 FRP 6 Deliveries (285)	2	2017	1	2018
Deliveries: IDECM Block 3: IDECM Block 3 FRP 7 Deliveries (289)	2	2018	1	2019
Deliveries: IDECM Block 3: IDECM Block 3 FRP 8 Deliveries (330)	2	2019	1	2020
Deliveries: IDECM Block 3: IDECM Block 3 FRP 9 Deliveries (332)	2	2020	4	2020
Deliveries: IDECM Block 4: IDECM Block 4 FRP 9 Deliveries (7)	2	2014	2	2015
Deliveries: IDECM Block 4: IDECM Block 4 FRP 10 Deliveries (17)	2	2015	2	2016
Deliveries: IDECM Block 4: IDECM Block 4 FRP 11 Deliveries (25)	2	2016	2	2017
Deliveries: IDECM Block 4: IDECM Block 4 FRP 12 Deliveries (36)	2	2017	2	2018
Deliveries: IDECM Block 4: IDECM Block 4 FRP 13 Deliveries (40)	2	2018	2	2019
Deliveries: IDECM Block 4: IDECM Block 4 FRP 14 Deliveries (15)	2	2019	2	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604270N / *Electronic Warfare (EW) Dev*	**Project (Number/Name)** 2175 / *Tactical Air Electronic Warfare*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Deliveries: IDECM Block 4: IDECM Block 4 FRP 15 Deliveries (19)	2	2020	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604273N *I (U)Executive Helo Development*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	201.959	92.840	368.084	507.093	-	507.093	589.730	481.671	293.385	131.699	118.918	2,785.379
3300: *Presidential Helicopter VH-92A*	201.959	92.840	368.084	507.093	-	507.093	589.730	481.671	293.385	131.699	118.918	2,785.379

MDAP/MAIS Code:
Other MDAP/MAIS Code(s): P429

A. Mission Description and Budget Item Justification

Marine Helicopter Squadron One (HMX-1) is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office. Currently two Type, Model, Series aircraft are used by HMX-1 for the Presidential support mission - the VH-3D and the VH-60N. The VH-92A program is the replacement helicopter for the VH-3D and VH-60N. Funding supports Engineering and Manufacturing Development Phase activities including integration of systems, production, qualification, and support of test articles, logistics products development, demonstration of system integration, interoperability, safety and utility.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	94.235	388.086	582.061	-	582.061
Current President's Budget	92.840	368.084	507.093	-	507.093
Total Adjustments	-1.395	-20.002	-74.968	-	-74.968
• Congressional General Reductions	-	-0.002			
• Congressional Directed Reductions	-	-20.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.395	-			
• Program Adjustments	-	-	-70.000	-	-70.000
• Rate/Misc Adjustments	-	-	-4.968	-	-4.968

Change Summary Explanation

Technical: Not applicable.

Schedule:

1. Test Planning and Documentation (DT/OT/ALFT&E/FOT&E) is extended through 4Q FY2020.
2. System Demonstration Test Article (SDTA) aircraft deliveries are planned for 2Q FY2019 - 1Q FY2020.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604273N *I (U)Executive Helo Development*

3. IOC is planned for 4Q FY2020.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604273N / *(U)Executive Helo Development*	Project (Number/Name) 3300 / *Presidential Helicopter VH-92A*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3300: *Presidential Helicopter VH-92A*	201.959	92.840	368.084	507.093	-	507.093	589.730	481.671	293.385	131.699	118.918	2,785.379
Quantity of RDT&E Articles		-	2	2	-	2	2	-	-	-		

MDAP/MAIS Code: P429

A. Mission Description and Budget Item Justification

Marine Helicopter Squadron One (HMX-1) is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office. Currently two Type, Model, Series aircraft are used by HMX-1 for the Presidential support mission - the VH-3D and the VH-60N. The VH-92A will replace the VH-3D and VH-60N. Funding supports Engineering and Manufacturing Development Phase (EMD) activities including integration of systems, production, qualification, and support of test articles, logistics products development, demonstration of system integration, interoperability, safety and utility. Two Engineering Development Model (EDM) and four System Demonstration Test Article (SDTA) aircraft will be delivered during EMD. The EDM and SDTA aircraft will be used for Developmental Test & Evaluation for verification of Performance Based Specifications (PBS), airworthiness certification and Supportability Verification. The SDTA aircraft will be used for Initial Operational Test and Evaluation (IOT&E) and be refurbished for Initial Operational Capability (IOC).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Product Development	82.765	347.178	472.070	-	472.070
Articles:	-	2	2	-	2

FY 2014 Accomplishments:

Completed the Mission Communication System (MCS) hardware and software Critical Design Reviews, finalized the MCS Technical Data Package, and completed the Milestone B Review and performed source selection activities leading to award of the VH-92A contract that includes the EMD phase and production options. Provided government furnished equipment (GFE) to prime contractor.

FY 2015 Plans:

Execute Engineering and Manufacturing Development Phase activities including integration of systems, production, qualification, and support of test articles, logistics tasks, demonstration of system integration, interoperability, safety and utility. Conduct system level Preliminary Design Review (PDR). Continue providing GFE to prime contractor. Continue engineering support for Mission Communication System and hardware/ software maturation. Funding provided for strategic communication engineering and evaluation efforts to integrate and test Wideband Line of Sight.

FY 2016 Base Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604273N / *(U)Executive Helo Development*	**Project (Number/Name)** 3300 / *Presidential Helicopter VH-92A*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Execute Engineering and Manufacturing Development Phase activities including integration of systems, production, qualification and support of EDM and SDTA aircraft, training system development, logistics tasks, demonstration of system integration, interoperability, safety and utility. Conduct system level Critical Design Review (CDR). Continue providing GFE to prime contractor. Continue engineering support for Mission Communication System and hardware/software maturation. ***FY 2016 OCO Plans:*** N/A					
Title: Test and Evaluation	2.365	6.926	15.104	-	15.104
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed testing on selected Mission Communications System (MCS) commercial off-the-shelf components for environmental qualification. Updated the VH-92A Test and Evaluation Master Plan (TEMP) and associated documentation to include the Alternate Live Fire Test and Evaluation (ALFTE) strategy. Performed source selection activities leading to award of the VH-92A contract that includes the EMD phase and production options. ***FY 2015 Plans:*** Support of VH-92A DT/OT/ALFT&E test and evaluation planning and documentation. Perform Developmental Test (DT) to include Mission Communications System (MCS) risk reduction, and initiate System Integration Lab (SIL) development. Commence ALFT&E activities which include the procurement of select components, conducting ALFT&E events, analyzing test result data and generating requisite reports. ***FY 2016 Base Plans:*** Continue support of VH-92A DT/OT/ALFT&E test and evaluation planning and documentation. Perform Developmental Test (DT) to include Mission Communications System (MCS) risk reduction, and continue System Integration Lab (SIL) development to include procurement of components for installation and integration. Continue ALFT&E activities which include the procurement of select components, conducting ALFT&E events, analyzing test result data and generating requisite reports. ***FY 2016 OCO Plans:*** N/A					
Title: Program Management and Support	7.710	13.980	19.919	-	19.919
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604273N / *(U)Executive Helo Development*	**Project (Number/Name)** 3300 / *Presidential Helicopter VH-92A*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Completed programmatic reviews leading up to and including the Milestone B Review. Performed source selection activities leading to award of the VH-92A contract that includes the EMD phase and production options. ***FY 2015 Plans:*** Support programmatic reviews, security requirements and maintenance planning in preparation for the development of logistics products that include Automated Logistics Environment (ALE), maintenance plans, task analyses, maintenance summaries and Interactive Electronic Technical Manuals. ***FY 2016 Base Plans:*** Continue the development and generation of logistics products identified during FY 2015 to include Automated Logistics Environment (ALE), maintenance plans, task analyses, maintenance summaries and Interactive Electronic Technical Manuals (IETMs). Continue support for programmatic reviews and security requirements. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	92.840	368.084	507.093	-	507.093

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/04550: *VH-92A Executive Helo*	-	-	-	-	-	-	-	795.564	781.475	802.092	2,379.131

Remarks

D. Acquisition Strategy

The MS B review was completed on 21 Mar 2014, the MS B Acquisition Decision Memorandum was signed on 17 Apr 2014 and the VH-92A contract for the Engineering and Manufacturing Development phase and priced options for production was awarded on 7 May 2014. The VH-92A Program has received a waiver for conducting the Preliminary Design Review (PDR) and post-PDR assessment prior to Milestone B as approved by the Milestone Decision Authority (USD(AT&L)) on 17 Apr 2014.

E. Performance Metrics

Program performance metrics are contained in the Acquisition Program Baseline (APB) that was approved by the Milestone Decision Authority (USD(AT&L)) on 17 Apr 2014. The program entered into MS B, awarded the EMD contract in May 2014, plans to conduct the Preliminary Design Review (PDR) in 2015 and plans to conduct the Critical Design Review (CDR) in 2016.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604273N / *(U)Executive Helo Development*	**Project (Number/Name)** 3300 / *Presidential Helicopter VH-92A*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HW Dev - VH-92A EMD Contract	C/FPIF	Sikorsky Aircraft Corporation : Stratford, CT	0.000	52.527	May 2014	293.561	Oct 2014	377.573	Oct 2015	-		377.573	923.203	1,646.864	1,646.864
Primary HW Dev - Advanced Capabilities	Various	NSMA : Arlington, VA	69.130	7.929	Feb 2014	21.719	Feb 2015	69.446	Feb 2016	-		69.446	472.294	640.518	-
Primary HW Dev - VH-92A MCS Design	WR	NAWCAD : St. Inigoes, MD	11.311	10.462	Nov 2013	12.000	Nov 2014	10.866	Nov 2015	-		10.866	13.750	58.389	-
Primary HW Dev - Wideband Line of Sight	MIPR	US Army : APG, MD	0.000	-		6.330	Dec 2014	-		-		-	-	6.330	-
Systems Engineering	WR	NAWCAD : Patuxent River, MD	28.865	11.746	Nov 2013	13.300	Nov 2014	13.757	Nov 2015	-		13.757	64.332	132.000	-
Training	WR	NAWCTSD : Orlando, FL	0.354	0.101	Nov 2013	0.268	Nov 2014	0.428	Nov 2015	-		0.428	1.766	2.917	-
Prior year Hdw Dev cost no longer funded in the FYDP	Various	Various : Various	0.186	-		-		-		-		-	-	0.186	-
		Subtotal	109.846	82.765		347.178		472.070		-		472.070	1,475.345	2,487.204	-

Remarks

Systems Engineering (NAWCAD Patuxent River) - includes support for Preliminary Design Review (PDR) in FY 2015 and Critical Design Review (CDR) in FY 2016.
EMD = Engineering & Manufacturing Development
MCS = Mission Communications System

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	WR	NAWCAD : Patuxent River, MD	10.741	2.533	Nov 2013	5.380	Nov 2014	7.937	Nov 2015	-		7.937	32.503	59.094	-
Integrated Logistics Support	WR	FRC : Cherry Point, NC	1.763	0.980	Nov 2013	2.043	Nov 2014	2.978	Nov 2015	-		2.978	12.553	20.317	-
Integrated Logistics Support	WR	NAWCAD : Lakehurst, NJ	0.511	0.248	Nov 2013	0.675	Nov 2014	3.395	Nov 2015	-		3.395	7.060	11.889	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604273N / *(U)Executive Helo Development*	**Project (Number/Name)** 3300 / *Presidential Helicopter VH-92A*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	WR	SPAWAR : San Diego, CA	0.220	0.221	Nov 2013	0.575	Nov 2014	0.705	Nov 2015	-		0.705	3.477	5.198	-
Prior year support cost no longer funded in the FYDP	Various	Various : Various	5.594	-		-		-		-		-	-	5.594	-
		Subtotal	18.829	3.982		8.673		15.015		-		15.015	55.593	102.092	-

Remarks

Integrated Logistics Support (NAWCAD Patuxent River) - Integrated logistics support (ILS) acquisition and management of the VH-92A aircraft. Evaluate contractor development of ILS efforts.
Integrated Logistics Support (FRC Cherry Point) - VH-92A maintenance planning and logistics support analysis efforts.
Integrated Logistics Support (NAWCAD Lakehurst) - Support Equipment planning and analysis to include procurement of Common Support Equipment (CSE).
Integrated Logistics Support (SPAWAR San Diego) - Architecture development and software integration to include certification and accreditation of the VH-92A Automated Logistics Environment.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	WR	NAWCAD : Patuxent River, MD	5.915	1.238	Nov 2013	2.276	Nov 2014	6.900	Nov 2015	-		6.900	44.560	60.889	-
Development Test & Evaluation	WR	NAWCWD : Point Mugu, CA	0.028	0.026	Nov 2013	0.027	Nov 2014	0.026	Nov 2015	-		0.026	0.111	0.218	-
Development Test & Evaluation	MIPR	JITC : Ft. Huachuca, AZ	0.006	0.016	Nov 2013	0.020	Nov 2014	0.024	Oct 2015	-		0.024	0.200	0.266	-
Alternate Live Fire Test & Evaluation	WR	NAWCWD : China Lake, CA	1.961	0.998	Nov 2013	3.921	Nov 2014	7.110	Nov 2015	-		7.110	12.737	26.727	-
Operational Test & Evaluation	WR	COTF : Norfolk, VA	0.128	0.087	May 2014	0.682	May 2015	1.044	May 2016	-		1.044	6.604	8.545	-
		Subtotal	8.038	2.365		6.926		15.104		-		15.104	64.212	96.645	-

Remarks

Development Test & Evaluation (NAWCWD Point Mugu) - Cyber Security Test & Evaluation
Development Test & Evaluation (JITC) - Joint Interoperability Test Certification

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604273N / *(U)Executive Helo Development*	Project (Number/Name) 3300 / *Presidential Helicopter VH-92A*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Alternate Live Fire Test & Evaluation (NAWCWD China Lake) - ALFT&E test planning/documentation and conduct of ALFT&E test events.															

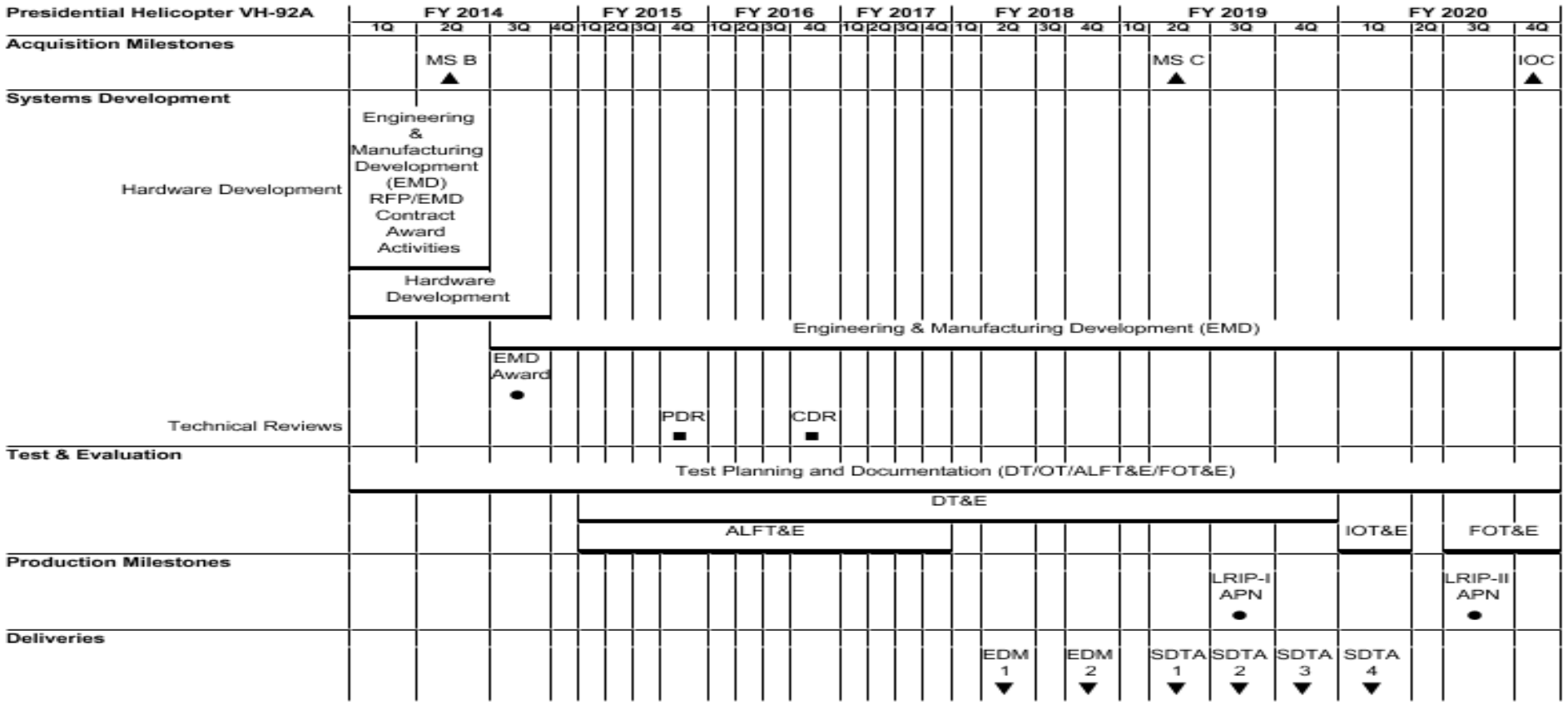
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWCAD : Patuxent River, MD	39.185	3.672	Nov 2013	5.107	Nov 2014	4.254	Nov 2015	-		4.254	18.103	70.321	-
Transportation	Various	NAVAIR : Patuxent River, MD	0.085	0.010	Oct 2013	0.100	Oct 2014	0.150	Oct 2015	-		0.150	0.600	0.945	-
Travel	Various	NAVAIR : Patuxent River, MD	0.103	0.046	Oct 2013	0.100	Oct 2014	0.500	Oct 2015	-		0.500	1.550	2.299	-
Prior year Mgmt Svcs cost no longer funded in the FYDP	Various	Various : Various	25.873	-		-		-		-		-	-	25.873	-
		Subtotal	65.246	3.728		5.307		4.904		-		4.904	20.253	99.438	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	201.959	92.840		368.084		507.093		-		507.093	1,615.403	2,785.379	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604273N / *(U)Executive Helo Development*	**Project (Number/Name)** 3300 / *Presidential Helicopter VH-92A*



2016PB - 0604273N - 3300

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604273N / *(U)Executive Helo Development*	**Project (Number/Name)** 3300 / *Presidential Helicopter VH-92A*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Presidential Helicopter VH-92A				
Acquisition Milestones: MS B	2	2014	2	2014
Acquisition Milestones: MS C	2	2019	2	2019
Acquisition Milestones: IOC	4	2020	4	2020
Systems Development: Hardware Development: Engineering & Manufacturing Development(EMD) RFP/EMD Contract Award Activities	1	2014	2	2014
Systems Development: Hardware Development: Hardware Development	1	2014	3	2014
Systems Development: Hardware Development: Engineering & Manufacturing Development (EMD)	3	2014	4	2020
Systems Development: Hardware Development: Engineering & Manufacturing Devlopment Award	3	2014	3	2014
Systems Development: Technical Reviews: Preliminary Design Review (PDR)	4	2015	4	2015
Systems Development: Technical Reviews: Critical Design Review (CDR)	4	2016	4	2016
Test & Evaluation: Test Planning and Documentation (DT/OT/ALFT&E/FOT&E)	1	2014	4	2020
Test & Evaluation: Developmental Test & Evaluation	1	2015	4	2019
Test & Evaluation: Alternate Live Fire Test & Evaluation	1	2015	4	2017
Test & Evaluation: Initial Operational Test & Evaluation	1	2020	1	2020
Test & Evaluation: Follow-On Test & Evaluation	3	2020	4	2020
Production Milestones: LRIP-I APN	3	2019	3	2019
Production Milestones: LRIP-II APN	3	2020	3	2020
Deliveries: EDM 1	2	2018	2	2018
Deliveries: EDM 2	4	2018	4	2018
Deliveries: System Development Test Article (SDTA) Aircraft 1	2	2019	2	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604273N / *(U)Executive Helo Development*	**Project (Number/Name)** 3300 / *Presidential Helicopter VH-92A*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Deliveries: System Development Test Article (SDTA) Aircraft 2	3	2019	3	2019
Deliveries: System Development Test Article (SDTA) Aircraft 3	4	2019	4	2019
Deliveries: System Development Test Article (SDTA) Aircraft 4	1	2020	1	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604274N *I Next Generation Jammer (NGJ)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	503.587	153.552	230.713	411.767	-	411.767	515.085	615.060	720.998	568.877	1,193.346	4,912.985
0557: *Next Generation Jammer*	503.587	153.552	230.713	398.767	-	398.767	496.085	548.060	546.998	354.226	155.642	3,387.630
3380: *Next Generation Jammer Inc II*	0.000	-	-	13.000	-	13.000	19.000	67.000	174.000	214.651	1,037.704	1,525.355
MDAP/MAIS Code: P445												

A. Mission Description and Budget Item Justification

NOTE: The cost to complete on exhibit R2 and R2a for project unit 0557 should be $213.000M and the total cost $3,444.988M. The cost to complete on exhibit R2 and R2a for project unit 3380 should be $530.810M and the total cost $1,018.463M. Total Program Element cost to complete $743.810M and total cost $4,463.451M.

The Next Generation Jammer (NGJ) is the next step in the evolution of Airborne Electronic Attack (AEA) and is needed to meet current and emerging Electronic Warfare gaps, ensure kill chain wholeness against growing threat capabilities and capacity, and to keep pace with threat weapons systems advances and continuous expansion of the AEA mission area. NGJ capabilities will address AEA capability gaps, AEA sufficiency gaps, and address ALQ-99 Tactical Jamming System shortfalls in scalability, flexibility, supportability, interoperability, availability, and capability. NGJ will deliver significantly improved radar and communications jamming capabilities with Open Systems Architecture that supports software and hardware updates to rapidly counter improving threats. NGJ will contribute across the spectrum of missions defined in the Defense Strategic Guidance to include strike warfare, projecting power despite anti-access/area denial challenges, and counterinsurgency/irregular warfare. NGJ is an evolutionary acquisition program providing capability in three increments: Increment 1 (Mid-Band), Increment 2 (Low-Band) and Increment 3 (High-Band). The order of development - mid, low, and then high - was determined by the threat and available capability. Increment 3 remains unfunded at this time.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	157.796	246.856	471.805	-	471.805
Current President's Budget	153.552	230.713	411.767	-	411.767
Total Adjustments	-4.244	-16.143	-60.038	-	-60.038
• Congressional General Reductions	-	-0.020			
• Congressional Directed Reductions	-	-16.123			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.244	-			
• Program Adjustments	-	-	-18.000	-	-18.000
• Rate/Misc Adjustments	-	-	-42.038	-	-42.038

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604274N *I Next Generation Jammer (NGJ)*

Change Summary Explanation

Technical: Not applicable.

Schedule: Schedule has shifted by nine months due to Technology Development (TD) contract award protest. TD contract award occurred in 4th Qtr FY 2013, however protest delayed start of execution of the TD contract period of performance to early 2nd Qtr FY 2014. As a result of protest delay to program execution, a revised cost estimate was developed to reflect this nine month shift in schedule. Program milestones needed to be further adjusted to reflect protest delay and funding adjustments. System Demonstration Test Article RDTEN Deliveries (SDTA) was previously listed as Low Rate Initial Production 1.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604274N / *Next Generation Jammer (NGJ)*	Project (Number/Name) 0557 / *Next Generation Jammer*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0557: *Next Generation Jammer*	503.587	153.552	230.713	398.767	-	398.767	496.085	548.060	546.998	354.226	155.642	3,387.630
Quantity of RDT&E Articles		-	-	-	-	-	7	-	4	-		

A. Mission Description and Budget Item Justification

NOTE: The cost to complete on exhibit R2 and R2a for project unit 0557 should be $213.000M and the total cost $3,444.988M.

The Next Generation Jammer (NGJ) is the next step in the evolution of Airborne Electronic Attack (AEA) and is needed to meet current and emerging Electronic Warfare gaps, ensure kill chain wholeness against growing threat capabilities and capacity, and to keep pace with threat weapons systems advances and continuous expansion of the AEA mission area. NGJ capabilities will address AEA capability gaps, AEA sufficiency gaps, and address ALQ-99 Tactical Jamming System shortfalls in scalability, flexibility, supportability, interoperability, availability, and capability. NGJ will deliver significantly improved radar and communications jamming capabilities with Open Systems Architecture that supports software and hardware updates to rapidly counter improving threats. NGJ will contribute across the spectrum of missions defined in the Defense Strategic Guidance to include strike warfare, projecting power despite anti-access/area denial challenges, and counterinsurgency/irregular warfare. NGJ is an evolutionary acquisition program providing capability in three increments: Increment 1 (Mid-Band), Increment 2 (Low-Band) and Increment 3 (High-Band). The order of development - mid, low, and then high - was determined by the threat and available capability. Increment 3 remains unfunded at this time.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Next Generation Jammer Primary Hardware Development	79.767	126.227	196.508	-	196.508
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued Technology Development Efforts in support of Milestone B decision.					
FY 2015 Plans: Continue Technology Development phase and continued development of Pod Prime Hardware to a Preliminary Design Review level of maturity.					
FY 2016 Base Plans: Continue maturation of Critical Technology Elements (CTEs) to a Technology Readiness of 6 in support of Milestone B. Award Engineering and Manufacturing Development Contract in 2nd Qtr FY 2016. Post Milestone B work will focus on continuing maturation of technologies and maturation of the system design of the Pod Prime Hardware in preparation for Critical Design Review in FY 2017 and ordering of material in support of test article builds.					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604274N / *Next Generation Jammer (NGJ)*	**Project (Number/Name)** 0557 / *Next Generation Jammer*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Next Generation Jammer Systems Engineering	37.486	44.348	72.933	-	72.933
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Performed System Engineering efforts in support of continued Next Generation Jammer Increment 1 development.					
FY 2015 Plans: Perform System Engineering efforts in support of continued Next Generation Jammer Increment 1 development.					
FY 2016 Base Plans: Perform System Engineering efforts in support of continued NGJ Increment 1 development to include initial system security engineering development activities culminating in a Critical Design Review in FY 2017. A Technology Readiness Assessment will be performed during this timeframe, where the Technology Readiness Level (TRL) of the NGJ Critical Technology Elements (CTEs) will be determined.					
FY 2016 OCO Plans: N/A					
Title: Next Generation Jammer Test and Evaluation	1.343	1.300	12.762	-	12.762
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Wind tunnel efforts for the development of pod outer mold line to support Preliminary Design Review.					
FY 2015 Plans: Wind tunnel events in support of Critical Technology Element demonstrations to support Technology Readiness Assessment for Milestone B.					
FY 2016 Base Plans: Develop Test Evaluation Master Plan for Milestone B. A static loads test article will be prepared in support of initiation of static loads testing. The Integrated Test Team (ITT) will start build up in the aeromechanical disciplines and the flutter A/C will be modified in support of flutter testing.					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604274N / *Next Generation Jammer (NGJ)*	**Project (Number/Name)** 0557 / *Next Generation Jammer*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Next Generation Jammer Aircraft Integration	30.776	55.127	112.782	-	112.782
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Performed Aircraft/Software Integration efforts to support Next Generation platform integration and meet Initial Operational Capability (IOC). ***FY 2015 Plans:*** Perform Aircraft/Software Integration efforts to support Next Generation platform integration and meet IOC. ***FY 2016 Base Plans:*** Develop, design, procure, and test A-kit modifications and initiate flight clearance work in support of MS B program requirements and testing activities. Efforts include non-recurring engineering for proposed aircraft modifications, finalization of software requirements for the NGJ integration software build, and commencement of software development. ***FY 2016 OCO Plans:*** N/A					
Title: Next Generation Jammer Support & Management Services	4.180	3.711	3.782	-	3.782
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided Support and Management Services associated with the Next Generation Jammer Program. ***FY 2015 Plans:*** Provide Support and Management Services associated with the Next Generation Jammer Program. ***FY 2016 Base Plans:*** Provide Support and Management Services associated with the Next Generation Jammer Program. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	153.552	230.713	398.767	-	398.767

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604274N / *Next Generation Jammer (NGJ)*	**Project (Number/Name)** 0557 / *Next Generation Jammer*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0591: *Next Generation Jammer*	-	-	-	-	-	-	-	216.591	522.651	4,026.402	4,765.644
• APN/0605: *Spares and Repair Parts*	-	-	-	-	-	-	-	37.521	34.555	33.021	105.097
• MCN/00620258: *Next Generation Jammer*	-	-	-	-	-	4.352	-	-	-	-	4.352

Remarks

D. Acquisition Strategy

Next Generation Jammer is designated a Pre-Major Defense Acquisition Program (MDAP), with Pre-MDAP program number P455. The activity will focus on technology maturation plans to develop the Critical Technology Elements to a Technology Readiness Level of 6 in preparation for Milestone B in early FY16. Post Milestone B, the focus will be on system design of the pod toward a Critical Design Review level of maturity.

E. Performance Metrics

To obtain sufficient technology demonstration to obtain favorable Milestone B decisions for continued program development.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604274N / *Next Generation Jammer (NGJ)*	Project (Number/Name) 0557 / *Next Generation Jammer*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development - Technology Development	C/CPIF	Raytheon : El Segundo, CA	61.800	79.767	Mar 2014	126.227	Oct 2014	50.824	Oct 2015	-		50.824	-	318.618	318.618
Primary Hardware Development - Engineering and Manufacturing Development	C/CPIF	Raytheon : El Segundo, CA	0.000	-		-		145.683	Feb 2016	-		145.683	1,160.086	1,305.769	1,305.769
Aircraft Integration	WR	NAWCWD : China Lake, CA	7.758	2.590	Nov 2013	4.815	Nov 2014	14.000	Nov 2015	-		14.000	50.956	80.119	-
Aircraft Integration- Loads Aircraft	Various	Boeing : St. Louis, MO	10.343	-		-		-		-		-	-	10.343	10.343
Aircraft Integration	SS/CPIF	Boeing : St. Louis, MO	10.000	4.000	Dec 2013	12.189	Dec 2014	2.000	Dec 2015	-		2.000	-	28.189	28.189
Aircraft Integration - EMD	TBD	Boeing : St. Louis, MO	0.000	-		-		20.825	Feb 2016	-		20.825	86.264	107.089	107.089
Software Integration - Systems Integration Lab	Various	Boeing : St. Louis, MO	1.945	0.793	Jul 2014	2.524	Jan 2015	11.592	Jan 2016	-		11.592	22.127	38.981	38.981
Software Integration- Systems Integration Lab	SS/FFP	Northrop Grumman : Bethpage. NY	13.579	1.773	Jul 2014	-		7.411	Jan 2016	-		7.411	14.147	36.910	36.910
Software Integration - SOR	Various	Boeing : St. Louis, MO	2.693	8.394	Jul 2014	21.995	Apr 2015	-		-		-	-	33.082	33.080
Software Integration - Blk Update	WR	NAWCWD : Pt. Mugu, CA	0.000	8.529	Nov 2013	8.918	Nov 2014	6.443	Nov 2015	-		6.443	23.452	47.342	-
Software Integration	SS/FFP	Northrop Grumman : Bethpage. NY	0.000	4.696	Jul 2014	4.685	Jan 2015	-		-		-	-	9.381	9.381
Software integration H-14	Various	Various : Various	0.000	-		-		50.511	Nov 2015	-		50.511	172.860	223.371	-
Systems Engineering	Various	TBD : TBD	0.000	-		-		24.273	Nov 2015	-		24.273	104.685	128.958	-
Systems Engineering	WR	NAWCAD : Patuxent River, MD	44.456	16.727	Nov 2013	22.927	Nov 2014	23.386	Nov 2015	-		23.386	98.068	205.564	-
Systems Engineering	WR	NAWCWD : Pt. Mugu, CA	24.187	6.206	Nov 2013	8.178	Nov 2014	9.257	Nov 2015	-		9.257	32.373	80.201	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604274N / *Next Generation Jammer (NGJ)*	Project (Number/Name) 0557 / *Next Generation Jammer*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NSWC Crane : Crane, IN	20.765	3.753	Nov 2013	3.835	Nov 2014	3.912	Nov 2015	-		3.912	23.934	56.199	-
Systems Engineering	WR	NSWC Dahlgren : Dahlgren, VA	2.582	0.783	Nov 2013	1.017	Nov 2014	1.037	Nov 2015	-		1.037	5.224	10.643	-
Systems Engineering	SS/CPFF	Johns Hopkins University Applied Physics Lab : Laurel, MD	13.738	7.393	Nov 2013	6.051	Jan 2015	8.178	Nov 2015	-		8.178	44.701	80.061	80.061
Systems Engineering	WR	Naval Research Labratory : Washington, DC	2.411	0.775	Nov 2013	0.754	Nov 2014	1.271	Nov 2015	-		1.271	4.987	10.198	-
Systems Engineering	Various	Various : Various	6.318	1.850	Nov 2013	1.587	Nov 2014	1.619	Nov 2015	-		1.619	4.955	16.329	-
Systems Engineering Trainer	Various	TBD : TBD	0.000	-		-		-		-		-	28.979	28.979	-
Prior Year Prod Dev costs no longer funded in FYDP	Various	Various : Various	257.466	-		-		-		-		-	-	257.466	-
		Subtotal	480.041	148.029		225.702		382.222		-		382.222	1,877.798	3,113.792	-

Remarks

Schedule has shifted by nine months due to Technology Development (TD) contract award protest. TD contract award occurred in 4th Qtr 2013, however protest delayed start of execution of the TD contract period of performance to early 2nd Qtr 2014. As a result of protest delay to program execution, a revised cost estimate was developed to reflect this nine month shift in schedule.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Eng & Tech Srvc (Non FFRDC)	Various	Various : Various	17.587	4.010	Dec 2013	3.511	Dec 2014	3.582	Dec 2015	-		3.582	22.207	50.897	50.897
Prior years support no longer funded in the FYDP	Various	Various : Varios	5.382	-		-		-		-		-	-	5.382	-
		Subtotal	22.969	4.010		3.511		3.582		-		3.582	22.207	56.279	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604274N / *Next Generation Jammer (NGJ)*	Project (Number/Name) 0557 / *Next Generation Jammer*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development T & E	WR	NAWCAD : Patuxent River, MD	0.000	-		-		12.763	Nov 2015	-		12.763	214.761	227.524	-
Development T & E - Wind Tunnel	Various	Various : Various	0.000	1.113	Aug 2014	1.300	Apr 2015	-		-		-	-	2.413	-
Development T & E	SS/FFP	FSC San Diego : San Diego, CA	0.328	0.230	Jun 2014	-		-		-		-	-	0.558	0.558
Operational T & E	Various	Various : Various	0.000	-		-		-		-		-	42.539	42.539	-
		Subtotal	0.328	1.343		1.300		12.763		-		12.763	257.300	273.034	-

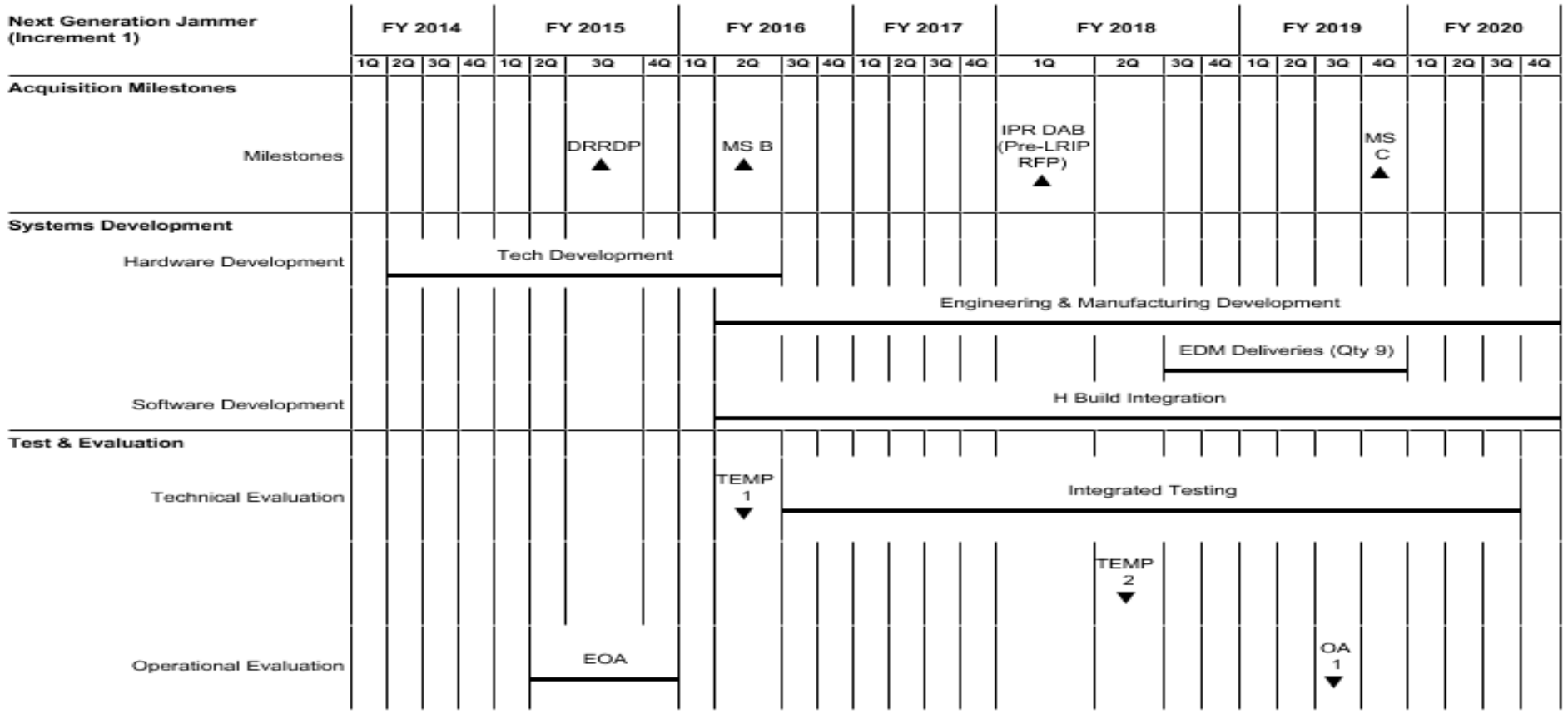
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	Various : Various	0.242	0.170	Oct 2013	0.200	Oct 2014	0.200	Oct 2015	-		0.200	1.061	1.873	-
Prior years Mgmt Svcs no longer funded in the FYDP	WR	Various : Various	0.007	-		-		-		-		-	-	0.007	-
		Subtotal	0.249	0.170		0.200		0.200		-		0.200	1.061	1.880	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	503.587	153.552		230.713		398.767		-		398.767	2,158.366	3,444.985	-

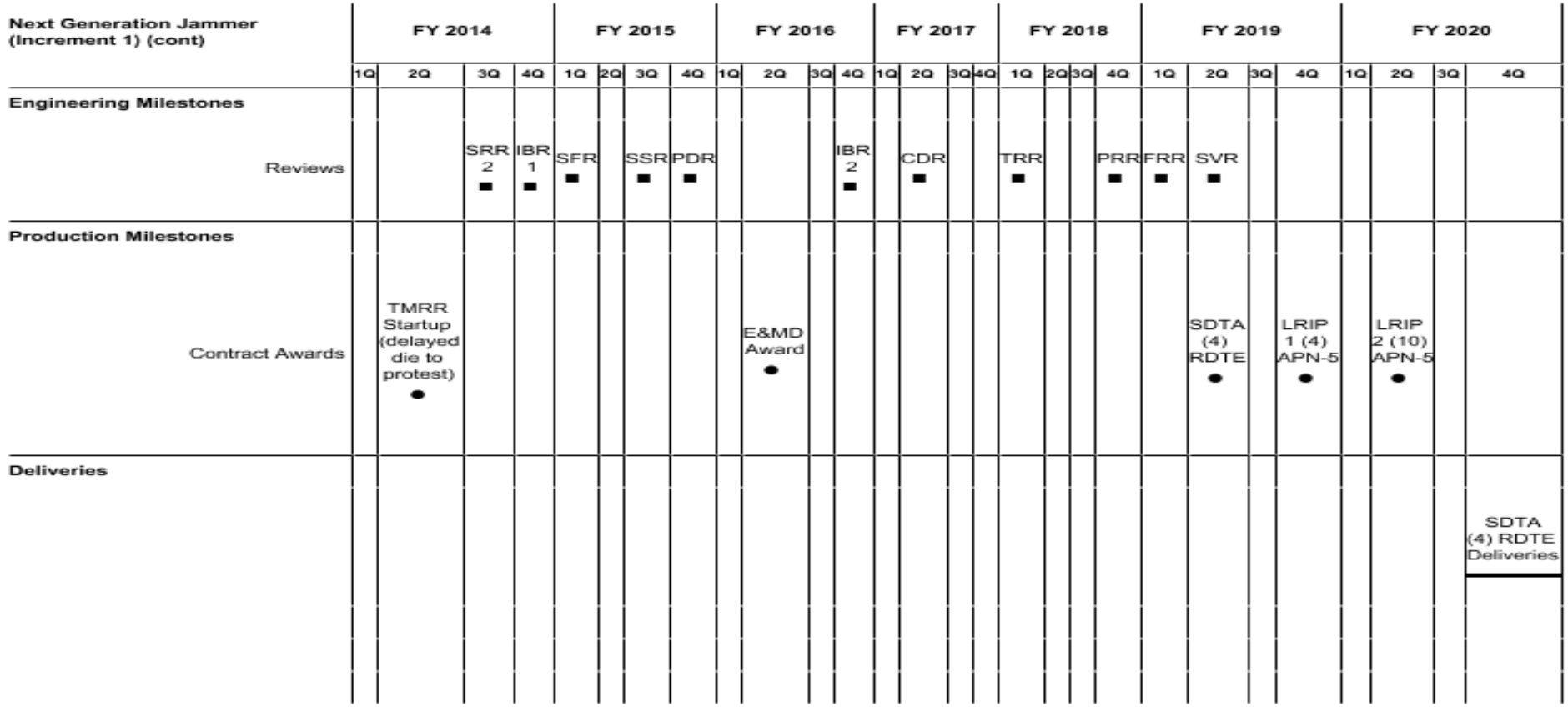
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604274N / *Next Generation Jammer (NGJ)*	**Project (Number/Name)** 0557 / *Next Generation Jammer*



2016PB - 0604274N - 0557

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604274N / *Next Generation Jammer (NGJ)*	**Project (Number/Name)** 0557 / *Next Generation Jammer*



2016PB - 0604274N - 0557

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604274N / *Next Generation Jammer (NGJ)*	**Project (Number/Name)** 0557 / *Next Generation Jammer*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Next Generation Jammer (Increment 1)				
Acquisition Milestones: Milestones: Development RFP Release Decision Point	3	2015	3	2015
Acquisition Milestones: Milestones: Milestone B	2	2016	2	2016
Acquisition Milestones: Milestones: IPR DAB LRIP Pre-RFP Release	1	2018	1	2018
Acquisition Milestones: Milestones: Milestone C	4	2019	4	2019
Systems Development: Hardware Development: Technology Development	2	2014	2	2016
Systems Development: Hardware Development: Engineering & Manufacturing Development	2	2016	4	2020
Systems Development: Hardware Development: Engineering Development Model Deliveries	3	2018	4	2019
Systems Development: Software Development: H Build Integration	2	2016	4	2020
Test & Evaluation: Technical Evaluation: NGJ Test & Evaluation Master Plan -1	2	2016	2	2016
Test & Evaluation: Technical Evaluation: Integrated Testing	3	2016	3	2020
Test & Evaluation: Technical Evaluation: NGJ Test & Evaluation Master Plan -2	2	2018	2	2018
Test & Evaluation: Operational Evaluation: Early Operational Assesment	2	2015	4	2015
Test & Evaluation: Operational Evaluation: Operational Assessment 1	3	2019	3	2019
Next Generation Jammer (Increment 1) (cont)				
Engineering Milestones: Reviews: System Readiness Review - 2	3	2014	3	2014
Engineering Milestones: Reviews: Integrated Baseline Review - 1	4	2014	4	2014
Engineering Milestones: Reviews: System Functional Review	1	2015	1	2015
Engineering Milestones: Reviews: Software Specification Review	3	2015	3	2015
Engineering Milestones: Reviews: Preliminary Design Review	4	2015	4	2015
Engineering Milestones: Reviews: Integrated Baseline Review - 2	4	2016	4	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604274N / *Next Generation Jammer (NGJ)*	**Project (Number/Name)** 0557 / *Next Generation Jammer*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Engineering Milestones: Reviews: Critical Design Review	2	2017	2	2017
Engineering Milestones: Reviews: Test Readiness Review	1	2018	1	2018
Engineering Milestones: Reviews: Flight Readiness Review	1	2019	1	2019
Engineering Milestones: Reviews: Production Readiness Review	4	2018	4	2018
Engineering Milestones: Reviews: System Verification Review	2	2019	2	2019
Production Milestones: Contract Awards: Technology Maturation and Risk Reduction Start	2	2014	2	2014
Production Milestones: Contract Awards: Enginering & Manufacturing Development Contract Award	2	2016	2	2016
Production Milestones: Contract Awards: System Demonstration Test Article RDTEN Contract Award	2	2019	2	2019
Production Milestones: Contract Awards: Low Rate Initial Production 1 APN-5 Contract Award	4	2019	4	2019
Production Milestones: Contract Awards: Low Rate Initial Production 2 APN-5 Contract Award	2	2020	2	2020
Deliveries: System Demonstration Test Article RDTEN Deliveries	4	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604274N / *Next Generation Jammer (NGJ)*	Project (Number/Name) 3380 / *Next Generation Jammer Inc II*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3380: *Next Generation Jammer Inc II*	-	-	-	13.000	-	13.000	19.000	67.000	174.000	214.651	1,037.704	1,525.355
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

NOTE: The cost to complete on exhibit R2 and R2a for project unit 3380 should be $530.810M and the total cost $1,018.463M.

The NGJ Increment 2 addresses the mission need for a robust low band radar and communications jamming capability from an airborne platform that will require capabilities beyond the currently deployed system. More specifically, the NGJ will provide Airborne Electronic Attack (AEA) capabilities against advanced radar and digital threats. The development of the NGJ is being conducted in three increments of capability with each increment addressing AEA capability needs within specific "bands" of frequency coverage. Increment 2 provides capability in "Low Band".

The current program plan as phased in FY2016 President's Budget cost model requires FY2016 and FY2017 funding for initial government studies, technology maturity assessments, and program planning. Efforts are required before the FY2018 start of contracted technical maturation efforts.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Next Generation Jammer INC 2 Primary Hardware Development	-	-	6.736	-	6.736
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Base Plans: Perform technology feasibility studies and prototyping efforts in support of validating technology readiness levels and development of technology roadmaps.					
FY 2016 OCO Plans: N/A					
Title: Next Generation Jammer INC 2 Systems Engineering	-	-	5.992	-	5.992
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604274N / *Next Generation Jammer (NGJ)*	**Project (Number/Name)** 3380 / *Next Generation Jammer Inc II*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Perform System Engineering efforts in support of Next Generation Jammer Increment 2 development to include CDD updates, initial drafts of a performance specification and a System Engineering Plan and a reliability analysis. ***FY 2016 OCO Plans:*** N/A					
Title: Next Generation Jammer INC 2 Support & Management Services	-	-	0.272	-	0.272
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Provide Support and Management Services associated with the Next Generation Jammer INC II Program. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	-	13.000	-	13.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Next Generation Jammer Increment 2 is a prospective Major Defense Acquisition Program (MDAP) with activity focused on identification of requirements and available technologies needed to counter threats in the "Low Band" frequency range.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604274N / *Next Generation Jammer (NGJ)*	**Project (Number/Name)** 3380 / *Next Generation Jammer Inc II*

E. Performance Metrics

Utilize studies and prototyping efforts to obtain sufficient information to develop system requirements and validate technology readiness levels prior to Milestone B and initiation of the Engineering Manufacturing Development phase.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604274N / *Next Generation Jammer (NGJ)*	Project (Number/Name) 3380 / *Next Generation Jammer Inc II*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary H/W Dev - AMP TM Study	Various	Various : Various	0.000	-		-		0.519	Dec 2015	-		0.519	1.353	1.872	-
Primary H/W Dev - AMP TM Study	Various	JHU : Laurel MD	0.000	-		-		0.519	Dec 2015	-		0.519	1.353	1.872	-
Primary H/W Dev - ANT/ RAD TM Study	Various	Various : Various	0.000	-		-		1.219	Dec 2015	-		1.219	2.885	4.104	-
Primary H/W Dev - ANT/ RAD TM Study	Various	JHU : Laurel MD	0.000	-		-		1.219	Dec 2015	-		1.219	2.885	4.104	-
Primary H/W Dev - Hardback TM Study	Various	Various : Various	0.000	-		-		0.282	Dec 2015	-		0.282	0.581	0.863	-
Primary H/W Dev - Hardback TM Study	Various	JHU : Laurel MD	0.000	-		-		0.282	Dec 2015	-		0.282	0.581	0.863	-
Primary H/W Dev - RAT TM Study	Various	Various : Various	0.000	-		-		0.282	Dec 2015	-		0.282	0.581	0.863	-
Primary H/W Dev - RAT TM Study	Various	JHU : Laurel MD	0.000	-		-		0.282	Dec 2015	-		0.282	0.581	0.863	-
Primary H/W Dev - Digital Payload	Various	Various : Various	0.000	-		-		1.069	Dec 2015	-		1.069	2.414	3.483	-
Primary H/W Dev - DIGITAL PAYLOAD	Various	JHU : Laurel MD	0.000	-		-		1.069	Dec 2015	-		1.069	2.414	3.483	-
Primary H/W Dev - Amplifier SIL H/W	C/CPFF	TBD : TBD	0.000	-		-		-		-		-	10.265	10.265	10.265
Primary H/W Dev - Antenna/Radome SIL H/W	C/CPFF	TBD : TBD	0.000	-		-		-		-		-	6.129	6.129	6.129
Primary H/W Dev - RAT SIL H/W	C/CPFF	Honeywell : TBD	0.000	-		-		-		-		-	1.732	1.732	1.732
Primary H/W Dev - Exciter SIL H/W	C/CPFF	Raytheon : El Segundo CA	0.000	-		-		-		-		-	7.700	7.700	7.700
Primary H/W Dev - Hardback SIL H/W	WR	NSWC Crane : Crane IN	0.000	-		-		-		-		-	2.503	2.503	-
Primary H/W Dev - Amplifier TM	C/CPFF	TBD : TBD	0.000	-		-		-		-		-	12.099	12.099	12.099

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary H/W Dev - Antenna/Radome TM	C/CPFF	TBD 1 : TBD	0.000	-		-		-		-		-	15.092	15.092	15.092
Primary H/W Dev - Antenna/Radome TM	C/CPFF	TBD 2 : TBD	0.000	-		-		-		-		-	15.092	15.092	15.092
Primary H/W Dev - Antenna/Radome TM	C/CPFF	TBD 3 : TBD	0.000	-		-		-		-		-	15.092	15.092	15.092
Primary H/W Dev - RAT TM	C/CPFF	Honeywell : TBD	0.000	-		-		-		-		-	13.106	13.106	13.106
Primary H/W Dev - Exciter TM	C/CPFF	Raytheon : El Segundo CA	0.000	-		-		-		-		-	4.954	4.954	4.954
Primary H/W Dev - Hardback TM	WR	NSWC Crane : Crane IN	0.000	-		-		-		-		-	0.488	0.488	-
Primary H/W Dev - Aircraft Integration TM	C/CPFF	Boeing : St Louis MO	0.000	-		-		-		-		-	9.612	9.612	9.612
Primary H/W Dev - Aircraft Integration TM	WR	NAWCWD : China Lake CA	0.000	-		-		-		-		-	30.103	30.103	-
Primary H/W Dev - Aircraft Integration TM	C/CPFF	TBD : TBD	0.000	-		-		-		-		-	37.658	37.658	37.658
Primary H/W Dev - RAT EMD	C/CPFF	Honeywell : TBD	0.000	-		-		-		-		-	3.679	3.679	3.679
Primary H/W Dev - Antenna/Radome Amplfier EMD	C/CPFF	TBD : TBD	0.000	-		-		-		-		-	302.665	302.665	302.665
Primary H/W Dev - Exciter EMD	C/CPFF	TBD : TBD	0.000	-		-		-		-		-	97.955	97.955	97.955
Primary H/W Dev - Hardback EMD	WR	NSWC Crane : Crane IN	0.000	-		-		-		-		-	22.597	22.597	-
Aircraft Int - EMD A/C Integration	C/CPFF	Boeing : St Louis MO	0.000	-		-		-		-		-	21.667	21.667	21.667
Aircraft Int - EMD A/C Integration	WR	NAWCWD : China Lake CA	0.000	-		-		-		-		-	28.669	28.669	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604274N / *Next Generation Jammer (NGJ)*	Project (Number/Name) 3380 / *Next Generation Jammer Inc II*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Aircraft Int - EMD A/C Integration	Various	Various : Various	0.000	-		-		-		-		-	86.407	86.407	-
Aircraft Int - Loads Aircraft	Various	Boeing : St Louis MO	0.000	-		-		-		-		-	48.997	48.997	-
Systems Engineering	WR	NAWCAD : Patuxent River MD	0.000	-		-		2.398	Dec 2015	-		2.398	36.166	38.564	-
Systems Engineering	WR	NAWCWD : Pt Mugu CA	0.000	-		-		0.598	Dec 2015	-		0.598	9.053	9.651	-
Systems Engineering	WR	NSWC : Crane IN	0.000	-		-		0.598	Dec 2015	-		0.598	9.053	9.651	-
Systems Engineering	SS/CPFF	JHU : Laurel MD	0.000	-		-		0.598	Dec 2015	-		0.598	9.053	9.651	9.651
Systems Engineering	WR	NRL : Washington DC	0.000	-		-		0.598	Dec 2015	-		0.598	9.053	9.651	-
Systems Engineering	Various	Various : Various	0.000	-		-		0.598	Dec 2015	-		0.598	9.053	9.651	-
		Subtotal	0.000	-		-		12.130		-		12.130	891.320	903.450	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Eng & Tech Srvc (Non FFRDC)	Various	Various : Various	0.000	-		-		0.598	Dec 2015	-		0.598	9.053	9.651	-
		Subtotal	0.000	-		-		0.598		-		0.598	9.053	9.651	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development T&E - TEST DT	Various	Various : Various	0.000	-		-		-		-		-	67.241	67.241	-
Development T&E - COTF	SS/FFP	FSC : San Diego CA	0.000	-		-		-		-		-	1.616	1.616	1.616

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604274N / *Next Generation Jammer (NGJ)*	Project (Number/Name) 3380 / *Next Generation Jammer Inc II*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational T&E - TEST OT	Various	Various : Various	0.000	-		-		-		-		-	32.467	32.467	-
		Subtotal	0.000	-		-		-		-		-	101.324	101.324	-

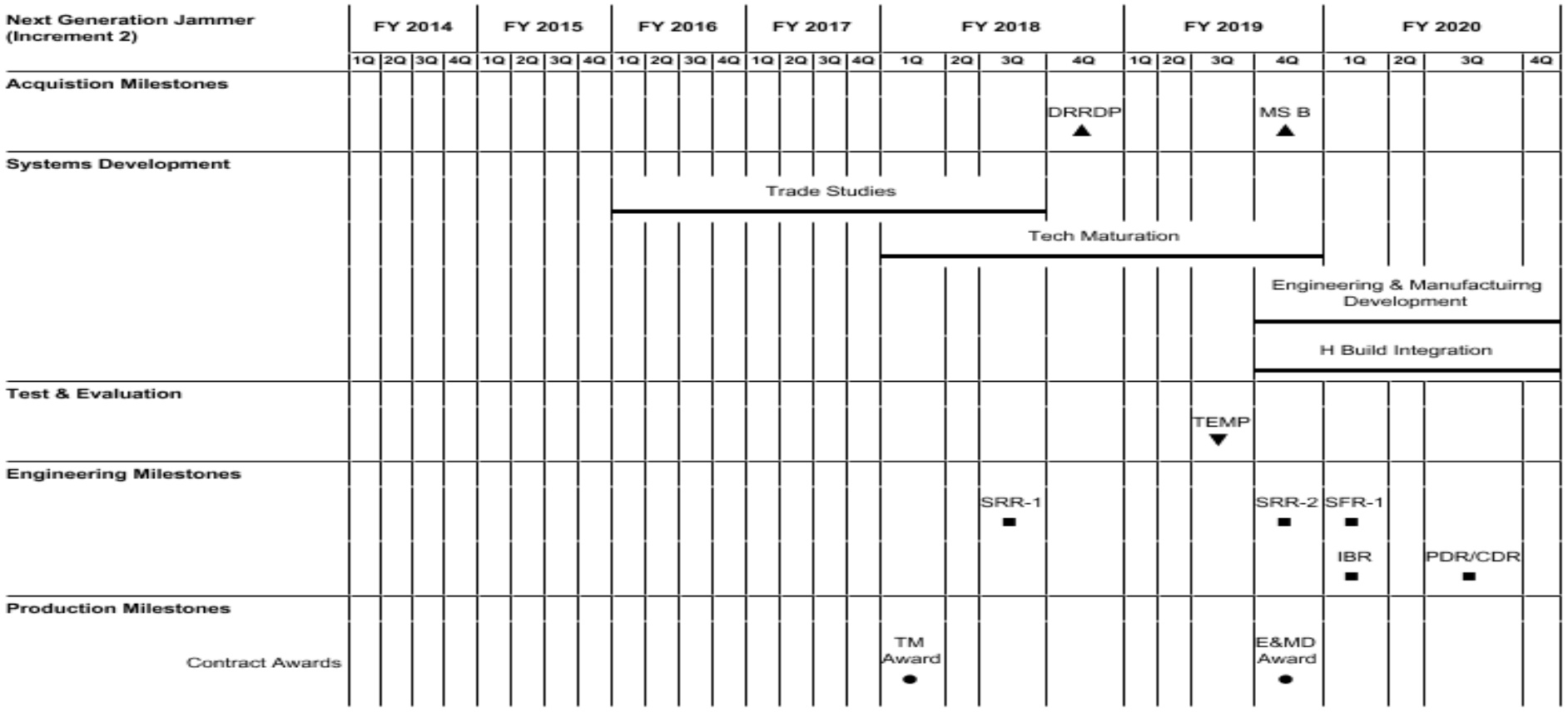
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	Various : Various	0.000	-		-		0.218	Dec 2015	-		0.218	2.163	2.381	-
Travel	Various	Various : Various	0.000	-		-		0.054	Dec 2015	-		0.054	1.603	1.657	-
		Subtotal	0.000	-		-		0.272		-		0.272	3.766	4.038	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		13.000		-		13.000	1,005.463	1,018.463	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604274N / *Next Generation Jammer (NGJ)*	**Project (Number/Name)** 3380 / *Next Generation Jammer Inc II*



2016PB - 0604274N - 3380

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604274N / *Next Generation Jammer (NGJ)*	**Project (Number/Name)** 3380 / *Next Generation Jammer Inc II*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Next Generation Jammer (Increment 2)				
Acquistion Milestones: Deveolpment RFP Release Decision Point	4	2018	4	2018
Acquistion Milestones: Milestone B	4	2019	4	2019
Systems Development: Trade Studies	1	2016	3	2018
Systems Development: Tech Maturation	1	2018	4	2019
Systems Development: Engineering & Manufacturing Development	4	2019	4	2020
Systems Development: H Build Integration	4	2019	4	2020
Test & Evaluation: NGJ Increment 2 Test & Evaluation Master Plan	3	2019	3	2019
Engineering Milestones: System Readiness Review - 1	3	2018	3	2018
Engineering Milestones: System Readiness Review - 2	4	2019	4	2019
Engineering Milestones: System Functional Review - 1	1	2020	1	2020
Engineering Milestones: Integrated Baseline Review	1	2020	1	2020
Engineering Milestones: Preliminary Design Review/Critical Design Review	3	2020	3	2020
Production Milestones: Contract Awards: Technical Maturation Award	1	2018	1	2018
Production Milestones: Contract Awards: Engineering and Manufacturing Development Contract Award	4	2019	4	2019

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy												Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604280N *I JT Tact Radio Sys (JTRS)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	1,462.794	3.909	6.945	25.071	-	25.071	2.512	0.519	-	-	-	1,501.750
3073: *AMF JTRS*	1,454.941	3.909	-	-	-	-	-	-	-	-	-	1,458.850
3078: *Digital Modular Radio*	7.853	-	6.945	25.071	-	25.071	2.512	0.519	-	-	-	42.900
MDAP/MAIS Code: **Other MDAP/MAIS Code(s):** 421												

A. Mission Description and Budget Item Justification

Digital Modular Radio (DMR) with Integrated Waveform (IW) and Mobile User Objective System (MUOS)capable hardware is the Navy's technical solution for the IW/ MUOS requirement. The DMR AN/USC-61(C), is the first software defined radio to have become a communications system standard for the U.S. Military. The compact, multi-channel DMR provides multiple waveforms and multi-level information security for voice and data communications. DMR radios currently operate aboard U.S. Navy surface and subsurface vessels, fixed-sites and other Department of Defense communication platforms using frequencies ranging from 2 MHz to 2 GHz. Certified to pass secure voice and data at Multiple Independent Levels of Security (MILS) over High Frequency (HF), Very High Frequency (VHF), Ultra High Frequency (UHF), and Satellite Communications (SATCOM) channels, the DMR system was developed to the U.S. Navy's specifications and meets all the stringent environmental, Electromagnetic Interference (EMI) and performance requirements for use in the U.S. Fleet. This task is to continue the development/integration of the IW and MUOS waveforms for the DMR in accordance with Military Standards 188-181,2,3, and the High Frequency Distribution Amplifier Group (HFDAG). IW uses a Time Division Multiple Access (TDMA) communication system in an attempt to improve satellite bandwidth utilization over legacy SATCOM waveforms. This enables demand assigned services on UHF SATCOM networks to support new applications that require better performance and higher channel throughput. The MUOS waveform will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS will provide functionality comparable to commercial mobile phone systems. HFDAG is a follow-on HF solution to fulfill the HF communication capability from 2MHz - 30MHz (transmit) and 2MHz - 30MHz (receive) with ALE, Link 11, FSK, USB, LSB and ISB modes of operation for Navy Modernization Process (NMP) and platforms. HFDAG will utilize the existing DMR as the exciter/receiver. The budget in FY16 and FY17 also provides funding to DMR for HF Automatic Link Establishment (ALE) Generation 3 development efforts.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604280N *I JT Tact Radio Sys (JTRS)*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	3.259	7.106	6.183	-	6.183
Current President's Budget	3.909	6.945	25.071	-	25.071
Total Adjustments	0.650	-0.161	18.888	-	18.888
• Congressional General Reductions	-	-0.161			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.650	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	18.888	-	18.888

Change Summary Explanation

The FY 2016 funding request was reduced by $1.3 million to account for the availability of prior year execution balances.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604280N / *JT Tact Radio Sys (JTRS)*	Project (Number/Name) 3073 / *AMF JTRS*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3073: *AMF JTRS*	1,454.941	3.909	-	-	-	-	-	-	-	-	-	1,458.850
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 421

A. Mission Description and Budget Item Justification

Digital Modular Radio (DMR) with Integrated Waveform (IW) and Mobile User Objective System (MUOS)capable hardware is the Navy's technical solution for the IW/ MUOS requirement. The DMR AN/USC-61(C), is the first software defined radio to have become a communications system standard for the U.S. Military. The compact, multi-channel DMR provides multiple waveforms and multi-level information security for voice and data communications. DMR radios currently operate aboard U.S. Navy surface and subsurface vessels, fixed-sites and other Department of Defense communication platforms using frequencies ranging from 2 MHz to 2 GHz. Certified to pass secure voice and data at Multiple Independent Levels of Security (MILS) over High Frequency (HF), Very High Frequecy (VHF), Ultra High Frequency (UHF), and Satellite Communications (SATCOM) channels, the DMR system was developed to the U.S. Navy's specifications and meets all the stringent environmental, Electromagnetic Interference (EMI) and performance requirements for use in the U.S. Fleet. This task is to continue the development/integration of the Integrated Waveform (IW) and the Mobile User Objective System (MUOS) waveforms for the Digital Modular Radio (DMR) in accordance with Military Standards 188-181,2,3 . IW uses a Time Division Multiple Access (TDMA) communication system in an attempt to improve satellite bandwidth utilization over legacy SATCOM waveforms. This enables demand assigned services on UHF SATCOM networks to support new applications that require better performance and higher channel throughput. The MUOS waveform will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS will provide functionality comparable to commercial mobile phone systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: DMR Mobile Users Objective System (MUOS)	3.909	-	-	-	-
Articles:	-	-	-	-	-
Description: Formerly included in JTRS AMF for Navy integration and porting efforts.					
FY 2014 Accomplishments: Continued Digital Modular Radio (DMR) Integrated Waveform (IW)/Mobile User Objective System (MUOS) development/integration efforts to include testing and logistics. Supported management and system engineering efforts towards completing Design Review (DR), Software Design Review, Critical Design Review, and Integrated Baseline Review (IBR). Continued effort on development of technical solution for Navy's MUOS requirement including integration and porting the MUOS waveform into the DMR. Completed High Frequency Distribution Amplifier Group (HFDAG) development and continued HFDAG system test and evaluation efforts.					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604280N / *JT Tact Radio Sys (JTRS)*	**Project (Number/Name)** 3073 / *AMF JTRS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	3.909	-	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

AMF JTRS underwent a program restructure in accordance with Milestone Decision Authority (MDA) direction.

E. Performance Metrics

Acquisition Decision Memorandum (ADM) received on 11 July 2012 directing a restructure of the AMF JTRS Program. Performance metrics will be evaluated after the program Acquisition Strategy has been finalized and the new Acquisition Program Baseline approved.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604280N / *JT Tact Radio Sys (JTRS)*	Project (Number/Name) 3073 / *AMF JTRS*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MIDS JTRS HW/SW (Phase 2A/2B Core)	C/CPIF	DLS : Cedar Rapids, IA	8.563	-		-		-		-		-	-	8.563	-
MIDS JTRS HW/SW (Phase 2A/2B Core)	C/CPIF	ViaSat Inc : Carlsbad, CA	4.078	-		-		-		-		-	-	4.078	-
AMF JTRS Development-JTR System (Pre-SDD)	C/CPFF	The Boeing Co : Anaheim, CA	45.603	-		-		-		-		-	-	45.603	-
AMF JTRS Development-JTR System (Pre-SDD)	C/CPFF	Lockheed Martin : Manassas, VA	45.335	-		-		-		-		-	-	45.335	-
AMF JTRS Development-JTR SET (SDD)	C/CPIF	Lockheed Martin : Manassas, VA	890.132	-		-		-		-		-	-	890.132	-
AMF JTRS- Systems Engineering	WR	Various : Various	125.561	-		-		-		-		-	-	125.561	-
AMF JTRS- NDI Integration and Certification	TBD	Various : Various	34.721	-		-		-		-		-	-	34.721	-
Systems Engineering-JTRS Implementation-Navy Unique	WR	Various : Various	15.634	-		-		-		-		-	-	15.634	-
DMR HF DAG Power Amplifier H/W Development	C/FFP	GDDS : Various	4.962	-		-		-		-		-	-	4.962	-
Systems Engineering- JTF WARNET	WR	Various : Various	7.481	-		-		-		-		-	-	7.481	-
JTRS HMS Design, Development and Manufacture of Engineering Development Models (EDMs)	C/CPAF	General Dynamics C4 Systems : Scottsdale, AZ	0.000	-		-		-		-		-	-	-	-
DMR HF DAG- System Integration	WR	SSC PAC : San Diego, CA	0.545	-		-		-		-		-	-	0.545	-
DMR HF DAG- Design	WR	SSC PAC : San Diego, CA	2.185	-		-		-		-		-	-	2.185	-
DMR HFDAG Software Engineering	C/CPFF	CECOM MITRE : San Diego, CA	0.100	-		-		-		-		-	-	0.100	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604280N / *JT Tact Radio Sys (JTRS)*	Project (Number/Name) 3073 / *AMF JTRS*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DMR MUOS Software Development	C/CPFF	General Dynamics : Scottsdale, AZ	20.347	2.409	May 2014	-		-		-		-	-	22.756	-
DMR MUOSSoftware Development	WR	SSC PAC : San Diego, GA	0.000	1.200	Oct 2013	-		-		-		-	-	1.200	-
DMR MUOS Software Engineering	C/CPFF	CECOM MITRE : San Diego, CA	0.000	0.300	Oct 2013	-		-		-		-	-	0.300	-
		Subtotal	1,205.247	3.909		-		-		-		-	-	1,209.156	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMF JTRS- Acquisition, and ILS Support	WR	Various : Various	40.137	-		-		-		-		-	-	40.137	-
Software Dev: DMR Build 6.4	C/FFP	GDDS : Various	12.861	-		-		-		-		-	-	12.861	-
DMR HF DAG- ILS	C/CPFF	CSA : San Diego	0.125	-		-		-		-		-	-	0.125	-
MUOS SST - Acquisition Support	C/CPFF	BAH : San Diego	0.709	-		-		-		-		-	-	0.709	-
		Subtotal	53.832	-		-		-		-		-	-	53.832	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMF JTRS- Test and Evaluation and Test Support	WR	Various : Various	83.154	-		-		-		-		-	-	83.154	-
DMR T&E (FOTE) SD	WR	SSC : San Diego, CA	7.093	-		-		-		-		-	-	7.093	-
DMR T&E (FOTE) CHARL	WR	SSC : Charleston, SC	1.732	-		-		-		-		-	-	1.732	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604280N / *JT Tact Radio Sys (JTRS)*	Project (Number/Name) 3073 / *AMF JTRS*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MUOS SST- Navy Specific Integration	WR	Various : San Diego, CA	0.022	-		-		-		-		-	-	0.022	-
DMR HF DAG- T&E	WR	SSC PAC : San Diego, CA	0.230	-		-		-		-		-	-	0.230	-
JTNC Waveform Alignment	WR	Various : San Diego, CA	23.545	-		-		-		-		-	-	23.545	-
MUOS - Air Force Specific	WR	Various : San Diego, CA	20.500	-		-		-		-		-	-	20.500	-
		Subtotal	136.276	-		-		-		-		-	-	136.276	-

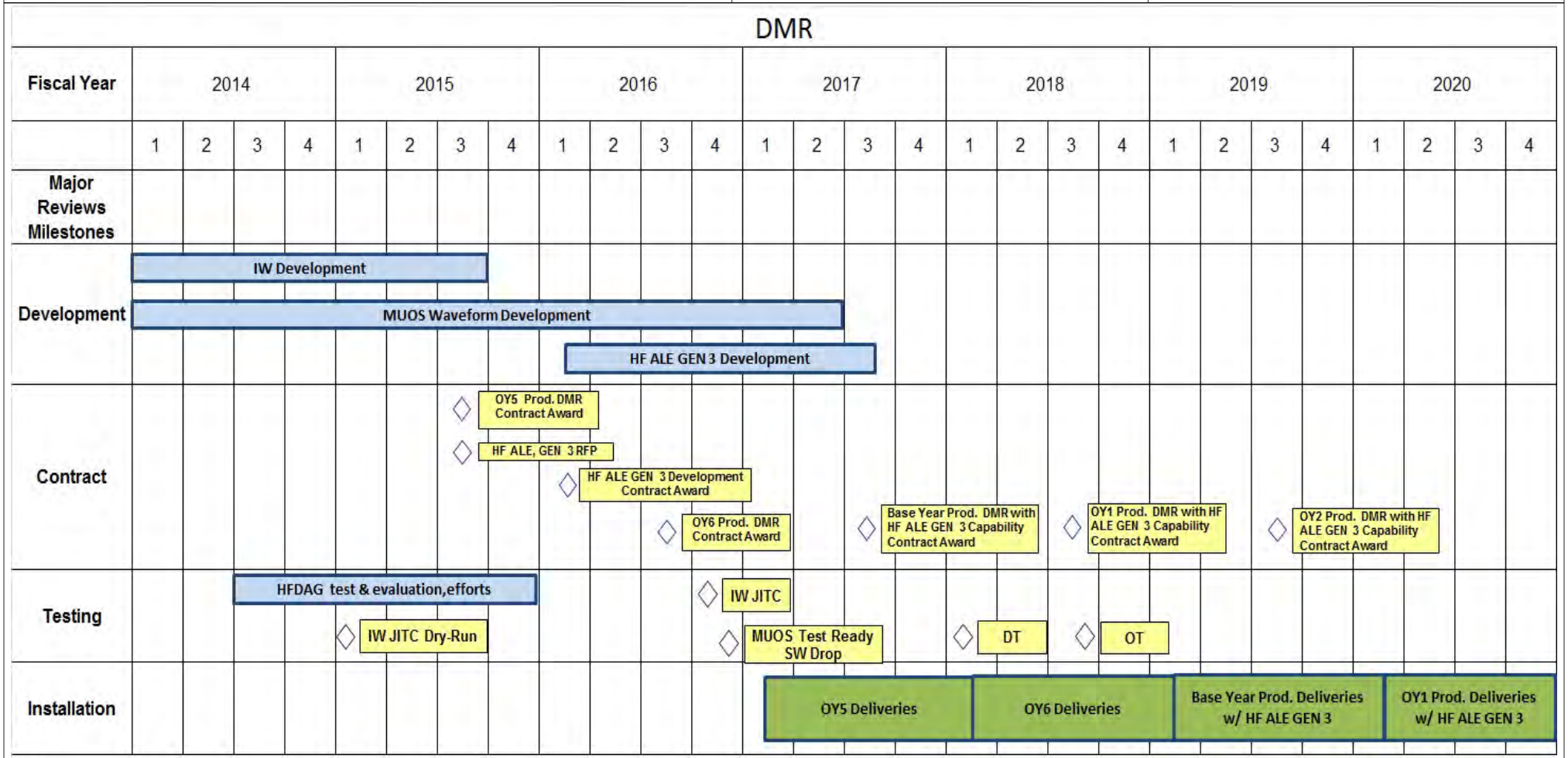
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMF Business Operations Management and Support	WR	Various : Various	58.547	-		-		-		-		-	-	58.547	-
Acquisition Workforce Fund- 2009	C/FP	Various : Various	1.039	-		-		-		-		-	-	1.039	-
		Subtotal	59.586	-		-		-		-		-	-	59.586	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,454.941	3.909		-		-		-		-	-	1,458.850	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604280N / *JT Tact Radio Sys (JTRS)*	**Project (Number/Name)** 3073 / *AMF JTRS*



Notes:

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604280N / *JT Tact Radio Sys (JTRS)*	**Project (Number/Name)** 3073 / *AMF JTRS*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3073				
DMR MUOS Development	1	2014	4	2014

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy									Date: February 2015			
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604280N / *JT Tact Radio Sys (JTRS)*				Project (Number/Name) 3078 / *Digital Modular Radio*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
3078: *Digital Modular Radio*	7.853	-	6.945	25.071	-	25.071	2.512	0.519	-	-	-	42.900
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

In FY15, the Digital Modular Radio (DMR) program, previously funded under Project 3073, transitioned to Project 3078.

A. Mission Description and Budget Item Justification

Digital Modular Radio (DMR) with Integrated Waveform (IW) and Mobile User Objective System (MUOS)capable hardware is the Navy's technical solution for the IW/ MUOS requirement. The DMR AN/USC-61(C), is the first software defined radio to have become a communications system standard for the U.S. Military. The compact, multi-channel DMR provides multiple waveforms and multi-level information security for voice and data communications. DMR radios currently operate aboard U.S. Navy surface and subsurface vessels, fixed-sites and other Department of Defense communication platforms using frequencies ranging from 2 MHz to 2 GHz. Certified to pass secure voice and data at Multiple Independent Levels of Security (MILS) over High Frequency (HF), Very High Frequency (VHF), Ultra High Frequency (UHF), and Satellite Communications (SATCOM) channels, the DMR system was developed to the U.S. Navy's specifications and meets all the stringent environmental, Electromagnetic Interference (EMI) and performance requirements for use in the U.S. Fleet. This task is to continue the development/integration of the IW and MUOS waveforms for the DMR in accordance with Military Standards 188-181,2,3, and the High Frequency Distribution Amplifier Group (HFDAG). IW uses a Time Division Multiple Access (TDMA) communication system in an attempt to improve satellite bandwidth utilization over legacy SATCOM waveforms. This enables demand assigned services on UHF SATCOM networks to support new applications that require better performance and higher channel throughput. The MUOS waveform will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS will provide functionality comparable to commercial mobile phone systems. HFDAG is a follow-on HF solution to fulfill the HF communication capability from 2MHz - 30MHz (transmit) and 2MHz - 30MHz (receive) with ALE, Link 11, FSK, USB, LSB and ISB modes of operation for Navy Modernization Process (NMP) and platforms. HFDAG will utilize the existing DMR as the exciter/receiver. The budget in FY16 and FY17 also provides funding to DMR for HF Automatic Link Establishment (ALE) Generation 3 development efforts.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Title: DMR	-	6.945	25.071	-	25.071
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: Continue the development/integration of the Integrated Waveform (IW) and Mobile User Objective System (MUOS) capabilities into the Digital Modular Radio (DMR) system including system engineering, software development, testing, design reviews, integration, porting and logistics efforts and support acquisition documentation development. Perform IW certification "Dry Run" with Joint Integration Test Commnad. Complete					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604280N / *JT Tact Radio Sys (JTRS)*	**Project (Number/Name)** 3078 / *Digital Modular Radio*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
High Frequency Distribution Amplifier Group (HFDAG) test & evaluation including Environmental Testing as well as Shock and Vibe testing. ***FY 2016 Base Plans:*** Continue the development/integration of the Integrated Waveform (IW) and Mobile User Objective System (MUOS) capabilities into the Digital Modular Radio (DMR) including system engineering, software development, testing, design reviews, integration, porting and logistics efforts. Perform IW certification efforts with Joint Integration Test Command (JITC). Recieve MUOS software drop from vendor for testing and Release Requirements Review (RRR) efforts. Begin DMR High Frequency Amplifier Link Establishment (HF ALE) GEN3 Software development efforts. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	6.945	25.071	-	25.071

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/3010: *DMR OPN, PE:0303109N*	-	14.410	10.128	-	10.128	35.673	51.285	62.091	66.709	-	240.296

Remarks

D. Acquisition Strategy

General Dynamics C4 Systems (GDC4S) owns the technical data rights to the DMR. Due to this fact they are the only contractor with the unique capabilities and technical know how to perform the required design work to complete the IW upgrade and the MUOS interoperability efforts. This scope will be issued as the final increment to GDC4S under the sole source contract, N00039-10-C-0069, as authorized by SPAWAR J&A No. 16,976, signed 3 December 2012 by SPAWAR Executive Director and as authorized by SPAWAR J&A No. 16,351 signed 5 January 2010 by the Assistant Secretary of the Navy (ASN), Research Development and Acquisition (RD&A). SPAWAR Systems Center Pacific (SSC PAC) will continue performing HFDAG system test and evaluation.

E. Performance Metrics

MIL-STD conformance to meet JITC Certification for IW/UHF SATCOM waveform and the MUOS waveform.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604280N / *JT Tact Radio Sys (JTRS)*	Project (Number/Name) 3078 / *Digital Modular Radio*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IW/MUOS Development	C/CPIF	GDC4S : Scottsdate, AZ	7.853	-		4.106	Oct 2014	16.684	Oct 2015	-		16.684	-	28.643	-
HF ALE Development	C/CPFF	TBD : TBD	0.000	-		-		1.994	Dec 2015	-		1.994	-	1.994	-
		Subtotal	7.853	-		4.106		18.678		-		18.678	-	30.637	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering Support	Various	SSC PAC : San Diego, CA	0.000	-		1.839	Nov 2014	3.540	Nov 2015	-		3.540	-	5.379	-
		Subtotal	0.000	-		1.839		3.540		-		3.540	-	5.379	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Testing	Various	SSC PAC : San Diego, CA	0.000	-		0.500	Oct 2014	1.418	Oct 2015	-		1.418	-	1.918	-
		Subtotal	0.000	-		0.500		1.418		-		1.418	-	1.918	-

Management Services ($ in Millions)

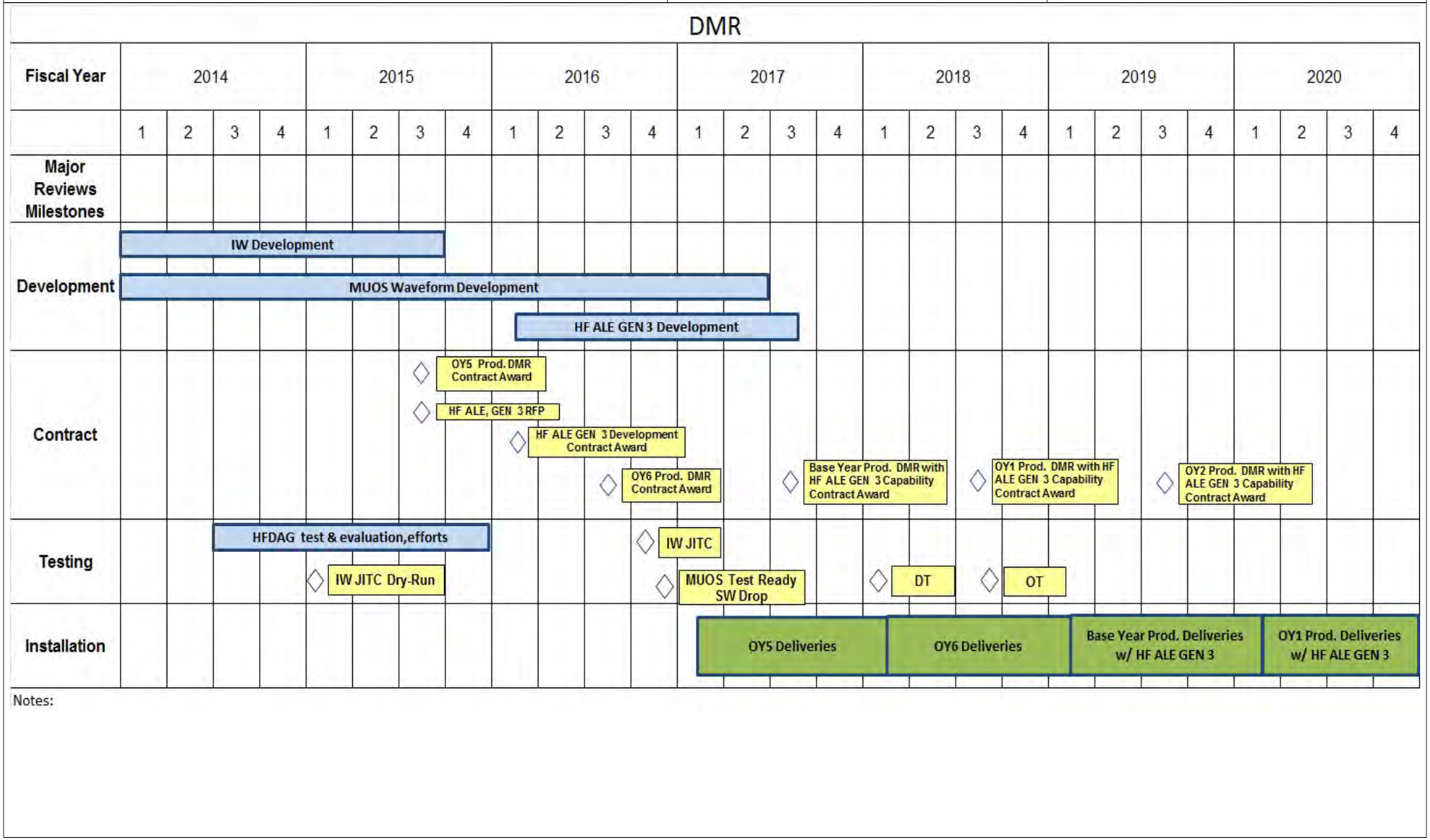
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	BAH : San Diego, CA	0.000	-		0.500	Nov 2014	1.435	Nov 2015	-		1.435	-	1.935	-
		Subtotal	0.000	-		0.500		1.435		-		1.435	-	1.935	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604280N / *JT Tact Radio Sys (JTRS)*	Project (Number/Name) 3078 / *Digital Modular Radio*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7.853	-		6.945		25.071		-		25.071	-	39.869	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604280N / *JT Tact Radio Sys (JTRS)*	**Project (Number/Name)** 3078 / *Digital Modular Radio*



Notes:

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604280N / *JT Tact Radio Sys (JTRS)*	**Project (Number/Name)** 3078 / *Digital Modular Radio*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3078				
IW Development	1	2014	3	2015
MOUS Waveform Development	1	2014	2	2017
HFDAG Test and Evaluation	3	2014	4	2015
HF ALE GEN 3 Development Request for Proposal (RFP)	3	2015	3	2015
DMR Production Contract Award	3	2015	3	2015
MUOS Test Ready Software (SW) Drop	4	2016	4	2016
HF ALE GEN 3 Development Contract Award	1	2016	1	2016
HF ALE GEN 3 Development	1	2016	3	2017
Production Deliveries	1	2017	1	2020
Development Testing (DT)	1	2018	1	2018
Operational Testing (OT)	3	2018	3	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604307N *I Surface Combatant Cmbt Sys Eng*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	2,924.846	249.939	179.112	443.433	-	443.433	281.888	277.030	288.120	260.948	Continuing	Continuing
1447: *Surf Combatant Combat System Imp*	2,924.846	246.206	170.118	428.756	-	428.756	271.045	269.192	281.538	255.866	Continuing	Continuing
3357: *Aegis Training Improvement Program*	0.000	3.733	8.994	14.677	-	14.677	10.843	7.838	6.582	5.082	Continuing	Continuing
MDAP/MAIS Code: 180												

A. Mission Description and Budget Item Justification

This project provides Cruiser and Destroyer AEGIS Combat System (ACS) upgrades and integrates new equipment and systems to pace the threat and capture advances in technology. Examples of captured advanced technologies are: open architecture, advanced information assurance and initial cyber defense, fiber optics, distributed computing architecture, and high performance computing, all of which require corresponding AEGIS Weapon System (AWS) and ACS changes.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	206.298	189.112	300.374	-	300.374
Current President's Budget	249.939	179.112	443.433	-	443.433
Total Adjustments	43.641	-10.000	143.059	-	143.059
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-10.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	50.921	-			
• SBIR/STTR Transfer	-7.279	-			
• Program Adjustments	-	-	146.982	-	146.982
• Rate/Misc Adjustments	-0.001	-	-3.923	-	-3.923

Change Summary Explanation

FY14 1447:

OMNIBUS reprogramming: Increase due to development and integration of Fleet Combatant Commanders' Urgent Operational Needs (UONs), including Naval Integrated Fire Control - Counter Air (NIFC-CA) and SM-6, into AEGIS Advanced Capability Build (ACB)12 (BL 9.A1) for backfit to CG 52-58.

FY15 1447:

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604307N *I Surface Combatant Cmbt Sys Eng*

Reduction for Surface combatant development and integration support program growth.

FY16 1447:
Increase due to the following:
Development and Integration of SM-6 BLK IA and NIFC-CA 2019 into AEGIS ACB 16 (BL 9.C2) Program of Record in support of Ballistic Missile Defense (BMD) Sea Based Terminal capability and air defense improvements against large missile raids.
Addition of Warfighting Improvements (NIFC-2019, BMD improved threat set, Surface Electronic Improvement Program (SEWIP) BLK II) into AEGIS ACB 20.
AEGIS BL 9.A1 (Cruiser Backfit) Development and Integration Introduction of SEARAM into AEGIS BL 5.3 Program of Record.
Increased operations and maintenance of the AEGIS Combat System Engineering Development Site (CSEDS) facility to support BL 9.C2, ACB 20, BL 9.A1 and SEARAM integration (4 modified or additional combat system suites)
Far Term Interoperability Improvements Project to integrate Digital Air Control and Identify Friend or Foe (IFF) Mode 5/S.

FY16 3357:
Increase to address additional AEGIS ACB16 (BL 9.C2) Training Improvements in support of the additional warfighting scope.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / *Surface Combatant Cmbt Sys Eng*	Project (Number/Name) 1447 / *Surf Combatant Combat System Imp*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1447: *Surf Combatant Combat System Imp*	2,924.846	246.206	170.118	428.756	-	428.756	271.045	269.192	281.538	255.866	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides AEGIS Cruiser & Destroyer ACS upgrades and integrates new equipment and systems to pace the threat and capture advances in technology. The ACS capabilities have continually evolved starting with AEGIS Baseline (BL) 2 on Guided Missile Cruisers (CG) 52-58, BL 3 on CG 59-64, and BL 4 on CG 65-73. In FY 1992, AEGIS BL 5 was introduced on Guided Missile Destroyer (DDG) 51-78, BL 6 on DDG 79-90, BL 7 on DDG 91-112, and BL 9 113 and follow.

The AEGIS Modernization Baselines will provide new technology to replace aging military equipment, extend service life, and maintain combat viability of AEGIS combatants into the future. These baselines reduce combat system maintenance life cycle costs and streamline the development of capabilities. AEGIS BL 8 (Cruiser Modernization) upgraded CG 52-58, while AEGIS BL 9, consisting of an upgraded computing infrastructure and computer program enhancements, will modernize CGs 59,60,62 and DDG 51,52,53,57,61,65,69,and 80. AEGIS BL 9 will provide updated computer program to CG 52-58 to improve warfighter effectiveness by introducing Naval Integrated Fire Control - Counter Air (NIFC-CA), SM-6 and Fleet UONs and reduce the number of AEGIS Baselines within the AEGIS Fleet. AEGIS BL 9 will also be introduced on the new construction destroyers, starting with DDG 113 and follow.

AEGIS Advanced Capability Build (ACB) 16 and the required Technical Insertion (TI) 16 Computing and Display Plant will provide warfighter upgrades to AEGIS Destroyers to include improved Ballistic Missile Defense (BMD) capabilities, SEWIP BLK II, MH-60R Integration, IFF Mode 5/S, SPQ-9B, Total Ship Training Capability (TSTC), NIFC-CA 2019, and other capabilities to address future emerging threats.

AEGIS Advanced Capability Build (ACB) 20 and Technical Insertion (TI) 20 will provide critical warfighter upgrades and Cyber Task Force upgrades to AEGIS Destroyers. ACB 20 combat system development and integration efforts will support the Air Missile Defense Radar (AMDR) acquisition milestone requirements and build upon ACB 16 to form the foundation for the AEGIS Flight III DDG Combat System. Provide Computer program updates that are backfittable to AEGIS TI 16 hardware configurations.

AEGIS BL 7.2 will provide a common Computer Program build that consolidates 2 (BL 7.1.3 and BL 7.1R) to one software configuration (BL 7.2) for a 22 ship superset (DDG 91-112). Also addresses operations and maintenance deficiencies to improve warfighting readiness and delivers critical warfighting improvements in air defense.

AEGIS Far Term Interoperability Improvement Plan will address the remaining interoperability issues within fielded AEGIS Combat System configurations to improve the use of Digital Air Control and Identify Friend or Foe (IFF) capabilities. These updates will be implemented in a phased approach to align with current and future AEGIS development efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

AEGIS BL 5.3 SEARAM Integration and Test program will introduce SEARAM as part of the AEGIS Combat System to address Combatant Commander requirements to improve warfighter capabilities against advanced anti-ship cruise missiles. These updates will be focused on completing integration and test requirements to validate the performance of the integrated capability. These updates will support Demonstration and Operational Test efforts planned for FY16/17.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: AEGIS DEVELOPMENT SUPPORT	41.065	34.870	53.032	-	53.032
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided AEGIS development support for the following: CSEDS, Program Generation Center (PGC), and Naval System Computing Center (NSCC) in support of AEGIS computer program development, testing, and integration for all AWS products. Provided systems engineering for labs and field activities, program management support, modeling & simulation, requirements management, warfighting capability integration assessments, and conceptual studies. Provided computer program license funding to support land-based test site installation, development and test efforts. Provided Commercial Off The Shelf (COTS) issue resolution to support AEGIS Ships and address computer program modification to enable integration of replacement parts. AEGIS development supported AEGIS ACB12 (BL 9.A0/9.C0/9.C1), AEGIS BL 7.2A/B and AEGIS ACB16 (9.C2).					
FY 2015 Plans: Plan to provide AEGIS development support for the following: Combat System Engineering Development Sites (CSEDS), Program Generation Center (PGC), and Naval System Computing Center (NSCC) in support of AEGIS computer program development, testing, and integration for all AWS products. Provide systems engineering for labs and field activities, program management support, modeling & simulation, requirements management, warfighting capability integration assessments, and conceptual studies. Provide computer program license funding to support land-based test site installation, development and test efforts. Provide COTS issue resolution to support AEGIS Ships and address computer program modification to enable integration of replacements parts. AEGIS development support in FY15 for AEGIS ACB12 (BL 9.C0/9.C1), AEGIS BL 7.2A/B, AEGIS ACB16 (9.C2) and AEGIS ACB 20 (BL 9.CX, BL 10.C0).					
FY 2016 Base Plans: Plan to provide AEGIS development support for the following: Combat System Engineering Development Sites (CSEDS), Program Generation Center (PGC), and Naval System Computing Center (NSCC) in support of AEGIS computer program development, testing, and integration for all AWS products. Increase CSEDS support dues to significant development efforts planned for FY16 and increased number of Combat System suites. Provide systems engineering for labs and field activities, program management support, modeling & simulation,					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
requirements management, warfighting capability integration assessments, and conceptual studies. Provide computer program license funding to support land-based test site installation, development and test efforts. Provide COTS issue resolution to support AEGIS Ships and address computer program modification to enable integration of replacements parts. AEGIS development support in FY16 is for AEGIS ACB12 (BL 9.A1/9.C1), AEGIS BL 7.2A/B, AEGIS ACB16 (9.C2) and AEGIS ACB 20 (BL 9.CX, BL 10.C0). Increased support to identify and implement corrective actions within fielded AEGIS Computer Program configurations to address Interoperability improvements. Increased support required to maintain and operate CSEDS Expansion for increased number of AEGIS Combat System Configurations in support of multiple concurrent BL development efforts. ***FY 2016 OCO Plans:*** N/A					
Title: ACCELERATED MID-TERM INTEROPERABILITY IMPROVEMENT PLAN (AMIIP)	1.900	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed support of AEGIS Weapon System computer programs 6.3.3.0, 7.1R.1.0, and 8.1.2.0.throughout installation and test period. Evaluated and resolved critical discrepancies with the AEGIS combat system discovered during installation and testing with SSDS B/L 6 scheduled to certify for fielding third quarter FY14. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: FAR TERM INTEROPERABILITY IMPROVEMENT PLAN (FTIIP)	-	-	7.500	-	7.500
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 Base Plans:*** Provide cross SYSCOM and cross program office system engineering efforts to identify, evaluate, design, and develop corrective actions within the AEGIS Combat System and in concert with the System of Systems efforts to address Digital Air Control and IFF Mode 5/S. Provide comprehensive plan to implement corrective action in a phased approach in conjunction with ongoing AEGIS development efforts. ***FY 2016 OCO Plans:*** N/A					
Title: AEGIS BASELINE 7.2A/B	22.900	6.400	6.800	-	6.800
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted IPR No 5. Completed computer program development, Navy Performance testing, Certification Assessments, and Work Package and Technical Documentation development. Conducted Navy Link test, Joint Link test, Integrated Logistic Support Certification, deployment Software System Safety Technical Review Panel/ Weapon System Explosive Safety Review Board (WSESRB), Combat System Certification Panel, and Warfare System Installation Assessments. ***FY 2015 Plans:*** Perform BL 7.2A installation on lead ship. Support Lead Ship underway assessment and provide Computer Program updates as required to address Combat System issues identified during underway assessment events. ***FY 2016 Base Plans:*** Support ship installations and provide Computer Program updates to address issues identified during deployment workups in order to improve the Combat Systems Operational effectiveness. ***FY 2016 OCO Plans:*** N/A					
Title: AEGIS BL 5.3 SEARAM Integration & Test	-	-	13.000	-	13.000
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 Base Plans:*** Provide engineering support to integrate and test SEARAM on Forward Deployed Naval Forces (FDNF) AEGIS DDGs. Complete planned In Progress Review(IPR) and Test Readiness Review (TRR) to support the integration, testing and certification of the AEGIS Combat System and Computer Program. Provide engineering support to identify the Demonstration and Operational Testing requirements. ***FY 2016 OCO Plans:*** N/A					
Title: TECHNOLOGY INSERTION 12	0.900	0.404	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed systems engineering support to ACB12 developed and integrated capabilities. Completed computer program development efforts related to AEGIS ACB12. Completed testing and integration of AEGIS ACB12 capabilities and supported Build 16 Mission Readiness Assessment (MRA). ***FY 2015 Plans:*** Continue systems engineering support to ACB12 developed and integrated capabilities. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: ADVANCED CAPABILITY BUILD 12 (BL 9.A0 / 9.C0)	54.900	5.722	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided coordination and management for technology insertion TI-12 components in support of AEGIS ACB12 to ensure that hardware and software issues related to integration of Common Display Architecture Display System (CDADS), Secure Voice System (SVS) and SPQ-15 Data Distribution System are addressed. Participated in review and assessment boards to aid prioritization and inclusion in the latest computer program builds, including the planned combat system certification build for Baseline (BL) 9.A0 (ACB12 Cruisers). Supported Build 13 MRA and provided computer program updates to support AEGIS combat system and					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
weapon system certification efforts and Combat System Ship Qualification Trials (CSSQTs) for CG 62, CG 60, and DDG 53, initial installation, check-out and availability testing for DDG 65, DG 52, CG 59 and BL 9A Operational Testing. ***FY 2015 Plans:*** Complete certification of BL 9A.0. Continue management and coordination efforts to support BL 9.C0 (Destroyers) at-sea testing and combat system certification. Ensure that ships receive required computer program updates to address radar video, voice communication and controls, console stability and general display stability issues. Complete BL 9C.0 certification. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: ADVANCED CAPABILITY BUILD 12 (BL 9.C1)	33.370	18.000	18.218	-	18.218
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided system engineering, integration, and test to support AEGIS BL 9 New Construction (NC) Integrated Air & MIssile Defense (IAMD) DDG. Integrated BL 9 NC IAMD DDG and BMD 5.0 Capability Upgrade (CU) programs; Executed Builds 14, 15, 16, 17, & 18 Computer Program Development and ET&E; Conducted Software System Safety Technical Review Panel (SSSTRP) Updates; Supported Production Hardware Acceptance Test Procedure (ATP); Supported Continuous Joint Assessment of Maintainability (CJAM), Jamming Exercise (JAMEX), System Functional Tests (SFTs), Mission Readiness Assessment and endurance testing. ***FY 2015 Plans:*** Continue engineering support to AEGIS ACB 12 (BL 9.C1) to integrate BMD 5.0 CU programs for Joint Assessment of Maintainability (JAM), SSSTRP and WSESRB. Conduct Engineering Assessment, At-Sea testing and Navy Link Certification testing in order to provide Objective Quality Evidence toward BL 9.C1 certification. Implement Computer Program updates to support computer program installation for AEGIS Light-Off (ALO) on DDG 113 and 115, and AEGIS Combat System (ACS) element integration. ***FY 2016 Base Plans:*** Continue engineering support to AEGIS ACB 12 (BL 9.C1) efforts to field Combat System Hardware and Software within the AEGIS New Construction Ships DDG 113-115. Provide engineering support to evaluate and					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
support Mission Readiness Assessments as required to support New Construction underway events. Provide Combat System Assessment to support Combat System Certification Panel reviews and support the Certification of AEGIS BL 9.C1. ***FY 2016 OCO Plans:*** N/A					
Title: ADVANCED CAPABILITY BUILD 12 (BL 9.A1)	49.195	-	64.300	-	64.300
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** Provide system engineering, development, integration and test support to implement AEGIS BL 9.A1 Combat System capability (NIFC-CA and SM-6) using the existing TI 08 Hardware Configuration currently installed on CG 52-58. Provide Computer Program updates to the AEGIS Common Source Library (CSL). Provide System Engineering, Requirements Definition, Integration and Test support to complete In-Progress Review (IPR) #1. Identify hardware changes required to update LBTS (CSEDS/SCSC/ATRC) in support of FY16 Milestones. These efforts are funded by FY 2014 funding. ***FY 2016 Base Plans:*** Provide system engineering, development, integration and test support to implement AEGIS BL 9.A1. Support Land Based Test Site hardware updates. Conduct Computer Program Development efforts as part of the AEGIS Common Source Library. Conduct System Level testing to validate Combat System requirements and support Combat System Certification. Provide System Engineering, Requirements Definition, Integration and Test support to complete In-Progress Review (IPR) #2. ***FY 2016 OCO Plans:*** N/A					
Title: ADVANCED CAPABILITY BUILD 16 / TECHNOLOGY INSERTION 16 (BL 9.C2)	27.845	62.784	112.102	-	112.102
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Provided program management, system engineering, development and test, and procurement activities to support AEGIS ACB 16 (BL 9.C2) program development. Prepared for and conducted the ACB 16 System Requirements Review (SRR) and TI 16 Critical Design Review (CDR). Completed development of ACB 16 System Spec (A-Spec), System Subsystem Description Document (SSDD) and other SRR required artifacts. Refined requirements and system architecture. Conducted post-ACB 16 SRR clean-up activities and reviewed artifact. Conducted the AEGIS BL 9.C2 System Functional Review (SFR). Conducted the TI 16 Test Readiness Review (TRR). Conducted requirements and architecture decomposition in support of Preliminary Design Review (PDR) scheduled for the first quarter FY 15. Developed and delivered the Draft Technical Data Packages (TDPs) to support hardware logistics efforts. ***FY 2015 Plans:*** Provide program management, system engineering, development and test, and procurement activities to support the AEGIS ACB 16 (BL 9.C2) program development. Conduct AEGIS BL 9.C2 Preliminary Design Review (PDR). Complete development of TI-16 Hardware configuration and execute Operating Environment (OE) development. Complete TI-16 hardware Environmental Qualification Testing (EQT) and update TDPs. Develop allocated baseline subsystem, hardware, and interface specifications. Develop AEGIS BL 9.C2 Computer Program Build 1. ***FY 2016 Base Plans:*** Provide program management, system engineering, development and test, and procurement activities to support the AEGIS ACB 16 (BL 9.C2) program development. Complete development and testing of AEGIS BL 9.C2 Computer Program Build 1. Conduct BL 9.C2 Delta SRR, Delta SFR and Delta PDR. Identify updates to support additional NIFC-CA capability. Complete TI 16 Console design and conduct TI 16 Delta PDR and Delta CDR. ***FY 2016 OCO Plans:*** N/A					
Title: ADVANCED CAPABILITY BUILD 20 / TECHNOLOGY INSERTION 20	14.131	41.938	153.804	-	153.804
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided system engineering support to complete Combat System Interface Support Equipment (CS ISE) SRR and Air & Missile Defense Radar (AMDR) CS Integration IPR #3 to identify and implement interface design requirements within the Combat System and AMDR design. Completed draft AMDR Interface Requirements Specifications to support AMDR PDR and CDR. Supported strategic planning efforts for early Combat System Integration and Testing to achieve AMDR Milestone (MS) C. Supported the execution of AMDR HW/SW PDR.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Provided engineering analysis to identify and prioritize warfighter requirements for senior leadership review and approval. Provided system engineering support to identify and develop TI 20 Hardware requirements in support of AEGIS New Construction and Modernization efforts. ***FY 2015 Plans:*** Provide system engineering support to complete artifacts to execute Combat System Interface Support Equipment (CS ISE) SFR and Preliminary Design Review (PDR). Provide system engineering support to complete ACB 20 Naval Capabilities Document (NCD) in support of ACB 20 System Requirements Review (SRR). Continue to evaluate early Combat System Integration and Test strategies to support AMDR MS C. Provide system engineering support to the execution of AMDR HW/SW Critical Design Review (CDR). Provide management, engineering and test support for the planning and execution of land based testing at Advanced Radar Detection Laboratory (ARDEL) to include Combat System Interface Support Equipment (CSISE) development, maintenance and operations. ***FY 2016 Base Plans:*** In support of DDG FLT III with AMDR, provide system engineering to complete artifacts to execute Combat System Interface Support Equipment (CS ISE) CDR. Provide system engineering to complete artifacts to execute TI 20 Systems Requirements Reviews (SRR), ACB 20 Systems Requirements Reviews (SRR), ACB 20 System Functional Review (SFR) and TI-20 Test Readiness Review (TRR). Provide system engineering to the execution of AMDR Integration & Testing. Continue to provide management, engineering and test support for the planning and execution of land based testing at Advanced Radar Detection Laboratory (ARDEL) to include Combat System Interface Support Equipment (CSISE) development, maintenance and operations. Perform TI-20 outfitting of the Naval Systems Computing Center (NSCC) and Combat System Engineering Development Site (CSEDS). ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	246.206	170.118	428.756	-	428.756

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• R&D 0604501N: *Multi Mission Signal Processor*	14.376	9.669	13.432	-	13.432	13.853	14.167	14.557	-	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SCN 2122: *DDG 51*	2,085.115	2,925.090	3,149.703	-	3,149.703	3,353.936	3,440.080	3,543.571	3,633.657	Continuing	Continuing
• OPN 0960: *CG Modernization*	10.539	-	-	-	-	84.251	108.996	103.036	105.183	Continuing	Continuing
• OPN 5246: *AEGIS Support Equipment*	59.757	-	-	-	-	-	-	-	-	Continuing	Continuing
• OPN 0900: *DDG Modernization*	285.994	324.219	364.157	-	364.157	403.782	570.886	507.745	521.562	Continuing	Continuing
• R&D 0604378N PU 3159: *NIFC-CA*	20.937	15.263	23.695	-	23.695	28.436	28.062	29.708	28.476	Continuing	Continuing
• OPN 5231: *Ship Missile Support Equipment (AEGIS Support Equipment)*	-	59.427	127.202	-	127.202	277.438	224.539	199.665	187.862	Continuing	Continuing

Remarks

D. Acquisition Strategy

Combat system improvements are implemented in baselines as described in the project mission statement. After the combat system is completed and tested, the computer program and associated equipment are delivered to the new construction shipbuilders and modernization shipyards where the computer program and equipment are installed and tested along with all other elements of the shipboard combat system and associated combat support systems. The computer program is a Government Furnished Computer Program (GFCP) deliverable to the Production Test Center for equipment test and check out. Future Combat System deliveries will be provided in Advanced Capability Builds (ACBs) and Technology Insertions (TIs) using the Combat System Engineering Agent (CSEA) contract. Additional modifications to the existing contracts will address B/L 9 completion (new construction), ACB 16 additional warfighting improvements, and ACB 20 engineering development efforts related to DDG FLT III, as approved by OPNAV.

E. Performance Metrics

Combat system development efforts will complete major development milestones.
Major Milestones for ACB 12 (BL 9.A0/9.C0):
Completed Mission Readiness Assessment #1 third quarter of FY14.
Completed Mission Readiness Assessment #2 third quarter of FY14.
BL 9.A0 Combat System Certification Panel second quarter of FY15.
Mission Readiness Assessment #3 second quarter of FY15.
Mission Readiness Assessment #4 third quarter of FY15.
BL 9.A0 Combat System Certification Panel fourth quarter of FY15.

Major Milestones for ACB 12 (BL 9.C1):

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Completed In-Progress Review (IPR) in second quarter of FY14.
Completed Engineering Assessment in first quarter of FY15.
DDG 113 / 115 AEGIS Light-Off (ALO) in fourth quarter of FY15.
DDG 113 / 115 Sea Trials A/B/C in second-fourth quarters of FY16.

Major Milestones for ACB 12 (BL 9.A1):
In-Progress Review (IPR) #1 in second quarter of FY15.
LBTS Upgrades first quarter of FY16.
In-Progress Review (IPR) #2 in fourth quarter of FY16.
BL 9.A1 Combat System Certification Panel third quarter of FY18.

Major Milestones for ACB 16 (BL 9.C2):
Completed ACB 16 System Requirements Review (SRR) first quarter FY14.
Completed TI 16 Critical Design Review (CDR) first quarter FY14.
Completed ACB 16 System Functional Review (SFR) second quarter FY14.
Completed TI 16 Test Readiness Review (TRR) third quarter FY14.
Completed ACB 16 Preliminary Design Review (PDR) first quarter FY15.
ACB 16 Delta System Requirements Review (SRR) first quarter FY16.
ACB 16 Delta System Functional Review (SFR) second quarter FY16.
ACB 16 Delta Preliminary Design Review (PDR) fourth quarter FY16.
ACB 16 Critical Design Review (CDR) second quarter FY17.
ACB 16 Test Readiness Review (TRR) second quarter FY18.
ACB 16 Demonstration Test (DEMO) third quarter FY18.
ACB 16 AEGIS Light-Off (ALO) third quarter FY19.

Major Milestones for ACB 20 / TI 20:
Completed Combat System Interface Support Equipment System Requirements Review (SRR) first quarter FY14.
Completed Combat System Interface Support Equipment In Progress Review #3 (IPR) third quarter FY14.
Completed Combat System Interface Support Equipment System Functional Review (SFR) first quarter FY15.
Combat System Interface Support Equipment Preliminary Design Review (PDR) third quarter FY15.
ACB 20 System Requirements Review (SRR) first quarter FY16.
TI 20 System Requirements Review (SRR) first quarter FY16.
ACB 20 System Functional Review (SFR) second quarter FY16.
Combat System Interface Support Equipment Critical Design Review (CDR) second quarter FY16.
TI 20 Test Readiness Review (TRR) fourth quarter FY16.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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ACB 20 Preliminary Design Review (PDR) first quarter FY17.
TI 20 Preliminary Design Review (PDR) first quarter FY17.
Combat System Interface Support Equipment Delivery fourth quarter FY17.
ACB 20 Critical Design Review (CDR) second quarter FY18.
TI 20 Critical Design Review (CDR) second quarter FY18.
ACB 20 Test Readiness Review (TRR) second quarter FY19.
ACB 20 Demonstration Test (DEMO) fourth quarter FY19.
ACB 20 AEGIS Light-Off (ALO) fourth quarter FY20.

Major Milestones for AEGIS Baseline 7.2 (formerly 7.1R Backfit):
Completed AEGIS 7.2 ILS Certification in third quarter FY14.
Combat System Certification Panel BL 7.2.0 in fourth quarter FY14.
Lead Ship Installation from fourth quarter FY14 through second quarter FY15.
Combat System Certification Panel BL 7.2.1 in second quarter FY15.

Major Milestones for AEGIS BL 5.3 SEARAM Integration:
In Progress Review (IPR) #1 second quarter FY16.
Test Readiness Review (TRR) second quarter FY16.
Underway Testing third quarter FY16 to second quarter FY17.

Major Milestones for Far Term Interoperability Improvement Plan (FTIIP):
Kickoff first quarter FY16.
In-Progress Review (IPR) #1 in third quarter FY16.
In-Progress Review (IPR) #2 in fourth quarter FY17.
In-Progress Review (IPR) #3 in fourth quarter FY18.
In-Progress Review (IPR) #4 in fourth quarter FY19.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/CPAF	Lockheed Martin : Moorestown, NJ	1,916.984	158.230	Oct 2013	99.114	Oct 2014	289.792	Oct 2015	-		289.792	Continuing	Continuing	Continuing
Systems Engineering	SS/CPFF	APL : Baltimore, MD	60.863	7.354	Oct 2013	7.398	Oct 2014	11.155	Oct 2015	-		11.155	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Dahlgren, VA	347.964	31.980	Oct 2013	28.316	Oct 2014	48.650	Oct 2015	-		48.650	Continuing	Continuing	Continuing
Systems Engineering	SS/CPAF	BAE Systems : Rockville, MD	44.371	4.294	Oct 2013	3.237	Oct 2014	6.532	Oct 2015	-		6.532	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Port Hueneme, CA	63.309	6.915	Oct 2013	4.941	Oct 2014	7.290	Oct 2015	-		7.290	Continuing	Continuing	Continuing
Systems Engineering	WR	NWAS : Corona, CA	28.909	2.157	Oct 2013	0.866	Oct 2014	3.950	Oct 2015	-		3.950	Continuing	Continuing	Continuing
Systems Engineering	WR	SPAWAR : San Diego, CA	10.563	0.814	Oct 2013	0.615	Oct 2014	0.615	Oct 2015	-		0.615	Continuing	Continuing	Continuing
Systems Engineering	WR	Various : Various	130.623	10.817	Oct 2013	13.355	Oct 2014	11.621	Oct 2015	-		11.621	Continuing	Continuing	Continuing
Award fees	SS/CPAF	Lockheed Martin : Moorestown, NJ	217.319	15.498	Oct 2013	6.432	Oct 2014	38.845	Oct 2015	-		38.845	Continuing	Continuing	Continuing
Award fees	SS/CPAF	BAE Systems : Rockville, MD	2.316	0.163	Oct 2013	0.124	Oct 2014	1.250	Oct 2015	-		1.250	Continuing	Continuing	Continuing
Award fees	SS/CPAF	Alion Science : Washington DC	2.134	-	Oct 2013	-	Oct 2014	0.786	Oct 2015	-		0.786	-	2.920	-
Award fees	WR	Various : Various	8.226	0.570	Oct 2013	0.433	Oct 2014	0.251	Oct 2015	-		0.251	Continuing	Continuing	Continuing
		Subtotal	2,833.581	238.792		164.831		420.737		-		420.737	-	-	-

Remarks

Various Performing Activities consist of multiple performing activities with funding for each no greater than $1 million per year. These larger performing activities include CDSA Dam Neck and NSWC/Crane.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	Department of Interior : Boise, Idaho	39.615	1.103	Oct 2013	0.830	Oct 2014	0.950	Oct 2015	-		0.950	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NAVAIR : Pax River, MD	12.999	0.777	Oct 2013	0.587	Oct 2014	0.987	Oct 2015	-		0.987	Continuing	Continuing	Continuing
		Subtotal	52.614	1.880		1.417		1.937		-		1.937	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	SS/CPAF	Alion Science : Washington DC	25.824	1.936	Oct 2013	1.451	Oct 2014	1.511	Oct 2015	-		1.511	Continuing	Continuing	Continuing
Program Management Support	SS/CPAF	SAIC : Mclean, VA	11.920	3.598	Oct 2013	2.419	Oct 2014	3.671	Oct 2015	-		3.671	Continuing	Continuing	Continuing
DAWDF	Various	Various : Various	0.907	-		-		0.900	Oct 2015	-		0.900	-	1.807	-
		Subtotal	38.651	5.534		3.870		6.082		-		6.082	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2,924.846	246.206		170.118		428.756		-		428.756	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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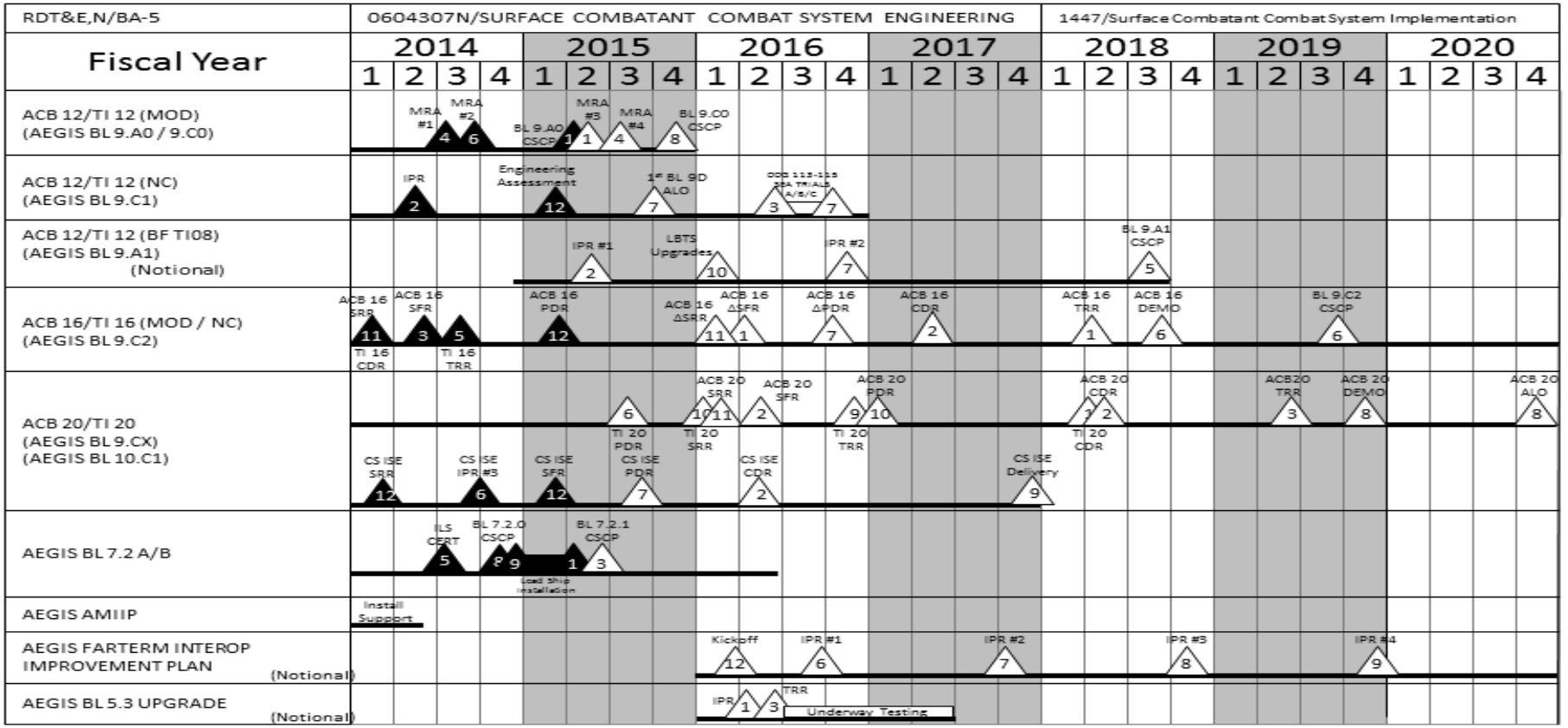


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1447				
ADVANCE CAPABILITY BUILD 12 (BL 9.A0 / 9.C0): ACB12 (BL 9.A0) MISSION READINESS ASSESSMENT #1	3	2014	3	2014
ADVANCE CAPABILITY BUILD 12 (BL 9.A0 / 9.C0): ACB12 (BL 9.A0) MISSION READINESS ASSESSMENT #2	3	2014	3	2014
ADVANCE CAPABILITY BUILD 12 (BL 9.A0 / 9.C0): ACB 12 (BL 9.A0) COMPUTER PROGRAM CERTIFICATION PANEL	2	2015	2	2015
ADVANCE CAPABILITY BUILD 12 (BL 9.A0 / 9.C0): ACB12 (BL 9.C0) MISSION READINESS ASSESSMENT #3	2	2015	2	2015
ADVANCE CAPABILITY BUILD 12 (BL 9.A0 / 9.C0): ACB12 (BL 9.C0) MISSION READINESS ASSESSMENT #4	3	2015	3	2015
ADVANCE CAPABILITY BUILD 12 (BL 9.A0 / 9.C0): ACB 12 (BL 9.C0) COMPUTER PROGRAM CERTIFICATION PANEL	4	2015	4	2015
ADVANCE CAPABILITY BUILD 12 (BL 9.C1): ACB 12 (BL 9.C1) IN-PROGRESS REVIEW	2	2014	2	2014
ADVANCE CAPABILITY BUILD 12 (BL 9.C1): ACB 12 (BL 9.C1) ENGINEERING ASSESSMENT	1	2015	1	2015
ADVANCE CAPABILITY BUILD 12 (BL 9.C1): ACB 12 (BL 9.C1) DDG 113/115 ALO	4	2015	4	2015
ADVANCE CAPABILITY BUILD 12 (BL 9.C1): ACB 12 (BL 9.C1) DDG 113/115 SEA TRIALS A/B/C	2	2016	4	2016
ADVANCED CAPABILITY BUILD 12 (BL 9.A1): ACB 12 (BL 9.A1) IN-PROGRESS REVIEW #1	2	2015	2	2015
ADVANCED CAPABILITY BUILD 12 (BL 9.A1): ACB 12 (BL 9.A1) LAND BASED TEST SITE UPDATE	1	2016	1	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ADVANCED CAPABILITY BUILD 12 (BL 9.A1): ACB 12 (BL 9.A1) IN-PROGRESS REVIEW #2	4	2016	4	2016
ADVANCED CAPABILITY BUILD 12 (BL 9.A1): ACB 12 (BL 9.A1) COMPUTER PROGRAM CERTIFICATION PANEL	3	2018	3	2018
ADVANCED CAPABILITY BUILD 16 (BL 9.C2): ACB 16 (BL 9.C2) SYSTEM REQUIREMENTS REVIEW	1	2014	1	2014
ADVANCED CAPABILITY BUILD 16 (BL 9.C2): TI 16 (BL 9.C2) CRITICAL DESIGN REVIEW	1	2014	1	2014
ADVANCED CAPABILITY BUILD 16 (BL 9.C2): ACB 16 (BL 9.C2) SYSTEM FUNCTIONAL REVIEW	2	2014	2	2014
ADVANCED CAPABILITY BUILD 16 (BL 9.C2): TI 16 (BL 9.C2) TEST READINESS REVIEW	3	2014	3	2014
ADVANCED CAPABILITY BUILD 16 (BL 9.C2): ACB 16 (BL 9.C2) PRELIMINARY DESIGN REVIEW	1	2015	1	2015
ADVANCED CAPABILITY BUILD 16 (BL 9.C2): ACB 16 (BL 9.C2) DELTA SYSTEM REQUIREMENTS REVIEW	1	2016	1	2016
ADVANCED CAPABILITY BUILD 16 (BL 9.C2): ACB 16 (BL 9.C2) DELTA SYSTEM FUNCTIONAL REVIEW	2	2016	2	2016
ADVANCED CAPABILITY BUILD 16 (BL 9.C2): ACB 16 (BL 9.C2) DELTA PRELIMINARY DESIGN REVIEW	4	2016	4	2016
ADVANCED CAPABILITY BUILD 16 (BL 9.C2): ACB 16 (BL 9.C2) CRITICAL DESIGN REVIEW	2	2017	2	2017
ADVANCED CAPABILITY BUILD 16 (BL 9.C2): ACB 16 (BL 9.C2) TEST READINESS REVIEW	2	2018	2	2018
ADVANCED CAPABILITY BUILD 16 (BL 9.C2): ACB 16 (BL 9.C2) DEMONSTRATION	3	2018	3	2018
ADVANCED CAPABILITY BUILD 16 (BL 9.C2): ACB 16 (BL 9.C2) COMBAT SYSTEM CERTIFICATION PANEL	3	2019	3	2019
ADVANCED CAPABILITY BUILD 20: CS ISE SYSTEM REQUIREMENTS REVIEW	1	2014	1	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ADVANCED CAPABILITY BUILD 20: CS ISE IN-PROGRESS REVIEW #3	3	2014	3	2014
ADVANCED CAPABILITY BUILD 20: CS ISE SYSTEM FUNCTIONAL REVIEW	1	2015	1	2015
ADVANCED CAPABILITY BUILD 20: CS ISE PRELIMINARY DESIGN REVIEW	3	2015	3	2015
ADVANCED CAPABILITY BUILD 20: ACB 20 SYSTEM REQUIREMENTS REVIEW	1	2016	1	2016
ADVANCED CAPABILITY BUILD 20: TI 20 SYSTEM REQUIREMENTS REVIEW	1	2016	1	2016
ADVANCED CAPABILITY BUILD 20: ACB 20 SYSTEM FUNCTIONAL REVIEW	2	2016	2	2016
ADVANCED CAPABILITY BUILD 20: CS ISE CRITICAL DESIGN REVIEW	2	2016	2	2016
ADVANCED CAPABILITY BUILD 20: TI 20 TEST READINESS REVIEW	4	2016	4	2016
ADVANCED CAPABILITY BUILD 20: ACB 20 PRELIMINARY DESIGN REVIEW	1	2017	1	2017
ADVANCED CAPABILITY BUILD 20: TI 20 PRELIMINARY DESIGN REVIEW	1	2017	1	2017
ADVANCED CAPABILITY BUILD 20: CS ISE DELIVERY	4	2017	4	2017
ADVANCED CAPABILITY BUILD 20: TI 20 CRITICAL DESIGN REVIEW	2	2018	2	2018
ADVANCED CAPABILITY BUILD 20: ACB 20 CRITICAL DESIGN REVIEW	2	2018	2	2018
ADVANCED CAPABILITY BUILD 20: ACB 20 TEST READINESS REVIEW	2	2019	2	2019
ADVANCED CAPABILITY BUILD 20: ACB 20 DEMONSTRATION	4	2019	4	2019
ADVANCED CAPABILITY BUILD 20: ACB 20 AEGIS LIGHT-OFF	4	2020	4	2020
AEGIS BL 7.2: AEGIS BL 7.2 ILS CERTIFICATION	3	2014	3	2014
AEGIS BL 7.2: AEGIS BL 7.2.0 COMBAT SYSTEM CERTIFICATION PANEL	4	2014	4	2014
AEGIS BL 7.2: AEGIS BL 7.2 INITIAL INSTALLATION ON LEAD SHIP	4	2014	2	2015
AEGIS BL 7.2: AEGIS BL 7.2.1 COMBAT SYSTEM CERTIFICATION PANEL	2	2015	2	2015
FAR TERM INTEROPERABILITY IMPROVEMENTS PLAN: FTIIP KICKOFF	1	2016	1	2016
FAR TERM INTEROPERABILITY IMPROVEMENTS PLAN: FTIIP IN-PROGRESS REVIEW #1	3	2016	3	2016
FAR TERM INTEROPERABILITY IMPROVEMENTS PLAN: FTIIP IN-PROGRESS REVIEW #2	4	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 1447 / *Surf Combatant Combat System Imp*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
FAR TERM INTEROPERABILITY IMPROVEMENTS PLAN: FTIIP IN-PROGRESS REVIEW #3	4	2018	4	2018
FAR TERM INTEROPERABILITY IMPROVEMENTS PLAN: FTIIP IN-PROGRESS REVIEW #4	4	2019	4	2019
AEGIS BL 5.3.9 SEARAM INT & TEST EFFORT: BL 5.3.9 IN-PROGRESS REVIEW #1	2	2016	2	2016
AEGIS BL 5.3.9 SEARAM INT & TEST EFFORT: BL 5.3.9 TEST READINESS REVIEW	2	2016	2	2016
AEGIS BL 5.3.9 SEARAM INT & TEST EFFORT: BL 5.3.9 UNDERWAY TESTING SUPPORT	2	2016	2	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / *Surface Combatant Cmbt Sys Eng*	Project (Number/Name) 3357 / *Aegis Training Improvement Program*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3357: *Aegis Training Improvement Program*	-	3.733	8.994	14.677	-	14.677	10.843	7.838	6.582	5.082	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AEGIS Training Improvement project provides enhancements and upgrades to the Total Ship Training Capability (TSTC) training components within the combat system to address needs for increased training capability and functionality in conjunction with AEGIS Advanced Capability Builds (ACB). These enhancements will address current and future training requirements by implementing new functionality to enable the individual warfighter through distributed battle group events to engage in more complex training requirements to support fleet required training certification events. Capability Development and integration are related to Integrated Air and Missile Defense, Underwater, Surface, and other warfare areas. Capability enhancements and upgrades include development of re-useable common components that can be leveraged by SSDS MK2 combat systems, and/or integration of re-usable common components developed by the TSTC BFTT Program and SSDS MK2 TSTC Training Improvement programs to meet AEGIS combat system training requirements.

TSTC provides realistic joint warfare training across the spectrum of armed conflict, realistic unit level team training in all warfare areas (e.g. NIFC-CA and BMD missions to support IAMD). TSTC provides ships' Commanding Officers and Battle Group/Battle Force Commanders with the ability to conduct coordinated realistic, high stress, combat system level team training as an integral part of the Afloat Training Organization, the Tactical Training Groups and C2F/C3F Fleet Synthetic Trainers (FSTs).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: AEGIS Training Improvement and ACB 16 integration	3.733	8.994	14.677	-	14.677
Articles:	-	-	-	-	-
Description: AEGIS training Improvement project will provide enhancements to training components and increase training functionality in conjunction with AEGIS ACB16 development and integration. These enhancements will address current and future training requirements and implement new functionality to support more complex training requirements related to Underwater, Surface and other warfighter upgrades.					
FY 2014 Accomplishments: Initiated systems engineering efforts for the development and integration of TSTC capabilities to support improved Integrated Air and Missile Defense (IAMD), Anti-Submarine Warfare (ASW) and Surface Warfare (SUW) training. These systems engineering efforts included requirements development of MH-60R constructive simulation, Identification Friend or Foe (IFF) simulator integration, and Cooperative Engagement Capability					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 3357 / *Aegis Training Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
(CEC) trainer integration and integration of Electronic Warfare (EW) and Anti-Submarine Warfare (ASW) trainer upgrades for AEGIS ACB 16/BL9.C2. Completed AEGIS BL9.C2 Systems Requirements Review (SRR) and Systems Functional Review (SFR), which included TSTC requirements that support training updates to support training of the tactical capability improvements. Initiated necessary modifications to AEGIS BL 9 to support a NIFC-CA training capability. These modifications are being applied to AEGIS common source library to allow use on earlier AEGIS combat system baselines. ***FY 2015 Plans:*** Continue systems engineering efforts for the development and integration of TSTC capabilities to support improved Integrated Air and Missile Defense (IAMD), Anti-Submarine Warfare (ASW) and Surface Warfare (SUW) training. These systems engineering efforts included requirements development of MH-60R constructive simulation, Identification Friend or Foe (IFF) simulator integration, and Cooperative Engagement Capability (CEC) trainer integration and integration of Electronic Warfare (EW) and Anti-Submarine Warfare (ASW) trainer upgrades for AEGIS ACB 16/BL9.C2. Provide system engineering support to training improvement integration within AEGIS ACB16/BL9.C2. Provide Computer Program updates to implement training requirements associated with AEGIS ACB16 Program of Record. Prepare for and support Preliminary Design Review (PDR) and Critical Design Review (CDR) for AEGIS ACB16. Support integration of Combat System training capabilities. Continue modifications to AEGIS BL 9 to support a NIFC-CA training capability. These modifications are being applied to AEGIS common source library to allow use on earlier AEGIS combat system baselines. ***FY 2016 Base Plans:*** Continue development, integration and testing of TSTC enhancements and components into AEGIS ACB 16/ BL9.C2. Initiate development of requirements to support TSTC capability improvements to support tactical training requirements of AEGIS ACB 20, to include combat system modifications to support integration of the Air & Missile Defense Radar (AMDR) stimulation capability. Continue to make AEGIS combat system modifications to support migration of TSTC training capability, as components are modernized or new components developed, into a common core system to eliminate redundancies with SSDS. Initiate study to determine method of simulating real world environments within AEGIS shipboard sensors for Anti-Area / Area Denial (A2AD) training.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 3357 / *Aegis Training Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Investigate options to integrate of Full Motion Video capability to provide required realism/fidelity for Surface Warfare Training. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	3.733	8.994	14.677	-	14.677

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Efforts will be completed on various contracts to support requirements updates to multiple products that will support Training Integration and Implementation within AEGIS ACB16.

E. Performance Metrics

Training Improvement Program efforts will complete major development milestones.
Major Milestones for ACB 16 (BL 9.C2):
Completed ACB 16 System Requirements Review (SRR) first quarter FY14.
Completed ACB 16 System Functional Review (SFR) second quarter FY14.
ACB 16 Preliminary Design Review (PDR) first quarter FY15.
ACB 16 Delta System Requirements Review (SRR) fourth quarter FY15.
ACB 16 Delta System Functional Review (SFR) second quarter FY16.
ACB 16 Delta Preliminary Design Review (PDR) fourth quarter FY16.
ACB 16 Critical Design Review (CDR) second quarter FY17.
ACB 16 Test Readiness Review (TRR) second quarter FY18.
ACB 16 Demonstration Test (DEMO) third quarter FY18.
ACB 16 AEGIS Light-Off (ALO) third quarter FY19.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 3357 / *Aegis Training Improvement Program*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	Various	Various : Various	0.000	1.956	Oct 2013	4.046	Oct 2014	8.464	Oct 2015	-		8.464	Continuing	Continuing	Continuing
		Subtotal	0.000	1.956		4.046		8.464		-		8.464	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering	Various	Various : Various	0.000	1.497	Oct 2013	4.380	Oct 2014	5.564	Oct 2015	-		5.564	Continuing	Continuing	Continuing
		Subtotal	0.000	1.497		4.380		5.564		-		5.564	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	C/CPAF	SAIC : McLean VA.	0.000	0.200	Nov 2013	0.406	Oct 2014	0.460	Nov 2015	-		0.460	Continuing	Continuing	Continuing
Professional Support	C/CPAF	ALION : Washington DC	0.000	0.080	Nov 2013	0.162	Oct 2014	0.189	Oct 2015	-		0.189	Continuing	Continuing	Continuing
		Subtotal	0.000	0.280		0.568		0.649		-		0.649	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	3.733		8.994		14.677		-		14.677	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 3357 / *Aegis Training Improvement Program*

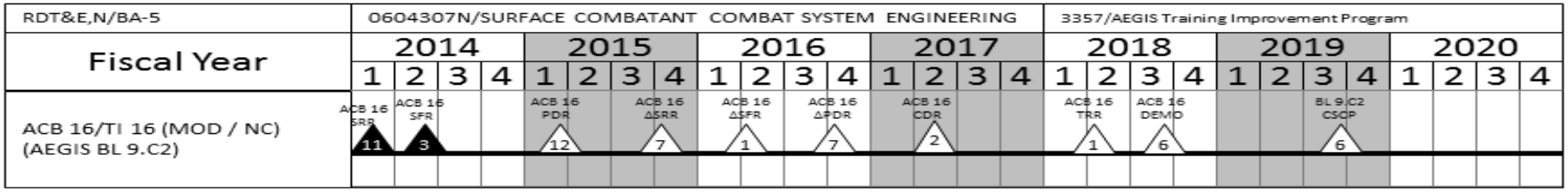


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604307N / *Surface Combatant Cmbt Sys Eng*	**Project (Number/Name)** 3357 / *Aegis Training Improvement Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3357				
ACB16 BL 9.C2: System Requirements Review	1	2014	1	2014
ACB16 BL 9.C2: System Functional Review	2	2014	2	2014
ACB16 BL 9.C2: Preliminary Design Review	1	2015	1	2015
ACB16 BL 9.C2: Delta System Requirements Review	4	2015	4	2015
ACB16 BL 9.C2: Delta System Functional Review	2	2016	2	2016
ACB16 BL 9.C2: Delta Preliminary Design Review	4	2016	4	2016
ACB16 BL 9.C2: Critical Design Review	2	2017	2	2017
ACB16 BL 9.C2: Test Readiness Review	2	2018	2	2018
ACB16 BL 9.C2: Demonstration	3	2018	3	2018
ACB16 BL 9.C2: Advanced Capability Build 16 AEGIS Light-off	3	2019	3	2019

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604311N *I LPD-17 Class Systems Integration*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	31.268	1.175	0.376	0.747	-	0.747	0.767	0.785	0.804	0.821	Continuing	Continuing
2283: *LPD-17 Class System Integration*	31.268	1.175	0.376	0.747	-	0.747	0.767	0.785	0.804	0.821	Continuing	Continuing
MDAP/MAIS Code: 542												

A. Mission Description and Budget Item Justification

The LPD 17 Class ships are functional replacements for 41 ships of four classes of amphibious ships. These new ships embark, transport, and land elements of Marine landing forces in an assault by helicopters, landing craft, and amphibious vehicles. Tactics, techniques, and tools for naval expeditionary warfare continue to evolve. The LPD 17 Class configuration must continue to adapt to this evolutionary process, because these ships are expected to be in service until almost 2050. The LPD 17 design includes system configurations that reduce operating and support costs and facilitate operational performance improvements. System engineering and integration efforts that began in FY97 will develop further reductions in life cycle costs and will integrate performance upgrades in a rapid, affordable manner. Possible research and development investigations include improvements in Hull, Mechanical and Electrical systems, advanced sensors, advanced computers, advanced command and control software, advanced information system technologies, and ship based logistics support. Cost reduction and improved performance will be accomplished through sustained modeling and simulation efforts, resolutions of equipment obsolescence issues, prototype development, continued personnel reduction efforts, system performance tradeoff evaluations, and naval expeditionary warfare system engineering. Feedback from the Fleet for integrating system configurations will be accomplished through Naval Surface Warfare Centers (Philadelphia, Dahlgren, Port Hueneme, Panama City). These efforts will result in well defined specifications and drawings in system in system integration design packages that provide technical baseline for follow on ship procurements.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	1.214	0.376	0.751	-	0.751
Current President's Budget	1.175	0.376	0.747	-	0.747
Total Adjustments	-0.039	-	-0.004	-	-0.004
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.001	-			
• SBIR/STTR Transfer	-0.039	-			
• Rate/Misc Adjustments	0.001	-	-0.004	-	-0.004

Change Summary Explanation

FY 2014 and FY 2016 reductions reflect SBIR transfer and other Rate/Misc adjustments.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604311N / *LPD-17 Class Systems Integration*	Project (Number/Name) 2283 / *LPD-17 Class System Integration*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2283: *LPD-17 Class System Integration*	31.268	1.175	0.376	0.747	-	0.747	0.767	0.785	0.804	0.821	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The LPD 17 Class ships are functional replacements for 41 ships of four classes of amphibious ships. These new ships embark, transport, and land elements of Marine landing forces in an assault by helicopters, landing craft, and amphibious vehicles. Tactics, techniques, and tools for naval expeditionary warfare continue to evolve. The LPD 17 Class configuration must continue to adapt to this evolutionary process, because these ships are expected to be in service until almost 2050. The LPD 17 design includes system configurations that reduce operating and support costs and facilitate operational performance improvements. System engineering and integration efforts that began in FY97 will develop further reductions in life cycle costs and will integrate performance upgrades in a rapid, affordable manner. Possible research and development investigations include improvements in Hull, Mechanical and Electrical systems, advanced sensors, advanced computers, advanced command and control software, advanced information system technologies, and ship based logistics support. Cost reduction and improved performance will be accomplished through sustained modeling and simulation efforts, resolutions of equipment obsolescence issues, prototype development, continued personnel reduction efforts, system performance tradeoff evaluations, and naval expeditionary warfare system engineering. Feedback from the Fleet for integrating system configurations will be accomplished through Naval Surface Warfare Centers (Philadelphia, Dahlgren, Port Hueneme, Panama City). These efforts will result in well defined specifications and drawings in system in system integration design packages that provide technical baseline for follow on ship procurements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Systems Engineering/Integration	1.175	0.376	0.747	-	0.747
Articles:	-	-	-	-	-
Description: Continued Naval Expeditionary Warfare Systems Engineering efforts and integration efforts for unique LPD 17 Class systems, including efforts to resolve obsolescence issues impacting the class.					
FY 2014 Accomplishments: Continued Reliability and Obsolescence studies for Mission Systems such as Hanger Aviation Bridge Crane, Improved Flight Deck Ramp Closures, and CPP control wiring issues. Environmental Qualification Testing (EQT) is also required for new Electromagnetic Pulse/Electromagnetic Interference (EMP/EMI) cable, and multiple Raytheon provided systems such as Ship Wide Area Network (SWAN) and Integrated Voice Network (IVN).					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604311N / *LPD-17 Class Systems Integration*	**Project (Number/Name)** 2283 / *LPD-17 Class System Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Investigated integration of SWAN Hull, Mechanical, and Electrical (HM&E) as a part of Consolidated Afloat Networks and Enterprise Services (CANES) install on the LPD-17 Class. Had the ability to complete High Efficiency Small-Capacity (HES-C) Air Conditioning Plant Prototype Development,SSDG Cylinder Blow Down Valve Shock Testing, Pronghorn Air Conditioning Plant Chlorination System Prototype Installation and Testing,Reefer Temperature Sensor Replacement Studies (Obsolescence Issue),SWAN HM&E Network Design, LPD 17 Class Liquid Load Effects on Main Propulsion Diesel Engine/Main Reduction Gear Alignment Studies, and LPD 17 Class Acceleration/UNREP Emergency Breakaway Studies.					
FY 2015 Plans: Environmental Qualification Testing and Information Assurance of ISE (SWAN, ECS, HM&E Network) and machinery obsolescence issues. HM&E machinery control system network integration. Propulsion System (MPDE, MRG, shafting) installation improvements and foundation and coupling analysis and testing. Refrigeration Plant Switch Calibration and Testing. Development of a new Advanced Variable Speed Drive unit to control the HES-C A/C Plants that will be installed on LPD 17 Class ships LPD 26 and LPD 27(and potentially other Navy platforms).					
FY 2016 Base Plans: Continued Environmental Qualification Testing and Information Assurance of ISE (SWAN, ECS, HM&E Network) and machinery obsolescence issues. Development of Fiber Optic Cable Plant Monitoring System and shipboard testing. Continued SWAN and HM&E Network integration. Propulsion System installation and foundation analysis and testing.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604311N / *LPD-17 Class Systems Integration*	**Project (Number/Name)** 2283 / *LPD-17 Class System Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continued effort of development of a new Advanced Variable Speed Drive unit to control the HES-C A/C Plants that will be installed on LPD 17 Class ships LPD 26 and LPD 27(and potentially other Navy platforms). There will also be HM&E system reliability improvement designs from the LPD 17 Class Strike Team. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.175	0.376	0.747	-	0.747

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SCN/5300: *Completion of Prior Year Shipbuilding Programs*	-	-	61.593	-	61.593	45.060	-	-	-	-	1,996.753
• SCN/3036: *LPD-17*	-	1,054.096	550.000	-	550.000	-	-	-	-	-	17,554.527

Remarks

D. Acquisition Strategy

FY14 and out: continue developmental sole source efforts

E. Performance Metrics

LPD-17 Class ships will conduct Environmental Qualification Testing (EQT) and Information Assurance (IA) certification.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604311N / *LPD-17 Class Systems Integration*	**Project (Number/Name)** 2283 / *LPD-17 Class System Integration*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering and Integration	WR	NSWC Crane : Crane, IN	13.236	-		-		-		-		-	-	13.236	-
Systems Engineering and Integration	C/CPFF	Raytheon Company : San Diego, CA	1.886	0.400	Jan 2014	0.146	Dec 2014	0.400	Dec 2015	-		0.400	Continuing	Continuing	Continuing
LSD(X) Systems Integration (Next Gen.)	C/CPFF	CSC, Alion Science : Washington, DC	0.549	-		-		-		-		-	-	0.549	-
LSD(X) Systems Integration (Next Gen.)	WR	NSWC Carderock, NSWC Dahlgren : NSWC Beth, MD; NSWC Dahlgren, VA	0.100	-		-		-		-		-	-	0.100	-
DAWF	Various	Various : Various	0.005	-		-		-		-		-	-	0.005	-
Systems Engineering and Integration	C/CPFF	Huntington Ingalls Industries : Pascagoula, MS	0.000	0.097	Jun 2014	0.100	Dec 2014	0.128	Dec 2015	-		0.128	-	0.325	-
Systems Engineering and Integration	WR	NSWC, Philadelphia : Philadelphia, PA	0.000	0.678	Jun 2014	0.130	Nov 2014	0.219	Nov 2015	-		0.219	Continuing	Continuing	Continuing
Systems Engineering and Integration	WR	NSWC, Port Hueneme : Port Hueneme, CA	0.000	-		-		-		-		-	-	-	-
		Subtotal	15.776	1.175		0.376		0.747		-		0.747	-	-	-

Remarks

key attributors to growth between FY 15 and FY 16 are efforts associated with the development and testing of the Fiber Optic Cable Plant (FOCP) Monitoring System and HM&E system reliability improvement designs from the LPD 17 Class Strike Team in FY 16. In addition, in FY 16 there will be continued efforts in the HES-C A/C Plant Variable Speed Drive, Environmental Qualification Testing of IS systems, and the continued support Of the class SWAN and HM&E machinery control network integration and Information Assurance.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OT&E/Interoperability	WR	OPTEVFOR : WR	15.492	-		-		-		-		-	-	15.492	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604311N / *LPD-17 Class Systems Integration*	Project (Number/Name) 2283 / *LPD-17 Class System Integration*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	15.492	-		-		-		-		-	-	15.492	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	31.268	1.175		0.376		0.747		-		0.747	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604311N / *LPD-17 Class Systems Integration*	**Project (Number/Name)** 2283 / *LPD-17 Class System Integration*

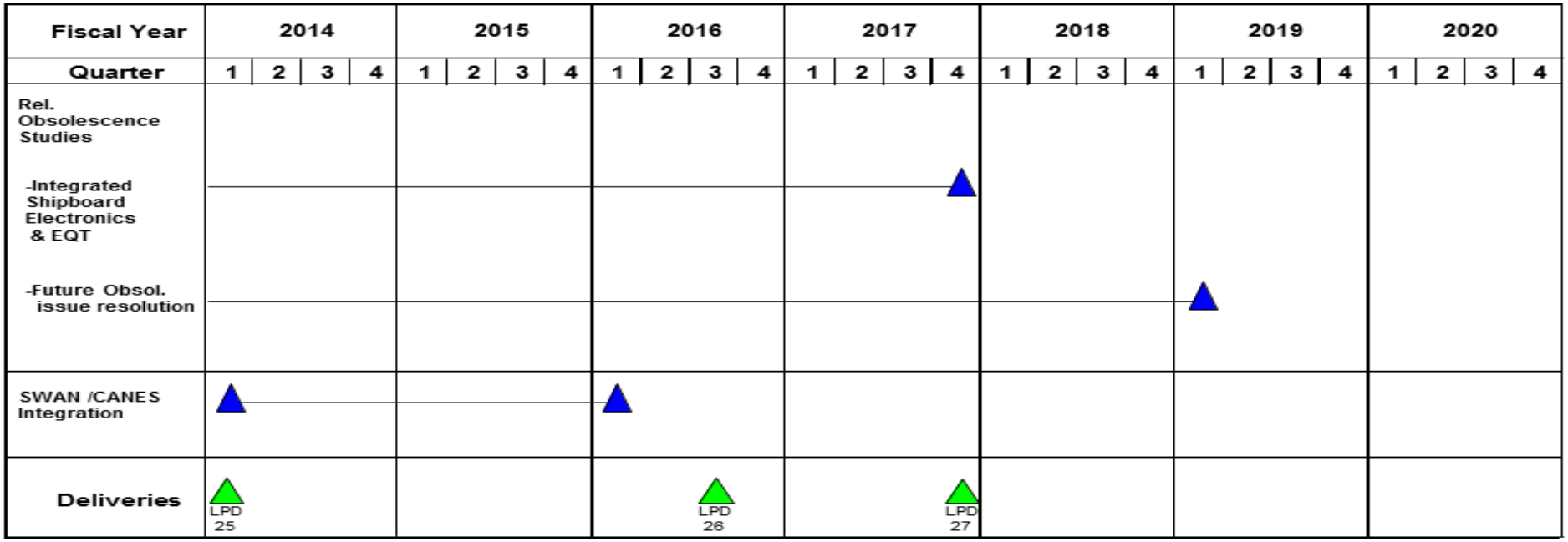


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604311N / *LPD-17 Class Systems Integration*	**Project (Number/Name)** 2283 / *LPD-17 Class System Integration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2283				
Delivery (LPD 25)	1	2014	1	2014
Delivery (LPD 26)	3	2016	3	2016
Delivery (LPD 27)	4	2017	4	2017
SWAN/CANES Integration	1	2014	1	2016
Rel. Obsolescence Studies: Integrated Shipboard Electronics & EQT	1	2014	4	2017
Rel. Obsolescence Studies: Future Obsol. Issue Resolution	1	2014	1	2019

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604329N *I Small Diameter Bomb (SDB)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	143.584	24.215	56.286	97.002	-	97.002	104.032	116.369	119.176	115.459	Continuing	Continuing
1663: *SDB II F-18 Integration*	0.000	-	29.000	56.000	-	56.000	57.000	52.000	35.000	6.000	Continuing	Continuing
3072: *Small Diameter Bomb (SDB)*	124.860	17.975	13.353	29.329	-	29.329	38.288	59.590	80.611	105.815	Continuing	Continuing
3082: *JMM BRU*	18.724	6.240	13.933	11.673	-	11.673	8.744	4.779	3.565	3.644	Continuing	Continuing
MDAP/MAIS Code: 439												

A. Mission Description and Budget Item Justification

Small Diameter Bomb Increment II (SDB II) is a joint program, with the Air Force (AF) as the lead service, which provides the warfighter a capability to attack mobile targets in all weather from Stand-Off range. SDB II addresses the following warfighter requirements: attack mobile targets, adverse weather operations, multiple kills per pass, multiple ordnance carriage, precision munitions capability, capability against fixed targets, reduced munitions footprint, increased weapons effectiveness, minimized potential for collateral damage, reduced susceptibility of munitions to countermeasures, and provides a net-centric operations capability. The threshold aircraft for the AF is the F-15E and the threshold aircraft for the Department of Navy are the F-35B and F-35C. SDB II will be compatible with the Joint Miniature Munitions Bomb Rack Unit (JMM BRU) (BRU-61A/A).

This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	24.925	71.849	85.349	-	85.349
Current President's Budget	24.215	56.286	97.002	-	97.002
Total Adjustments	-0.710	-15.563	11.653	-	11.653
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-15.563			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.710	-			
• Rate/Misc Adjustments	-	-	11.653	-	11.653

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604329N *I Small Diameter Bomb (SDB)*

Change Summary Explanation

Schedule: SDB II Milestone C is scheduled for 3Q FY15. DoN IOC date changed to 2022 to accommodate the F-35 Block 4 schedule. F/A-18 E/F integration added to meet the DoN requirement in FY 2020.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / *Small Diameter Bomb (SDB)*	Project (Number/Name) 1663 / *SDB II F-18 Integration*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1663: *SDB II F-18 Integration*	-	-	29.000	56.000	-	56.000	57.000	52.000	35.000	6.000	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The F/A-18E/F Super Hornet is an objective platform for employment of the Small Diameter Bomb II (SDB II) and the Joint Miniature Munitions Bomb Rack Unit (JMM BRU). This program funds the software design, development, integration and testing required to successfully integrate SDB II/JMM BRU on the F/A-18E/F. IOC is scheduled for FY2020.

FY2014 funding resides in PE 0204136N, PU 1662 F/A-18 Improvement.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: F/A-18 Integration	-	29.000	56.000	-	56.000
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: System specification and design efforts for SDB II and JMM BRU integration efforts. System configuration set software development and integration.					
FY 2016 Base Plans: Continue Operational Flight Plan (OFP) software coding, to include Universal Armament Interface (UAI), conduct wind tunnels and ground testing, and purchase weapon and rack test assets required.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	-	29.000	56.000	-	56.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0204136N/1662: *SBD II Integration*	9.300	-	-	-	-	-	-	-	-	-	9.300

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 1663 / *SDB II F-18 Integration*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Integration of SDB II and the JMM BRU is software driven with ground and flight test requirements.

E. Performance Metrics

Earned value will be used for the contracted efforts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / *Small Diameter Bomb (SDB)*	Project (Number/Name) 1663 / *SDB II F-18 Integration*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OFP Development and Support	SS/IDIQ	Boeing : St. Louis, MO	0.000	-		5.086	Feb 2015	23.271	Jan 2016	-		23.271	53.123	81.480	81.480
SDB II Prime Contractor Support	SS/IDIQ	Raytheon Missile Systems : Tuscon, AZ	0.000	-		9.542	Jun 2015	12.328	Jan 2016	-		12.328	25.091	46.961	46.961
JMM BRU Prime Contractor Support	SS/IDIQ	Raytheon Technical Services Company, LLC : Indianapolis, IN	0.000	-		8.606	Apr 2015	10.215	Mar 2016	-		10.215	16.001	34.822	34.822
SDB II/JMM BRU Integration Support	WR	NAWC AD : Patuxent River, MD	0.000	-		2.000	Nov 2014	6.000	Nov 2015	-		6.000	Continuing	Continuing	Continuing
SDB II/JMM BRU Software Support	WR	NAWC WD : China Lake, CA	0.000	-		3.766	Nov 2014	4.186	Nov 2015	-		4.186	Continuing	Continuing	Continuing
		Subtotal	0.000	-		29.000		56.000		-		56.000	-	-	-

Remarks

Funding for SDB II (Raytheon Missile Systems) and JMM BRU (Raytheon Technical Services Corporation) Prime Contractors includes support of Super Hornet Integration efforts. Funding for Boeing includes software coding of Operational Flight Program Build H-14+, to include Universal Armament Interface (UAI) and F/A-18 E/F aircraft support required.

Funding for NAWC AD supports engineering support for F/A-18 E/F Super Hornet. Funding for NAWC WD supports engineering support for SDB II and the Advanced Weapons Lab (AWL) at China Lake.

FY2014 Support funding is included in PE0204136N, PU1662.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test	WR	COMOPTEVFOR : Norfolk, VA	0.000	-		-		-		-		-	18.635	18.635	-
		Subtotal	0.000	-		-		-		-		-	18.635	18.635	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / *Small Diameter Bomb (SDB)*	Project (Number/Name) 1663 / *SDB II F-18 Integration*	

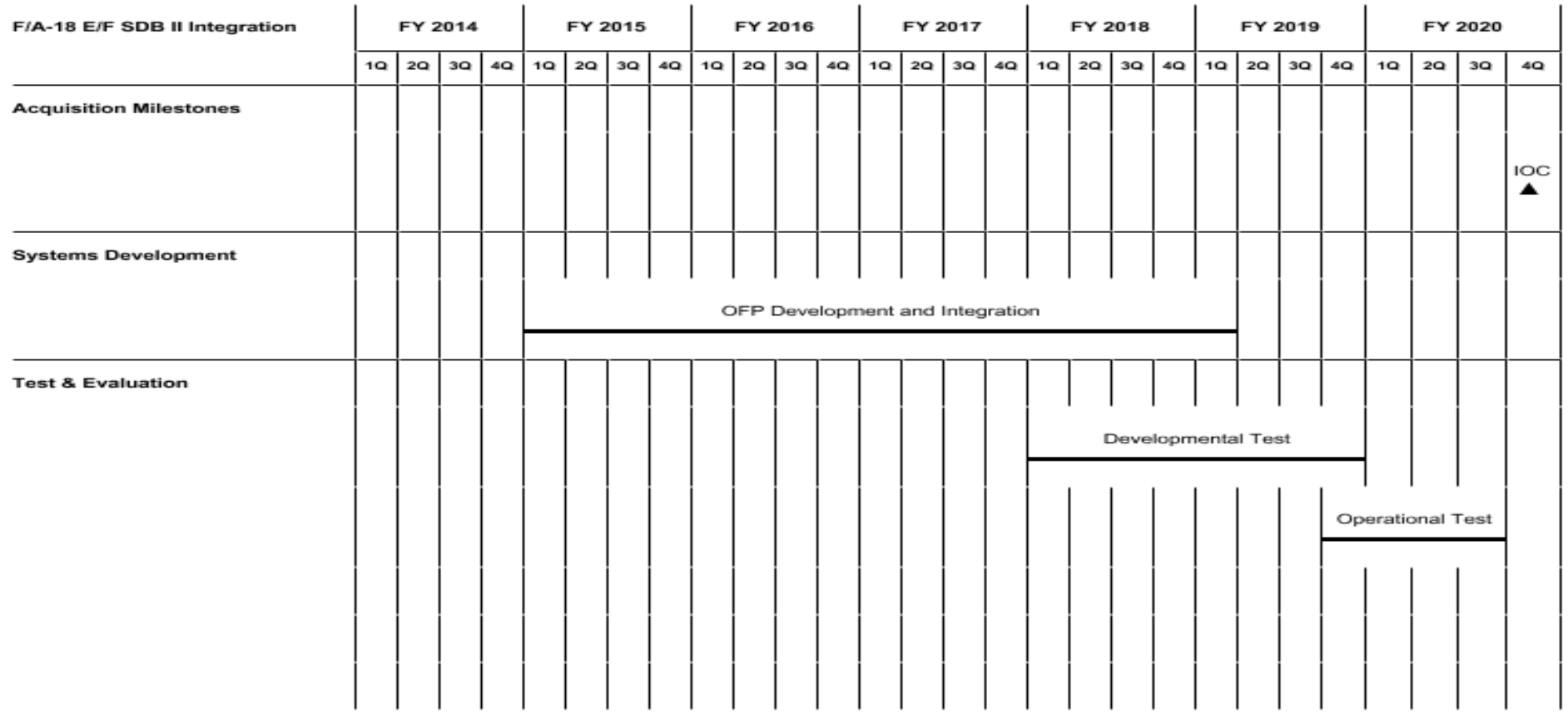
Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks															
Operational Test funding includes flight tests and support to validate integration of SDB II and F/A-18 E/F.															

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		29.000		56.000		-		56.000	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 1663 / *SDB II F-18 Integration*



2016PB - 0604329N - 1663

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 1663 / *SDB II F-18 Integration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
F/A-18 E/F SDB II Integration				
Acquisition Milestones: Schedule Detail	1	2014	1	2020
Acquisition Milestones: IOC	4	2020	4	2020
Systems Development: OFP Development and Integration	1	2015	1	2019
Test & Evaluation: Developmental Test	1	2018	4	2019
Test & Evaluation: Operational Test	4	2019	3	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / *Small Diameter Bomb (SDB)*	Project (Number/Name) 3072 / *Small Diameter Bomb (SDB)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3072: *Small Diameter Bomb (SDB)*	124.860	17.975	13.353	29.329	-	29.329	38.288	59.590	80.611	105.815	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

SDB II is an ACAT ID program providing the warfighter a capability to attack mobile targets in all weather from Stand-Off range. The Air Force is the lead service, Raytheon in Tucson, AZ is the prime contractor. SDB II addresses the following warfighter requirements: attack mobile targets, multiple kills per pass, multiple ordnance carriage, all weather operations, near-precision munitions capability, capability against fixed targets, reduced munitions footprint, increased weapons effectiveness, minimized potential for collateral damage, reduced susceptibility of munitions to countermeasures, and a migration path to net centric ops capability. Threshold aircraft is the F-15E for the Air Force and the F-35B and F-35C for the Department of the Navy. Objective aircraft include the F/A-22, B-1, B-2, F-117, F-16, B-52, Predator B, and F/A-18E/F.

As a result of the Joint Strike Fighter (JSF) (F-35) programs restructure, SDB II integration was moved from the JSF Operational Flight Plan (OFP) Block 3 to Block 4. IOC is 3Q FY2022.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SDB II Weapon Support	13.065	8.353	12.123	-	12.123
Articles:	-	-	-	-	-
Description: Funding provides for SDB II Engineering Manufacturing and Development (EMD) efforts including weapon vendor support, test assets, and government support.					
FY 2014 Accomplishments: Continued support of EMD and integration of SDB II with F-35B and F-35C. Continued support of SDB II prime contractor and government support of weapon development efforts.					
FY 2015 Plans: Continue support of EMD and integration of SDB II with F-35B and F-35C. Continue support of SDB II prime contractor and government support of weapon development efforts. Begin specific F-35B and F-35C efforts with SDB II prime contractor which were delayed to FY15 to accommodate the JSF OFP change from Block 3 to Block 4.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 3072 / *Small Diameter Bomb (SDB)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue support of EMD and integration of SDB II with F-35B and F-35C. Continue detailed F-35B and F-35C efforts to include specific weapon software changes to accomodate F-35 Block 4 Operational Flight Program. ***FY 2016 OCO Plans:*** N/A					
Title: JSF Integration	4.910	5.000	17.206	-	17.206
Articles:	-	-	-	-	-
Description: Funding provided for integration of SDB II on F-35B and F-35C, specifically for Lockheed Martin to develop F-35 Operational Flight Program (OFP) software, flight missions, and support and analysis of missions. ***FY 2014 Accomplishments:*** Continued F-35 OFP development and coding and support fit checks and testing with SDB II Weapon Vendor. Began software coding of Universal Armament Interface (UAI) and JSF Block 4 OFP and full manning of JSF prime contractor team to support SDB II weapon development. ***FY 2015 Plans:*** Continue F-35 UAI OFP development and coding and support fit checks and testing with SDB II Weapon vendor. Begin F-35 bay modifications required for SDB II/JSF/JMM BRU integration. Full manning of JSF prime contractor team to support SDB II weapon development and integration. ***FY 2016 Base Plans:*** Continue F-35 UAI OFP development and coding. Continue F-35 bay modifications required for SDB II/JSF/JMM BRU integration and modification of test aircraft to support SDB II. Full manning of JSF prime contractor team to support SDB II weapon development and integration. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	17.975	13.353	29.329	-	29.329

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTE,AF/0604329F: *Small Diameter Bomb*	109.580	61.774	33.241	-	33.241	47.866	15.544	15.840	6.533	-	1,147.337

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 3072 / *Small Diameter Bomb (SDB)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• MPAF/0207327F: *Small Diameter Bomb*	-	40.578	66.496	-	66.496	91.420	93.196	77.824	155.900	1,361.912	1,889.300
• WPN/BLI2238: *Small Diameter Bomb*	-	-	-	-	-	-	20.000	94.000	94.975	470.725	679.700

Remarks

D. Acquisition Strategy

The SDB Increment II acquisition strategy is to conduct a full and open competition to select up to two contractors to compete during a planned 42-month risk reduction phase prior to entering EMD. This competition began April 17, 2006 with the signature of contracts to the competing contractors: 1) Raytheon and 2) the team of Boeing and Lockheed Martin. A Fixed Price Incentive Firm Target type contract for EMD, including Firm Fixed Price procurement options for Lots 1-3 was awarded to Raytheon August 9, 2010. Lots 4 & 5 are included in the contract, but are Not-To-Exceed options.

The Navy funding will support Navy-unique efforts for SDB Increment II, such as aircraft integration, ship suitability, studies and analysis, and program management and government in-house support. These efforts will be performed on several cost-type contracts or through cost reimbursable work requests to government activities and contractors.

E. Performance Metrics

Earned value management has been implemented on the EMD contract with Raytheon.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 3072 / *Small Diameter Bomb (SDB)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development - SDB II EMD	C/FPIF	Raytheon : Tucson, AZ	21.154	7.610	Jan 2014	2.166	Mar 2015	6.057	Jan 2016	-		6.057	138.072	175.059	175.059
Aircraft Integration - JSF	C/CPFF	Lockheed Martin : Fort Worth, TX	18.155	-		-		9.207	Jan 2016	-		9.207	14.267	41.629	53.408
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	15.497	-		-		-		-		-	-	15.497	-
		Subtotal	54.806	7.610		2.166		15.264		-		15.264	152.339	232.185	-

Remarks

Primary Hardware Development Prior Years includes McDonnell Douglas Corp and Raytheon Missile Systems Primary H/W Development for the SDB II 42-month risk reduction phase, $4.393M for Boeing/Lockheed Martin team and $4.393M for Raytheon and $2.6M for Joint Surface Warfare (JSuW) efforts with Raytheon and $4.111M for BRU-61 Shipboard Suitability efforts. Lockheed Martin Prior years includes funding for risk reduction efforts including F-35 internal bay modification efforts for SDB II, adapter and strut hardware and thermal compatability analysis.

Primary Hardware Development to Raytheon in Tucson, AZ reflects the winning SDB II contractor and includes test assets. Primary Hardware Development reflects additional prime contractor costs to support F-35 and JMM BRU integration.

Funding for Lockheed Martin F-35 includes bay modifications, logistics efforts, and adapter hardware. It does not include OFP, UAI software coding, nor test missions which are represented in Support and Test sections, respectively. Bay modifications with Lockheed Martin will begin in FY16 to move hydraulic lines and latches to accomodate the SDB II weapon and JMM BRU rack.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development - JSF	C/CPFF	Lockheed Martin : Ft. Worth, TX	1.204	4.910	Jan 2014	5.000	Feb 2015	8.000	Jan 2016	-		8.000	59.674	78.788	82.788
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	17.410	-		-		-		-		-	-	17.410	-
		Subtotal	18.614	4.910		5.000		8.000		-		8.000	59.674	96.198	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 3072 / *Small Diameter Bomb (SDB)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Studies and Analyses include Navy activities to define CONOPS and better define Navy-specific and interoperability requirements, such as weapon data link advanced concept technology demonstration, seeker trade studies, and data link trade studies. Prior year Software Development efforts are in support of JSuW Joint Capability Technology Demonstrations incorporation of J.11 Message Set into Strike Weapons and Weapon Data Link Network efforts.

Software Development for JSF is the UAI, OFP, and mission planning which supports the SDB II program. Incrementally funded contract was awarded in FY14 to initialize, target, and release the weapon. It will cover 95% of the UAI messages and will support all other UAI compliant weapons in JSF Block 3 and prior, e.g., SDB I, JMAM, and LJDAM.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation - JSuW/WDLN	Various	Various : Various	2.864	-		-		-		-		-	75.886	78.750	-
Operational Test & Evaluation - SDBII	WR	COMOPTEVFOR : China Lake, CA	1.010	-		-		-		-		-	25.550	26.560	-
Developmental Test & Evaluation - SDB II	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	-		-		-		-		-	33.650	33.650	33.650
Prior Year T&E cost no longer funded in the FYDP	Various	Various : Various	8.049	-		-		-		-		-	-	8.049	-
		Subtotal	11.923	-		-		-		-		-	135.086	147.009	-

Remarks

Developmental T&E (DT) and Operational T&E (OT) include all aspects of the weapon system - SDB II, JMM BRU, and F-35B and F-35C aircraft OFP. There will be no separate DT or OT period for JMM BRU.

Developmental Test squadrons and locations for F-35B and F-35C are still uncertain as squadrons are being established.

Operational test is scheduled to begin in FY21 to support FY22 IOC.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / *Small Diameter Bomb (SDB)*	Project (Number/Name) 3072 / *Small Diameter Bomb (SDB)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Services	Various	Various : Various	1.708	0.487	Nov 2013	0.505	Nov 2014	0.520	Nov 2015	-		0.520	1.732	4.952	-
Government Support	WR	NAWC WD : China Lake,CA	20.883	2.767	Nov 2013	2.832	Nov 2014	2.882	Nov 2015	-		2.882	16.351	45.715	-
Government Support	WR	Various : Various	8.468	0.250	Nov 2013	0.750	Nov 2014	0.500	Nov 2015	-		0.500	3.093	13.061	-
Program Management Support	WR	Various : Various	6.677	1.801	Nov 2013	1.950	Nov 2014	2.013	Nov 2015	-		2.013	9.359	21.800	-
Travel	MIPR	ASC20OG : Eglin AFB, FL	1.781	0.150	Oct 2013	0.150	Oct 2014	0.150	Oct 2015	-		0.150	Continuing	Continuing	Continuing
		Subtotal	39.517	5.455		6.187		6.065		-		6.065	-	-	-

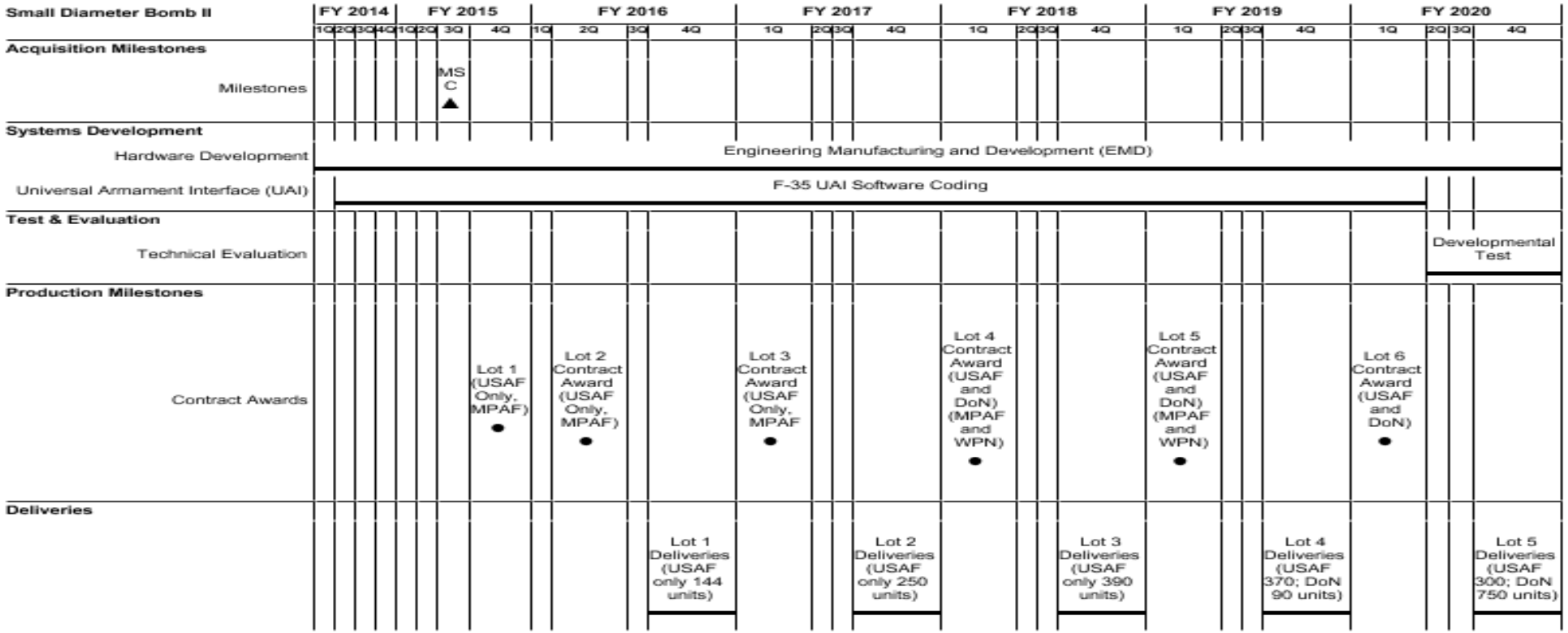
Remarks

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	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	124.860	17.975		13.353		29.329		-		29.329	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 3072 / *Small Diameter Bomb (SDB)*



2016PB - 0604329N - 3072

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 3072 / *Small Diameter Bomb (SDB)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Small Diameter Bomb II				
Acquisition Milestones: Milestones: MS C	3	2015	3	2015
Systems Development: Hardware Development: Engineering Manufacturing and Development (EMD)	1	2014	4	2020
Systems Development: Universal Armament Interface (UAI): F-35 OFP Software Coding	2	2014	1	2020
Test & Evaluation: Technical Evaluation: Developmental Test	2	2020	4	2020
Production Milestones: Contract Awards: Lot I Contract Award (USAF Only) (Missile Procurement, AF)	4	2015	4	2015
Production Milestones: Contract Awards: Lot 2 Contract Award (USAF Only) (Missile Procurement, AF)	2	2016	2	2016
Production Milestones: Contract Awards: Lot 3 Contract Award (USAF Only) (Missile Procurement, AF)	1	2017	1	2017
Production Milestones: Contract Awards: Lot 4 Contract Award (USAF and DoN) (MPAF and WPN)	1	2018	1	2018
Production Milestones: Contract Awards: Lot 5 Contract Award (USAF and DoN) (MPAF and WPN)	1	2019	1	2019
Production Milestones: Contract Awards: Lot 6 Contract Award (USAF and DoN) (MPAF and WPN)	1	2020	1	2020
Deliveries: Lot 1 Deliveries (USAF only 144 units)	4	2016	4	2016
Deliveries: Lot 2 Deliveries (USAF only 250 units)	4	2017	4	2017
Deliveries: Lot 3 Deliveries (USAF only 390 units)	4	2018	4	2018
Deliveries: Lot 4 Deliveries (USAF 370; DoN 90 units)	4	2019	4	2019
Deliveries: Lot 5 Deliveries (USAF 300; DoN 750 units)	4	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / *Small Diameter Bomb (SDB)*	Project (Number/Name) 3082 / *JMM BRU*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3082: *JMM BRU*	18.724	6.240	13.933	11.673	-	11.673	8.744	4.779	3.565	3.644	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Miniature Munitions Bomb Rack Unit (JMM BRU) is an Air Force (AF) led ACAT III program. It is required for the Department of the Navy's (DoN) carriage of the SDB II weapon in the internal bay of the F-35B and F-35C and operation in the DoN environment. The SDB II Capability Development Document (CDD) states that it must be operable on the Miniature Munitions Smart Rack BRU-61/A. The BRU-61/A, currently in production in the AF, does not meet the needs to operate with SDB II within the F-35 internal bay in the DoN environment. The JMM BRU, designated BRU-61A/A, fills the capability gap required by the DoN. Efforts include development of a dual power capability to meet the SDB II operating environment on the F-35.

SDB II and the JMM BRU integration were moved from F-35 Block 3 to Block 4. Budgets and schedules have been modified to meet the F-35 Block 4 schedule.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Joint Miniature Munitions Bomb Rack Unit (JMM BRU) Government Support	4.408	6.833	5.894	-	5.894
Articles:	-	-	-	-	-
Description: Funding provided for the SDB II Carriage System support and integration into Navy environments. ***FY 2014 Accomplishments:*** Continued with TD Phase. Full manning of JMM BRU government team and conduct DoN logistics efforts for support equipment, specific to JMM BRU. ***FY 2015 Plans:*** Complete TD phase and enter Engineering Management and Development (EMD) phase with prime contractor. Full manning of JMM BRU government team and conduct DoN logistics efforts for support equipment specific to JMM BRU. ***FY 2016 Base Plans:*** Continue Engineering Management and Development (EMD) phase with prime contractor. Full manning of JMM BRU government team and conduct DoN logistics efforts for support equipment specific to JMM BRU. ***FY 2016 OCO Plans:*** N/A					
Title: Joint Miniature Munitions Bomb Rack (JMM BRU) Prime Contractor	1.832	7.100	5.779	-	5.779

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 3082 / *JMM BRU*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	5	-	-	-	-
Description: Prime Contractor Support of JMM BRU (BRU-61A/A) TD/EMD contract. ***FY 2014 Accomplishments:*** Continued TD contract. JMM BRU Prime contractor fully manned to complete TD phase, including building two JMM BRU prototypes, four Inertial Measurement Vehicle (IMV) BRUs, and three JMM BRU simulators in support of SDB II/JMM BRU/JSF integration efforts. ***FY 2015 Plans:*** Execute EMD contract. JMM BRU prime contractor fully manned to complete EMD phase. ***FY 2016 Base Plans:*** Execute EMD contract. JMM BRU prime contractor fully manned to complete EMD phase. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	6.240	13.933	11.673	-	11.673

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/ BLI 0720: *War Consumables*	-	-	-	-	-	-	13.616	20.293	55.064	181.129	270.102

Remarks

D. Acquisition Strategy

The JMM BRU is an Air Force led ACAT III program. Industry day was held 4Q FY2010, acquisition strategy approved 1Q FY2011 and Material Development Decision (MDD) 2Q FY 2011. Competitive source selection conducted with contract award 3Q FY2013.

E. Performance Metrics

Earned value management is being implemented on the TD/EMD contract for the technology demonstration contract.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 3082 / *JMM BRU*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Miniature Munitions Bomb Rack Unit (JMM BRU)	C/FPIF	Raytheon Technical Services Company LLC : Indianapolis, IN	9.700	1.832	Jun 2014	9.821	Apr 2015	7.000	Apr 2016	-		7.000	2.981	31.334	31.334
		Subtotal	9.700	1.832		9.821		7.000		-		7.000	2.981	31.334	31.334

Remarks

Funding provided to Raytheon Technical Services Company LLC for development of a JMM BRU SDB II carriage system which satisfies DoN environments. JMM BRU will carry four SDB II's and will be capable of being used both internally and externally.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CAATS	Various	NAWC AD : Lakehurst	0.000	1.323	Feb 2014	-		0.386	Feb 2016	-		0.386	2.544	4.253	-
		Subtotal	0.000	1.323		-		0.386		-		0.386	2.544	4.253	-

Remarks

Common Aircraft Armament Test Set (CAATS) is the intermediate level test set required for JMM BRU to verify rack functionality. CAATS must be modified to support additional power requirements and interfaces of the JMM BRU.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test	TBD	TBD : TBD	0.000	-		-		-		-		-	0.436	0.436	-
		Subtotal	0.000	-		-		-		-		-	0.436	0.436	-

Remarks

DT and OT efforts are budgeted for in the SDB II project unit as DT and OT will be for total weapon system. There will be no dedicated JMM BRU DT and OT. Funding in cost to complete will fund captive carry testing in FY17.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 3082 / *JMM BRU*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test conducted will be fit checks on F-35B and F-35C with the new JMM BRU.															

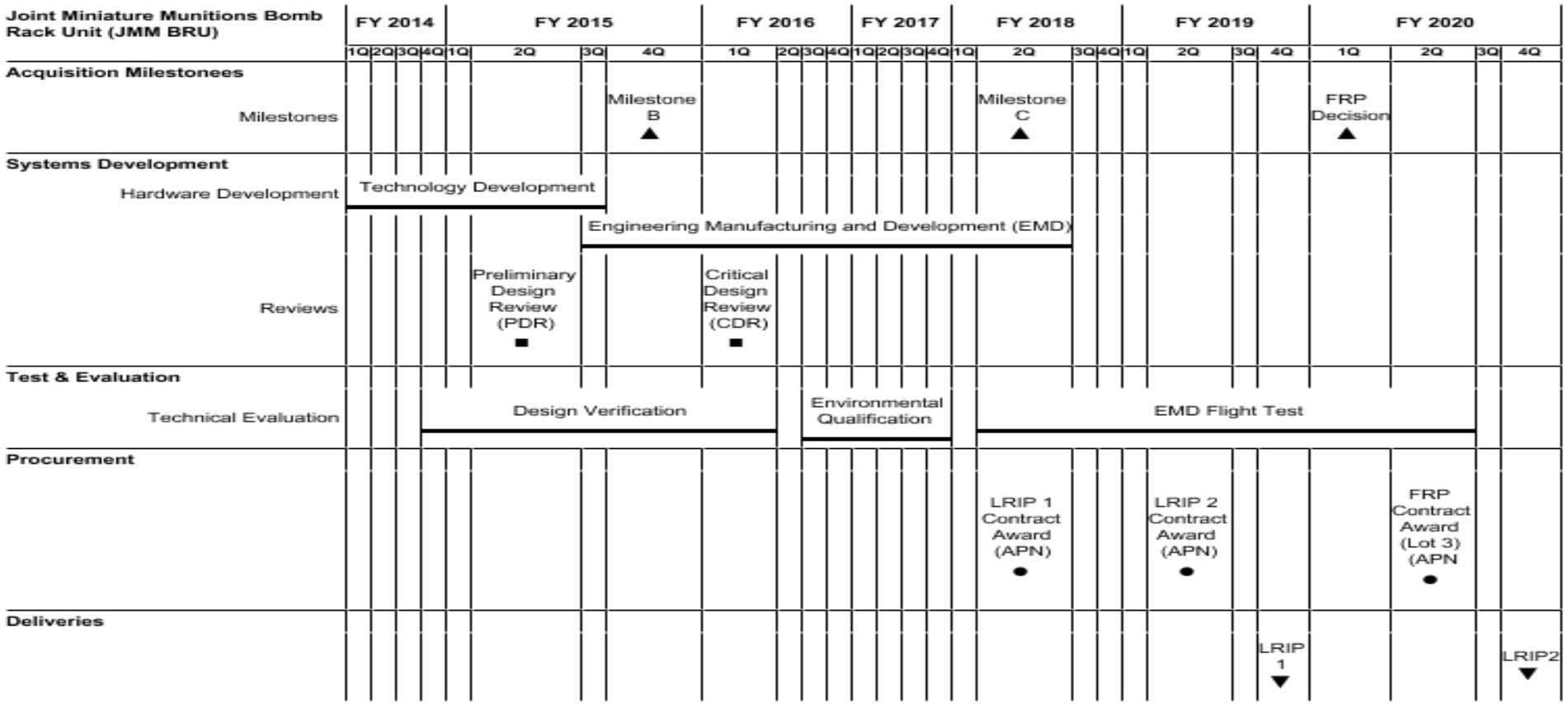
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Support	WR	NAWC WD : China Lake, CA	3.941	2.364	Nov 2013	3.066	Nov 2014	3.165	Nov 2015	-		3.165	Continuing	Continuing	Continuing
Government Support	WR	Various : Various	4.712	0.519	Nov 2013	0.842	Nov 2014	0.872	Nov 2015	-		0.872	1.923	8.868	-
Travel	MIPR	ASC20OG : Eglin AFB, FL	0.121	0.075	Oct 2013	0.075	Oct 2014	0.100	Oct 2015	-		0.100	1.250	1.621	-
Contractor Services	MIPR	AFLCMC : Eglin AFB, FL	0.250	0.127	Dec 2013	0.129	Dec 2014	0.150	Dec 2015	-		0.150	0.750	1.406	-
		Subtotal	9.024	3.085		4.112		4.287		-		4.287	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	18.724	6.240		13.933		11.673		-		11.673	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 3082 / *JMM BRU*



2016PB - 0604329N - 3082

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604329N / *Small Diameter Bomb (SDB)*	**Project (Number/Name)** 3082 / *JMM BRU*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Joint Miniature Munitions Bomb Rack Unit (JMM BRU)				
Acquisition Milestonees: Milestones: Milestone B	4	2015	4	2015
Acquisition Milestonees: Milestones: Milestone C	2	2018	2	2018
Acquisition Milestonees: Milestones: Full Rate Production (FRP) Decision	1	2020	1	2020
Systems Development: Hardware Development: Technology Development	1	2014	3	2015
Systems Development: Hardware Development: Engineering Manufacturing and Development (EMD)	3	2015	2	2018
Systems Development: Reviews: Preliminary Design Review (PDR)	2	2015	2	2015
Systems Development: Reviews: Critical Design Review (CDR)	1	2016	1	2016
Test & Evaluation: Technical Evaluation: Design Verification	4	2014	1	2016
Test & Evaluation: Technical Evaluation: Environmental Qualification	3	2016	4	2017
Test & Evaluation: Technical Evaluation: EMD Flight Test	2	2018	2	2020
Procurement: LRIP 1 Contract Award	2	2018	2	2018
Procurement: LRIP 2 Contract Award	2	2019	2	2019
Procurement: FRP Contract Award (Lot 3)	2	2020	2	2020
Deliveries: LRIP 1 Deliveries	4	2019	4	2019
Deliveries: LRIP 2 Deliveries	4	2020	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604366N *I Standard Missile Improvements*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	2,125.423	60.933	36.698	129.649	-	129.649	114.759	123.382	76.188	19.560	Continuing	Continuing
0439: *Standard Missile Improvement*	1,091.601	25.776	11.814	19.626	-	19.626	11.698	11.990	12.335	12.599	Continuing	Continuing
3092: *Standard Missile 6 Program*	1,033.822	35.157	24.884	110.023	-	110.023	103.061	111.392	63.853	6.961	Continuing	Continuing
MDAP/MAIS Code: **Other MDAP/MAIS Code(s):** 197, 391												

A. Mission Description and Budget Item Justification

Standard Missile (SM) is the Navy's premier Anti-Air Warfare (AAW) missile, providing both area air defense for the fleet and self defense for individual AEGIS CGs and DDGs, as required by the Joint Theater Air Missile Defense (TAMD), Mission Need Statement (MNS), Defense Planning Guidance (DPG), Quadrennial Defense Review (QDR), and Ship Class AAW Self Defense Capstone Requirements Document. Agility, fuzing, and computer modifications to SM are in development to restore performance in the near term against a specific existing proliferating Anti-Ship Cruise Missile (ASCM) threat. Continuous analysis of missile capabilities vs. ever-evolving and proliferating aircraft and ASCM threats and long-range
planning are required to keep pace with the threat.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	67.082	53.198	67.682	-	67.682
Current President's Budget	60.933	36.698	129.649	-	129.649
Total Adjustments	-6.149	-16.500	61.967	-	61.967
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-16.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-3.999	-			
• SBIR/STTR Transfer	-2.150	-			
• Program Adjustments	-	-	0.420	-	0.420
• Rate/Misc Adjustments	-	-	61.547	-	61.547

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604366N *I Standard Missile Improvements*

Change Summary Explanation

SBIR reduction ($2.150) in FY14. Reprogramming reduction $3.999M in FY14. Congressional Reduction $16.5M in FY15. A portion of FY16 increase to K3092 ($0.420) is for the Naval Integrated Fire Control - Counter Air (NIFC-CA) integration increment 2 program. The remainder of the increase in FY16 is for the future capabilities demonstration project. This funding will be used to prepare for and support an at sea demonstration event, Operational Test (OT)-5/15, and Tri-Capable Missile Regression Flight Tests, collection of data, performance of analysis and reliability assessments. Additional details are held at a higher classification.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604366N / *Standard Missile Improvements*	Project (Number/Name) 0439 / *Standard Missile Improvement*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0439: *Standard Missile Improvement*	1,091.601	25.776	11.814	19.626	-	19.626	11.698	11.990	12.335	12.599	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 197

A. Mission Description and Budget Item Justification

Modifications to SM-2 BLK IIIA are required for use on DDG-1000 class destroyers. The Joint Universal Waveform Link (JUWL) will be integrated with the Evolved Sea Sparrow Missile (ESSM) and Standard Missile (SM) to communicate with the DDG-1000 SPY-3 radar. SM-2 missile software will be updated with Interrupted Continuous Wave Illumination (ICWI) in order to allow operation with DDG-1000.

Missile integration with Air and Missile Defense S-Band Radar (AMDR-S) for DDG 51 Flight III ships will include requirements review/updates and analysis, verification; technical documentation, design review and working group SME support, missile/radar integration, missile test hardware procurement, risk assessment, safety, test and evaluation planning, analysis, data collection. Deliverables include interface specs and engineering documents to support AMDR Preliminary Design Reviews (PDRs) Hardware and Software (HW&SW) (FY13) and Critical Design Reviews (CDRs) HW&SW (FY14); Engineering Development Model (EDM) testing (FY15), interface specs and engineering documents to support AMDR/AEGIS Configuration Baseline (ACB) 20 for DDG 51 Flight III Electromagnetic Environmental Effects (E3) Testing, Analysis and Reports. Missile variants: ESSM Block I; SM-2 Blk IIIB MU2, SM-6 Block I (Current Aegis Configuration).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: DDG-1000 Pre Plan Product Improvement (P3I) Link Integration/ICWI	12.706	8.825	0.170	-	0.170
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed ESSM Electromagnetic Environmental Effects (E3) testing. Delivered ESSM inert operational missile (IOM) to DDG 1000 for ship interface checkout and integration testing; Conducted SM-2 Plate 3 qualification testing; Conducted SM-2 JUWL Critical Design Review in 3rd quarter 2014; Assembled/integrated SM-2 modules and software into a functional missile guidance section.					
FY 2015 Plans: Conduct SM guidance and round level qualification testing and Electromagnetic Interface (EMI)/E3 testing. Deliver Production Representative Missiles (PRM) IOM to DDG 1000 class destroyers.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 0439 / *Standard Missile Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Prepare and conduct flight tests from Self Defense Test Ship and DDG-1000. Complete Engineering Change Proposal (ECP) for qualified SM-2 BLK IIIAZ configuration. ***FY 2016 OCO Plans:*** N/A					
Title: Air and Missile Defense Radar (AMDR) Integration	13.070	2.989	19.456	-	19.456
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Hardware (IOM/Spare parts) procurement - (QTY of 2 SM-2 IOMs and QTY of 2 SM-6 IOMs); Design review participation with radar prime contractor, facilitate design that complies with existing interfaces (including NIFC-CA); Analysis to include examination of new radar in natural and threat RF environments; performance analysis; model updates. Successful JUWL Critical Design Review (CDR) achieved Jun 2014.					
FY 2015 Plans: Complete ESSM missile test hardware procurement; developing and updating missile interface documentation to support the detailed requirements development for ACB Next and integration with AMDR; updating missile models with AMDR and Combat System (CS) elements as available; generating missile fly out data; configuring missile communication test set for radar risk reduction testing; design and program review support with radar and CS prime contractors; engineering studies as required.					
FY 2016 Base Plans: Support and prepare for land based testing, provide engineering studies for integration of SM and ESSM with AMDR. Perform Electromagnetic environmental effects and Hazard of Electromagnetic Radiation to Ordnance (HERO) testing. Review E3/HERO design, analyses, and qualification tests. Develop new missile Interface Control Documents (ICDs) for SM-2, SM-6, and ESSM. Participate in and provide analysis to support the radar design evolution. Provide Principal for Safety (PFS) and systems safety engineering support. Interface with Weapon System Explosive Safety Review Board (WSESRB) board members and review safety documentation as required.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	25.776	11.814	19.626	-	19.626

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 0439 / *Standard Missile Improvement*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Production representative missiles will be built for ESSM between FY12 and 14 and for SM-2 FY13 and FY17.

Engineering and integration testing for ESSM in FY14- FY15 and SM-2 in FY14- FY15. 67 ESSM missiles and 34 SM missiles are required to support Developmental Test & Operational Test (DT & OT) FY15-FY17 and continue follow-on ship integration and design update effort in FY18.

This budget reflects the procurement of the initial SM Flight Test Rounds (FTRs) in FY13. Follow-on SM/ESSM FTRs, missile integration and test efforts and ship fill records are not funded within this budget. The 67 ESSM and 27 SM missiles are to be funded by NAVSEA.

SM Development, integration, and test is expected to conclude by FY18 for the X-band JUWL and ICWI.

E. Performance Metrics

ESSM initial engineering design for X-Band JUWL capability was completed and Engineering Development Models (EDMs) were built and tested.

ESSM ordered material/parts and assembled proof of design units. Design verification tests are complete (FY12).

ESSM conducted its Critical Design Review (CDR) in April 2012 (FY12).

JUWL conducted its SM-2 PDR during fourth quarter FY13.

SM-2 integration testing and datalink qualification for JUWL testing is planned for FY14.

SM-2 JUWL CDR conducted Jun 2014.

SM-2 Design verification of component, plate, guidance section, and all up round with a final qualification test in June 2015

Conduct SM-2 Software System Safety Technical Review Panel (SSSTRP) and Weapon System Explosive Review Board (WSESRB) in FY 15

Develop AMDR new missile ICDs for SM-2, SM-6, and ESSM in FY 15.

AMDR IOM testing is planned for FY 16.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 0439 / *Standard Missile Improvement*

Perform E3/HERO design, analyses, E3/HERO qualification tests for AMDR in FY 16.

AMDR WSESRB in FY 16.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604366N / *Standard Missile Improvements*	Project (Number/Name) 0439 / *Standard Missile Improvement*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Design and Analysis1	SS/CPAF	RAYTHEON : Tucson, AZ	255.106	22.878	Mar 2014	9.552	Nov 2014	3.440	Nov 2015	-		3.440	Continuing	Continuing	Continuing
Design and Analysis2	C/CPFF	JHU/APL : Laurel, MD	6.306	1.500	Mar 2014	0.310	Nov 2014	3.781	Nov 2015	-		3.781	-	11.897	-
Design and Analysis3	MIPR	MIT/Lin Lab : Lexington, MA	0.050	-		-		-		-		-	-	0.050	-
Design and Analysis4	WR	NSWC : Dahlgren	788.347	0.320	Mar 2014	0.601	Nov 2014	0.784	Nov 2015	-		0.784	-	790.052	-
Design and Analysis5	WR	NSWC : Indian Head	0.940	-		-		-		-		-	-	0.940	-
Design and Analysis6	WR	NAWC : China Lake	3.655	0.570	Mar 2014	0.474	Nov 2014	1.109	Nov 2015	-		1.109	-	5.808	-
Design and Analysis7	Various	LOCKHEED MARTIN : Moorestown, NJ	17.775	-		-		-		-		-	-	17.775	-
Design and Analysis8	WR	CNO : Washington, DC	0.010	-		-		-		-		-	-	0.010	-
Design and Analysis9	WR	CMDP : Phoenix, AZ	4.795	-		-		-		-		-	-	4.795	-
Design and Analysis11	WR	NSWC : Crane	0.257	-		-		-		-		-	-	0.257	-
Design and Analysis12	WR	DOI&CNAP : Washington, DC	0.487	-		-		-		-		-	-	0.487	-
Design and Analysis13	WR	COMPTEVFOR : Norfolk, VA	0.100	-		-		-		-		-	-	0.100	-
Design and Analysis14	C/CPFF	LOCKHEED MARTIN : Moorestown, NJ	2.000	-		-		-		-		-	-	2.000	-
Design and Analysis15	WR	CARDEROCK : Bethesda, MD	0.050	-		-		-		-		-	-	0.050	-
Design and Analysis16	WR	NWAS : Corona	0.385	-		0.351	Nov 2014	-		-		-	-	0.736	-
Design and Analysis17	C/CPFF	CORVID : Mooresville, NC	0.100	-		-		-		-		-	-	0.100	-
Design and Analysis18	C/CPFF	BAE : Rockville, MD	0.101	0.030	Mar 2014	0.041	Nov 2014	-		-		-	-	0.172	-
Design and Analysis19	MIPR	MDA : Dahlgren,VA	1.257	-		-		-		-		-	-	1.257	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604366N / *Standard Missile Improvements*	Project (Number/Name) 0439 / *Standard Missile Improvement*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Design and Analysis20	WR	IWS3D : ARLINGTON, VA	1.500	-		-		-		-		-	-	1.500	-
Design and Analysis21	WR	VARIOUS : IWS 1.0	0.000	-		-		10.052	Nov 2015	-		10.052	-	10.052	-
		Subtotal	1,083.221	25.298		11.329		19.166		-		19.166	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DEVELOPMENTAL TEST & EVALUATION1	WR	NSWC : Port Hueneme	0.185	-		-		-		-		-	-	0.185	-
DEVELOPMENTAL TEST & EVALUATION2	WR	WSMR : New Mexico	1.600	-		-		-		-		-	-	1.600	-
DEVELOPMENTAL TEST & EVALUATION3	WR	NAWC : Pt Mugu	0.098	-		-		-		-		-	-	0.098	-
DEVELOPMENTAL TEST & EVALUATION4	WR	PMRF : Hawaii	0.338	-		-		-		-		-	-	0.338	-
DEVELOPMENTAL TEST & EVALUATION5	WR	NSWC : PHD/ Techrep	0.567	-		-		-		-		-	-	0.567	-
		Subtotal	2.788	-		-		-		-		-	-	2.788	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CONTRACTOR ENGINEERING SUPPORT	C/CPAF	VARIOUS : VARIOUS	2.630	-		-		-		-		-	-	2.630	-
PROGRAM MANAGEMENT SUPPORT	C/CPAF	VARIOUS : VARIOUS	2.831	0.415	Mar 2014	0.423	Nov 2014	0.400	Nov 2015	-		0.400	-	4.069	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604366N / *Standard Missile Improvements*	Project (Number/Name) 0439 / *Standard Missile Improvement*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TRAVEL	Allot	IWS3 : Arlington, VA	0.131	0.063	Mar 2014	0.062	Nov 2014	0.060	Nov 2015	-		0.060	-	0.316	-
		Subtotal	5.592	0.478		0.485		0.460		-		0.460	-	7.015	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,091.601	25.776		11.814		19.626		-		19.626	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 0439 / *Standard Missile Improvement*

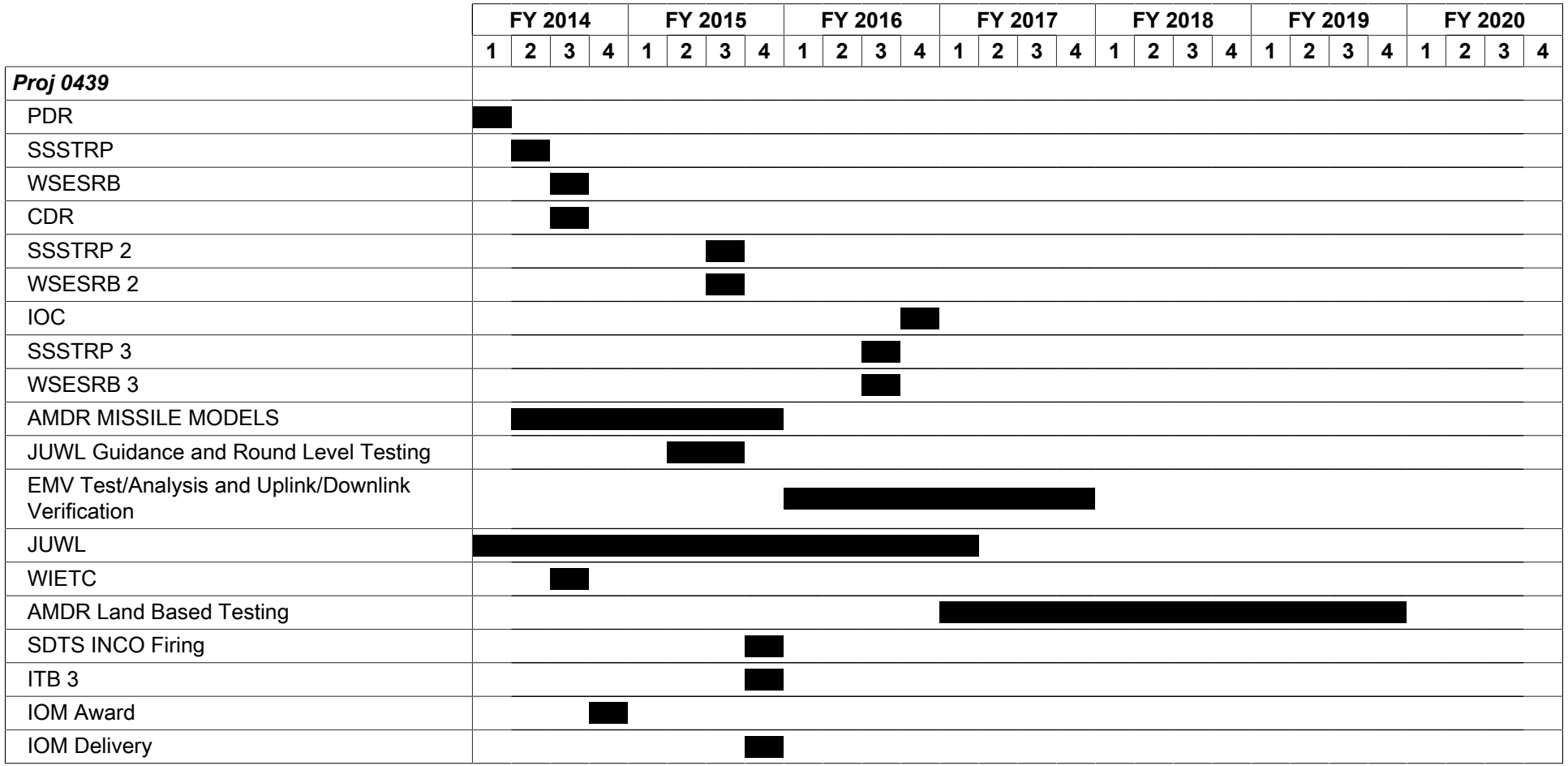


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 0439 / *Standard Missile Improvement*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0439				
PDR	1	2014	1	2014
SSSTRP	2	2014	2	2014
WSESRB	3	2014	3	2014
CDR	3	2014	3	2014
SSSTRP 2	3	2015	3	2015
WSESRB 2	3	2015	3	2015
IOC	4	2016	4	2016
SSSTRP 3	3	2016	3	2016
WSESRB 3	3	2016	3	2016
AMDR MISSILE MODELS	2	2014	4	2015
JUWL Guidance and Round Level Testing	2	2015	3	2015
EMV Test/Analysis and Uplink/Downlink Verification	1	2016	4	2017
JUWL	1	2014	1	2017
WIETC	3	2014	3	2014
AMDR Land Based Testing	1	2017	4	2019
SDTS INCO Firing	4	2015	4	2015
ITB 3	4	2015	4	2015
IOM Award	4	2014	4	2014
IOM Delivery	4	2015	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604366N / *Standard Missile Improvements*				Project (Number/Name) 3092 / *Standard Missile 6 Program*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
3092: *Standard Missile 6 Program*	1,033.822	35.157	24.884	110.023	-	110.023	103.061	111.392	63.853	6.961	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 391												

A. Mission Description and Budget Item Justification

This program leverages existing missile technology and advanced missile technology. It aligns missile technology roadmaps across the services (NAVSEA, NAVAIR, USAF, USMC and USA) and missile variants within the services, taking advantage of the Navy's investment in the AEGIS Weapons System (AWS), Cooperative Engagement Capability (CEC), and airborne early warning systems. This missile will provide an extended range engagement capability to provide the air superiority and the umbrella of protection for joint U.S. forces and allies against the full spectrum of manned-fixed and rotary-wing aircraft, unmanned aerial vehicles, and land attack and anti-ship cruise missiles in flight, thereby contributing to the continuous protection of forward deployed ground maneuver forces as well as theater rear assets as discussed in the Joint Theater Air Missile Defense (TAMD) Mission Need Statement (MNS), Defense Planning Guide (DPG), Quadrennial Defense Review (QDR), TAMD Capstone Requirements Document, Forward From the Sea, Joint Vision 2010/2020, the 2002/2003 Naval Transformational Roadmap, the Operational Requirements Document for SM-6 BLK 1, and the SM-6 Capability Production Document.

SM-6 portion of Joint and Naval Integrated Fire Control is to support the integration, land-based and at-sea test, and analysis in support of the NIFC-CA test and evaluation strategy. The JROC directed Joint Land Attack Elevated Netted Sensor (JLENS) integration into the NIFC-CA kill chain was successfully live fire tested as well as the first land-based NIFC-CA SoS live fire test. The first at-sea NIFC-CA System of Systems (SoS) live fire at-sea test with AEGIS Baseline 9 commenced in the 4th Quarter of FY13 with subsequent Land-Based and At-Sea tests taking place in FY14. NIFC-CA Increment 2 commences in FY 16. It integrates sensor, SM-6 BLK IA and AWS ACB 16 into an advanced from the sea (FTS) Kill chain. Efforts include support for the WSMR upgrade, Trackex events, and Live Fire test at land based and at-sea tests.

Insensitive Munitions (IM) efforts support transition of technology associated with ONR HARDKILL Future Naval Capabilities reflected in a signed, level B, Technology Transition Agreement (TTA), endorsed by PEO IWS 3.0, OPNAV N96C, ONR and MDA AX.

Portable All Up Round Bit Tester (PABTs) eliminates the need for missiles to be removed from the ship and transported to the Intermediate Logistics Maintenance Facility (ILMF) to undergo testing, reprogramming, and maintenance checks. PABTs development and subsequent delivery in FY16 will increase missile/asset availability to the fleet and result in significant maintenance savings over the SM-6 lifecycle.

Future capabilities demonstration project supports SM demonstrations, captive flight tests, data collection, and analysis tasks.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 3092 / *Standard Missile 6 Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Insensitive Munitions (IM)	4.114	1.000	1.000	-	1.000
Articles:	-	-	-	-	-
FY 2014 Accomplishments: The prime contractor continued to develop Electronic Arm-Fire Device (EAFD)/ISD technology at the subscale level. Safety plans and reviews with the safety community are planned. The bi-annual IM Program Objective and Memorandum (POA&M) (for FY15/16) was socialized and endorsed. The IM tech team continued to participate and collaborate with the ONR HARDKILL effort. ***FY 2015 Plans:*** The prime contractor will complete development of EAFD/ISD technology proof-of-concept. Safety plans and reviews with the safety community are planned. The IM tech team will continue to participate and collaborate with the ONR HARDKILL effort. ***FY 2016 Base Plans:*** Safety plans and reviews with the safety community are planned. The IM tech team will continue to participate and collaborate with the ONR HARDKILL effort. ***FY 2016 OCO Plans:*** N/A					
Title: Portable All-Up Round Bit Tester (PABTs)	5.000	1.000	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued detailed design and development. ***FY 2015 Plans:*** Complete harware/software Preliminary Design review (PDR) and interface development and support efforts for hardware/software Crtical Desgin Review (CDR). ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Naval Integrated Fire Control - Counter Air (NIFC-CA)	5.775	1.943	2.106	-	2.106

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 3092 / *Standard Missile 6 Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Successful execution of Live-Fire NIFC-CA tests at White Sands Missile Range (WSMR) (LFT-1) and successful execution of three at-sea live fire NIFC-CA tests at Point Mugu Test Center (PMTC). Successful execution of integration trackex events. ***FY 2015 Plans:*** Capabilities and limitations development. Analysis based on federated 6-DOF (Degrees of Freedom) and live fire test events to support IFC runs for the record. Execution of two live fire test at WSMR to include two trackex events. Simulation updates to NIFC-CA Federation. ***FY 2016 Base Plans:*** Requirements definition and generation of requirements for WSMR combat system upgrades. Support of WSMR combat system upgrade and integration. Support for development of NIFC-CA Increment 2 test strategy. Simulation updates for NIFC-CA end to end federation. ***FY 2016 OCO Plans:*** N/A					
Title: Future Capability Demonstration	20.268	20.941	106.917	-	106.917
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Land Based Testing to support: Lethality test assessments, captive carry flight test, data collections, performance analysis tasks, reliability assessment, AEGIS Systems Requirement Review (SRR), and AEGIS Systems Functional Review (SFR). Studies to support: Network element trade study, weapon capability characterization study, inherent sensor capability study, and combat system implementation study. ***FY 2015 Plans:*** Control test vehicle tests at White Sands Missile Range, data collections, performance analysis tasks, reliability assessment, PDR for ABC, and Combat Systems Integration Test (CSIT). Integration testing of the entire architecture interfaces missile, data network, AEGIS, and airborne sensor. ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 3092 / *Standard Missile 6 Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Prepare for and support an at sea demonstration event, Operational Test (OT)-5/15, and Tri-Capable Missile Regression Flight Tests. Collection of data, performance analysis and reliability assessments. Additional details are held at a higher classification. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	35.157	24.884	110.023	-	110.023

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• WPN 2234: *Standard Missile*	300.185	436.498	435.352	-	435.352	508.303	517.902	530.276	539.772	3,614.120	8,018.838
• Standard Missile: *QTY*	93.000	110.000	113.000	-	113.000	125.000	125.000	125.000	125.000	717.000	1,800.000

Remarks

D. Acquisition Strategy

SM-6 Acquisition Strategy signed by OSD AT&L 14 March 2012.

E. Performance Metrics

Accomplishments
- Development Test Flight Tests at PMRF - Jan 11
- Operational Test (OT) TRR - May 11
- OT Flight Tests at PMRF - Jul 11
- Low Rate Initial Production (LRIP) III Option II Contract Award - Jul 11
- LRIP IV Undefinitized Contract Agreement Contract Award - May 12
- Full Rate Production (FRP) Decision - April 13
- SM-6 SD&D Contract SPI is currently at 1.00 and CPI is at 1.00
- PRP Flight Test July 13
- FRP - 1st contract awarded Sept 13
- IOC Nov 13

Upcoming Milestones
- DT/OT DI - Jan 14 - Sept 14

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 3092 / *Standard Missile 6 Program*

- Integrated Fire Control (IFC) Apr 12 - Jul 16
- FRP 2 awarded June 14

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604366N / *Standard Missile Improvements*	Project (Number/Name) 3092 / *Standard Missile 6 Program*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Design & Analysis	C/CPIF	RAYTHEON : Tucson, AZ	678.963	7.309	Mar 2014	4.091	Feb 2015	38.798	Nov 2015	-		38.798	Continuing	Continuing	Continuing
Design & Analysis	C/CPFF	JHU/APL : Laurel MD	46.013	3.049	Mar 2014	1.270	Feb 2015	4.535	Nov 2015	-		4.535	-	54.867	-
Design & Analysis	MIPR	MIT/Lin Lab : Lexington, MA	0.550	-		-		-		-		-	-	0.550	-
Design & Analysis	WR	NAWC : China Lake	4.587	0.050	Mar 2014	-		1.350	Nov 2015	-		1.350	-	5.987	-
Design & Analysis	WR	NSWC : Dahlgren	11.150	0.175	Mar 2014	0.054	Feb 2015	0.100	Nov 2015	-		0.100	-	11.479	-
Design & Analysis	WR	NSWC : Indian Head	3.562	0.300	Mar 2014	0.025	Feb 2015	0.070	Nov 2015	-		0.070	-	3.957	-
Design & Analysis	WR	NSWC : PHD	9.232	0.050	Mar 2014	0.560	Feb 2015	0.500	Nov 2015	-		0.500	-	10.342	-
Design & Analysis	WR	NSWC : Crane	1.256	-		-		-		-		-	-	1.256	-
Design & Analysis	MIPR	JSPO : Eglin AFB	24.049	-		-		-		-		-	-	24.049	-
Design & Analysis	C/CPFF	LOCKHEED Martin : Moorestown, NJ	6.074	-		-		-		-		-	-	6.074	-
Design & Analysis	WR	NSWC : Corona	16.559	0.100	Mar 2014	0.989	Feb 2015	0.500	Nov 2015	-		0.500	-	18.148	-
Design & Analysis	Reqn	ONR : Arlington, VA	5.320	-		-		-		-		-	-	5.320	-
Design & Analysis	Reqn	NRL : Washington, DC	0.090	-		-		-		-		-	-	0.090	-
Design & Analysis	WR	COMPTEVFOR : Norfolk, VA	2.155	-		0.100	Nov 2014	0.100	Nov 2015	-		0.100	-	2.355	-
Design & Analysis	WR	CARDEROCK : Philadelphia, PA	2.549	-		0.250	Feb 2015	0.660	Nov 2015	-		0.660	-	3.459	-
Design & Analysis	WR	NSWC : Pt Mugu	0.613	-		-		-		-		-	-	0.613	-
Design & Analysis	C/CPFF	BAE : Rockville, MD	6.446	-		-		-		-		-	-	6.446	-
Design & Analysis	MIPR	ARMY : Redstone	0.050	-		0.300	Feb 2015	0.500	Nov 2015	-		0.500	-	0.850	-
Design & Analysis	WR	NAWCAD : Pax River, MD	0.392	-		0.230	Feb 2015	1.704	Nov 2015	-		1.704	-	2.326	-
Design & Analysis	C/CPFF	CORVID : Mooresville, NC	2.900	-		0.500	Nov 2014	2.300	Nov 2015	-		2.300	-	5.700	-
Design & Analysis	C/CPFF	RNB : Arlington, VA	0.010	-		-		-		-		-	-	0.010	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604366N / *Standard Missile Improvements*	Project (Number/Name) 3092 / *Standard Missile 6 Program*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Design & Analysis	WR	SPAWAR : Arlington, VA	0.007	-		-		-		-		-	-	0.007	-
Design & Analysis	WR	ARMY : Cecom	0.066	-		-		-		-		-	-	0.066	-
Design & Analysis	C/FP	GENERAL DYNAMICS : Falls Church, VA	1.660	-		-		-		-		-	-	1.660	-
Design & Analysis	WR	VARIOUS : (IWS 1A)	59.773	9.790	Mar 2014	4.702	Feb 2015	19.100	Nov 2015	-		19.100	-	93.365	-
Design & Analysis	WR	VARIOUS : (VLS)	24.877	0.050	Mar 2014	-		1.200	Nov 2015	-		1.200	-	26.127	-
Design & Analysis	WR	NSWC : WSMR	0.000	0.100	Mar 2014	-		0.500	Nov 2015	-		0.500	-	0.600	-
Design & Analysis	WR	PMRF : Hawaii	0.000	-		0.772	Feb 2015	0.600	Nov 2015	-		0.600	-	1.372	-
Design & Analysis	WR	DOI : Washington D.C.	0.000	-		0.342	Nov 2014	0.400	Nov 2015	-		0.400	-	0.742	-
		Subtotal	908.903	20.973		14.185		72.917		-		72.917	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Develpomental Test & Evaluation	WR	NSWC : Port Hueneme	1.365	0.700	Mar 2014	1.591	Feb 2015	0.975	Nov 2015	-		0.975	-	4.631	-
Develpomental Test & Evaluation	WR	NSWC : WSMR	24.142	1.900	Mar 2014	0.250	Feb 2015	0.375	Nov 2015	-		0.375	-	26.667	-
Develpomental Test & Evaluation	WR	PMRF : Hawaii	38.201	-		2.099	Feb 2015	2.000	Nov 2015	-		2.000	-	42.300	-
Develpomental Test & Evaluation	WR	NAWC : Pt Mugu	0.769	2.000	Mar 2014	0.300	Feb 2015	3.000	Nov 2015	-		3.000	-	6.069	-
Develpomental Test & Evaluation	C/CPAF	RAYTHEON : Tucson, AZ	17.107	1.854	Mar 2014	1.668	Feb 2015	11.000	Nov 2015	-		11.000	-	31.629	-
Develpomental Test & Evaluation	C/CPFF	JHU/APL : Laurel, MD	5.806	1.630	Mar 2014	0.875	Feb 2015	3.950	Nov 2015	-		3.950	-	12.261	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604366N / *Standard Missile Improvements*	Project (Number/Name) 3092 / *Standard Missile 6 Program*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Develpomental Test & Evaluation	WR	NSWC : Corona	5.098	1.620	Mar 2014	0.300	Feb 2015	1.485	Nov 2015	-		1.485	-	8.503	-
Develpomental Test & Evaluation	WR	NSWC : Dahlgren	0.958	0.550	Mar 2014	-		0.800	Nov 2015	-		0.800	-	2.308	-
Developmental Test & Evaluation	WR	VLS : Arlington, VA	1.894	0.150	Mar 2014	0.150	Nov 2014	0.325	Nov 2015	-		0.325	-	2.519	-
Developmental Test & Evaluation	WR	COMPTEVFOR : Norfolk, Va	1.364	-		-		0.300	Nov 2015	-		0.300	-	1.664	-
Developmental Test & Evaluation	WR	VARIOUS : (IWS 1A)	0.902	-		1.330	Feb 2015	4.800	Nov 2015	-		4.800	-	7.032	-
Developmental Test & Evaluation	WR	NSWC : Carderock	0.000	2.000	Mar 2014	-		0.200	Nov 2015	-		0.200	-	2.200	-
Developmental Test & Evaluation	WR	NAWC : China Lake	0.000	-		-		1.130	Nov 2015	-		1.130	-	1.130	-
Developmental Test & Evaluation	WR	ONR : Arlington, Va	0.000	-		0.536	Feb 2015	2.000	Nov 2015	-		2.000	-	2.536	-
Developmental Test & Evaluation	WR	DOI : Washington D.C.	0.000	-		-		0.864	Nov 2015	-		0.864	-	0.864	-
		Subtotal	97.606	12.404		9.099		33.204		-		33.204	-	152.313	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Services	C/CPAF	VARIOUS : Various	25.051	1.730	Mar 2014	1.500	Feb 2015	3.851	Nov 2015	-		3.851	-	32.132	-
Travel	Various	IWS3 : Arlington, VA	1.132	0.050	Mar 2014	0.100	Feb 2015	0.051	Nov 2015	-		0.051	-	1.333	-
DAWDF	C/FP	Not Specified : Not Specified	1.130	-		-		-		-		-	-	1.130	-
		Subtotal	27.313	1.780		1.600		3.902		-		3.902	-	34.595	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604366N / *Standard Missile Improvements*	Project (Number/Name) 3092 / *Standard Missile 6 Program*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,033.822	35.157		24.884		110.023		-		110.023	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 3092 / *Standard Missile 6 Program*

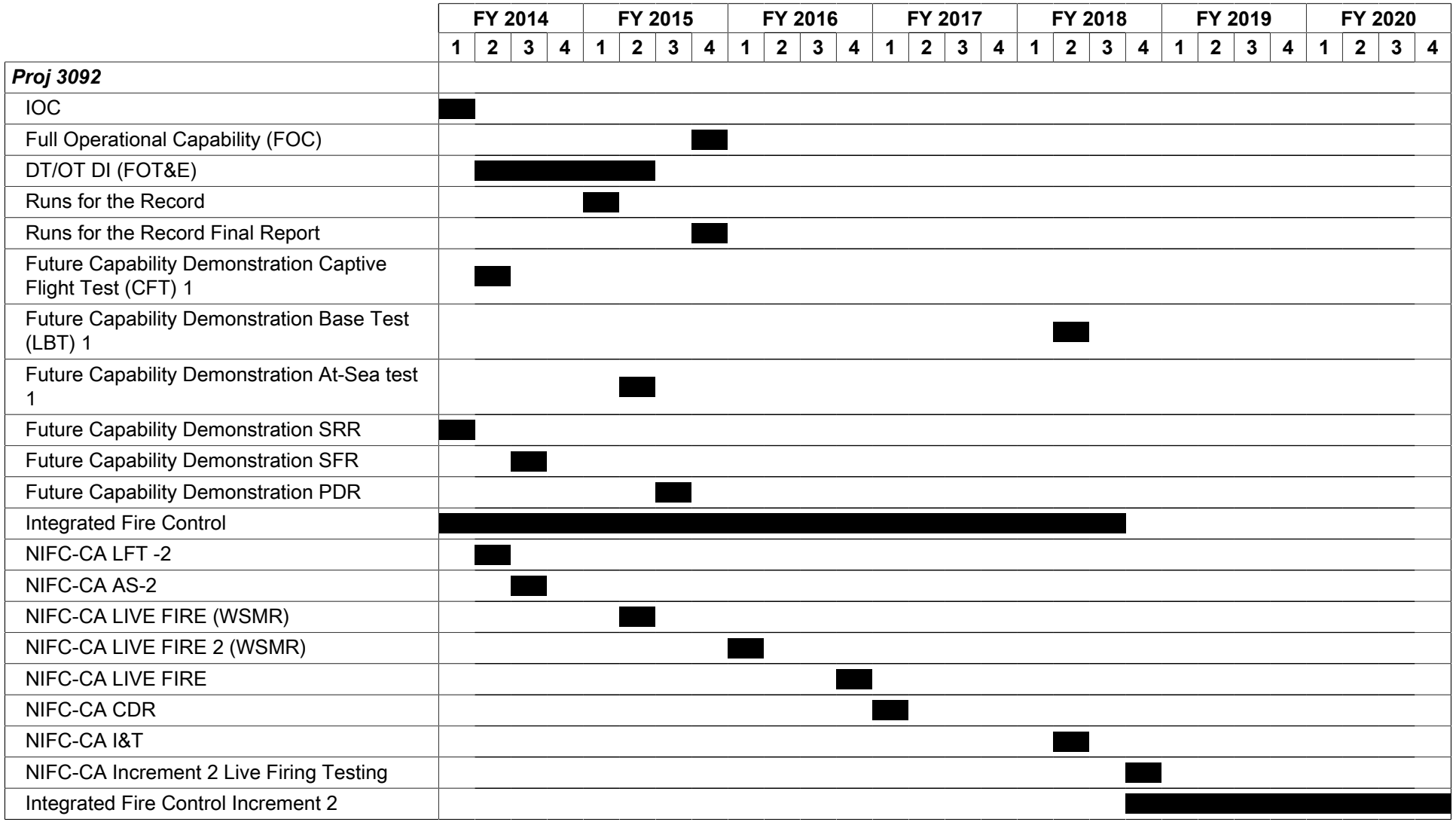


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 3092 / *Standard Missile 6 Program*

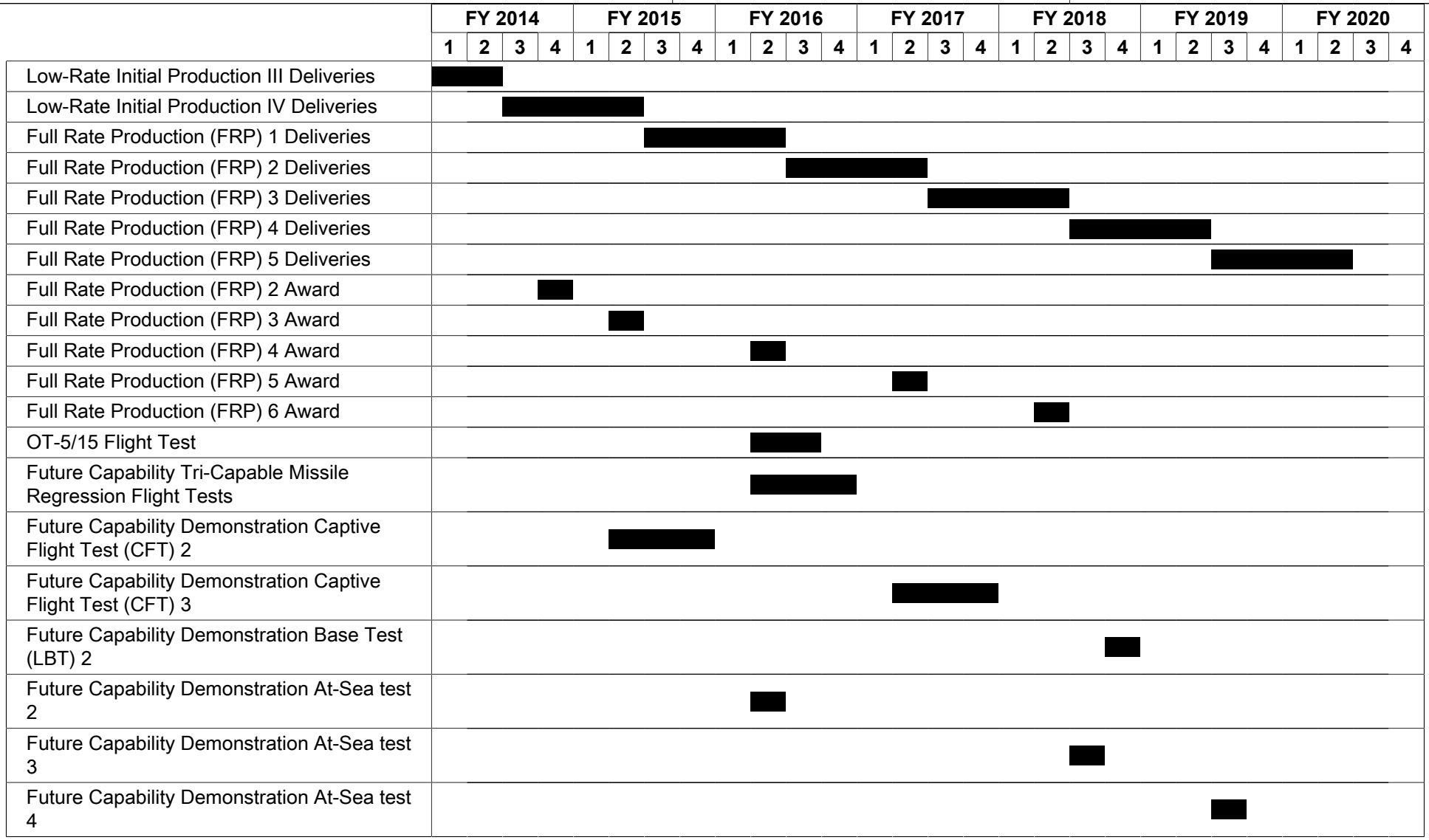


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 3092 / *Standard Missile 6 Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3092				
IOC	1	2014	1	2014
Full Operational Capability (FOC)	4	2015	4	2015
DT/OT DI (FOT&E)	2	2014	2	2015
Runs for the Record	1	2015	1	2015
Runs for the Record Final Report	4	2015	4	2015
Future Capability Demonstration Captive Flight Test (CFT) 1	2	2014	2	2014
Future Capability Demonstration Base Test (LBT) 1	2	2018	2	2018
Future Capability Demonstration At-Sea test 1	2	2015	2	2015
Future Capability Demonstration SRR	1	2014	1	2014
Future Capability Demonstration SFR	3	2014	3	2014
Future Capability Demonstration PDR	3	2015	3	2015
Integrated Fire Control	1	2014	3	2018
NIFC-CA LFT -2	2	2014	2	2014
NIFC-CA AS-2	3	2014	3	2014
NIFC-CA LIVE FIRE (WSMR)	2	2015	2	2015
NIFC-CA LIVE FIRE 2 (WSMR)	1	2016	1	2016
NIFC-CA LIVE FIRE	4	2016	4	2016
NIFC-CA CDR	1	2017	1	2017
NIFC-CA I&T	2	2018	2	2018
NIFC-CA Increment 2 Live Firing Testing	4	2018	4	2018
Integrated Fire Control Increment 2	4	2018	4	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604366N / *Standard Missile Improvements*	**Project (Number/Name)** 3092 / *Standard Missile 6 Program*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Low-Rate Initial Production III Deliveries	1	2014	2	2014
Low-Rate Initial Production IV Deliveries	3	2014	2	2015
Full Rate Production (FRP) 1 Deliveries	3	2015	2	2016
Full Rate Production (FRP) 2 Deliveries	3	2016	2	2017
Full Rate Production (FRP) 3 Deliveries	3	2017	2	2018
Full Rate Production (FRP) 4 Deliveries	3	2018	2	2019
Full Rate Production (FRP) 5 Deliveries	3	2019	2	2020
Full Rate Production (FRP) 2 Award	4	2014	4	2014
Full Rate Production (FRP) 3 Award	2	2015	2	2015
Full Rate Production (FRP) 4 Award	2	2016	2	2016
Full Rate Production (FRP) 5 Award	2	2017	2	2017
Full Rate Production (FRP) 6 Award	2	2018	2	2018
OT-5/15 Flight Test	2	2016	3	2016
Future Capability Tri-Capable Missile Regression Flight Tests	2	2016	4	2016
Future Capability Demonstration Captive Flight Test (CFT) 2	2	2015	4	2015
Future Capability Demonstration Captive Flight Test (CFT) 3	2	2017	4	2017
Future Capability Demonstration Base Test (LBT) 2	4	2018	4	2018
Future Capability Demonstration At-Sea test 2	2	2016	2	2016
Future Capability Demonstration At-Sea test 3	3	2018	3	2018
Future Capability Demonstration At-Sea test 4	3	2019	3	2019

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604373N *I Airborne Mine Countermeasures (AMCM)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	564.550	109.486	38.941	11.647	-	11.647	29.476	21.084	16.523	16.876	Continuing	Continuing
0529: *ABN Mine Hunt System*	270.881	40.862	13.319	-	-	-	-	-	-	-	-	325.062
2047: *ALMDS*	154.949	34.918	10.140	4.084	-	4.084	9.063	5.176	6.040	6.166	Continuing	Continuing
2473: *Airborne Mine Neutralization System*	114.838	27.764	7.507	5.921	-	5.921	6.621	3.160	-	-	-	165.811
4026: *Strat Into Medal, Tactics & Trng Organic Force*	19.823	5.062	7.094	1.642	-	1.642	12.345	11.462	9.535	9.742	Continuing	Continuing
9179: *Surf Navy Integ Undersea Tactical Tech*	4.059	0.880	0.881	-	-	-	1.447	1.286	0.948	0.968	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides resources to develop advanced mine countermeasures equipment systems to counter known and projected mine threats. The mine countermeasures systems provide mobile, quick reaction forces capable of land or sea-based minehunting and minesweeping operations worldwide. Resources are for developing and deploying advanced mine-hunting and minesweeping systems and the intelligence and oceanographic capabilities that will enable mine warfare superiority. Tactics and techniques used vary across a diversity of environments and threats, including both asymmetric and emerging. Resources provide for systems and support of mine warfare systems, maritime systems, and expeditionary systems to allow for continuous operations of the Navy's warships and support vessels, other military vessels, and commercial vessels. Core capabilities include forward presence, deterrence, sea control, power projection, maritime security, humanitarian assistance and disaster response to maintain freedom of the seas. Capability improvements include conducting minefield reconnaissance (mine density and location) at high area search rates, improving detection capability, decreasing sensor false alarm rates, reducing or eliminating post-mission analysis detect, classify, identify, decide time, improving neutralization time, improving network communications, automatic target recognition, and achieving in-stride detect-to-engage capability. Concept of operations includes development of cooperative, unmanned, modular systems; the establishment of capable networked command and control systems; and standing up an accurate and interactive environmental system with the ability to form and disseminate a Common Environmental Picture. Other areas of importance include search and rescue; surface fire support; ASW operations; protection/offense against small craft/vehicles; air to air operations; very shallow water MCM; swimmer defense and torpedo defense. Efforts benefit the MCM force by transforming the Navy from the platform-centered legacy set of systems to a capability-centered force that is distributed, networked, and able to provide unique maritime influence and access across the entire maritime domain.

The Airborne Mine Countermeasures (AMCM) programs will provide detection, classification, localization, identification, neutralization, and influence clearance capabilities. The "Next Generation" AMCM systems will provide capabilities to the Littoral Combat Ship (LCS) Mine Countermeasure Mission (MCM) Package. This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA).

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604373N *I Airborne Mine Countermeasures (AMCM)*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	109.354	38.941	68.797	-	68.797
Current President's Budget	109.486	38.941	11.647	-	11.647
Total Adjustments	0.132	-	-57.150	-	-57.150
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.721	-			
• SBIR/STTR Transfer	-3.590	-			
• Program Adjustments	-	-	-29.600	-	-29.600
• Rate/Misc Adjustments	0.001	-	-27.550	-	-27.550

Change Summary Explanation

The FY 2016 funding request was reduced by $11.8 million to account for the availability of prior year execution balances.

Program Adjustments:
FY14 $132K in Total Adjustments: Reprogramming +$6,600K ALMDS early deployment(from CMS), -$2,879K Realigned to RMS, SBIR -$3,590K, and -$1K Misc Adjustments.
FY16 -$45,187 in Total Adjustments: Reprogramming -29,600K AMNS Near Surface and ALMDS adjustments, -$9,571K AN/AQS-20 realignment to PE 0603502N, -$6,000K execution and -$16K- misc adjustments.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604373N / *Airborne Mine Countermeasures (AMCM)*				Project (Number/Name) 0529 / *ABN Mine Hunt System*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
0529: *ABN Mine Hunt System*	270.881	40.862	13.319	-	-	-	-	-	-	-	-	325.062
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project contains resources for systems, subsystems, and sensors integrated for use with multiple platforms for mine detection, classification, localization, identification, neutralization, and influence clearance capabilities. Research, development, test, and evaluation efforts are for increasing capability by decreasing time required to conduct Mine Countermeasures (MCM) operations, ensuring low risk to naval and commercial vessels, and removing the man from the minefield. Increased capability includes conducting minefield reconnaissance (mine density and location) at high area search rates, improving detection capability, decreasing sensor false alarm rates, and reducing post-mission analysis for detection, classification, identification, and neutralization.

The AN/AQS-20A is a mine hunting and identification system with acoustic and optic sensors housed in an underwater towed body. The acoustic sensors are designed for the detection, classification and localization of bottom, close-tethered, and volume targets in a single pass. The Electro-Optic Identification Device (EOID) replaces the Volume Search Sonar (VSS) for identification of bottom targets. The system will be deployed from the Littoral Combat Ship (LCS) as part of the MCM Mission Package (MP). The AN/WLD-1(V)2 Remote Minehunting System (RMS) Remote Multi-Mission Vehicle (RMMV) tows the AN/AQS-20A.

The AN/AQS-20A Block 1 is undergoing a Pre-Planned Product Improvement (P3I) program to upgrade the Forward Looking Sonar (FLS) and Side-Looking Sonars (SLS) to improve Probability of Classifying a Mine-like object as a Mine, False Classification, and Depth Localization performance to meet Block 2 performance. The Forward Looking Sonar
will be replaced with a new High Frequency Wideband design. The SLS will be replaced with a new Multi-function SLS with Synthetic Aperture Sonar (SAS) capability, as well as, improved signal processing and Signal to Noise Ratio. The Block 1 P3I program began in FY12 and will complete in FY15. All Block 1 units will be upgraded to meet Block 2
capability. Award and management of the competitive contract for Low Rate Initial Production (LRIP)/Full Rate Production (FRP) Block 2 units began in FY14 and continues through FY18. Materiel Reliability, obsolesence, and performance Engineering Change Proposal (ECP) efforts continue beyond FY20.

The AN/AQS-20A will support LCS Mine Countermeasures Mission Package (MCM MP) Developmental Testing (DT) and Initial Operational Test and Evaluation (IOT&E) in FY15. Materiel Reliability and obsolescence Engineering Change Proposals (ECPs) efforts continue through FY15 supporting AN/AQS-20A and LCS MCM MP FY15 Developmental Testing (DT) and Initial Operational Test and Evaluation (IOT&E) and beyond.

The AN/AQS-24 Mine Hunting and Identification system is comprised of acoustic sensors housed in an underwater towed body. The AN/AQS-24 Volume Search upgrade will be developed, tested, and integrated for use with multiple platforms including the MH-53E Helicopter. This capability is in support of an Urgent Operational Need (UON) and will improve the rapid detection and locaization of volume sea mines. RDT&E funding is completed - FY14

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 0529 / *ABN Mine Hunt System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: AN/AQS-20A Product Development:	16.208	6.799	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Completed fabrication and subsystem testing of two FLS. - Initiated Materiel Reliability improvement Engineering Change Proposals (ECPs) on Electro-Optics Identification (EOID), as well as, power amplifiers for Volume Search Sonar (VSS) and FLS. - Completed fabrication and subsystem testing of improved SLS. - Integrated improved sensors into Engineering Development Models (EDMs). - Initiated and completed RMMV version 6.0 integration with Block 2 EDMs. - Delivered Block 2 EDMs for Developmental Testing. - Procured spares to support DT and IOT&E.					
FY 2015 Plans: - Continue Materiel Reliability Improvement ECPs and incorporate into systems for IOT&E. - Upgrade Block 1 maintenance trainers to Block 2 configuration. - Complete Block 1 P3I Technical Data Package (TDP) - Initiate SAS Acoustic Identification development.					
FY 2016 Base Plans: -Realigned to Program Element 0603502N.					
FY 2016 OCO Plans: N/A					
Title: AN/AQS-20A Support:	2.078	2.100	-	-	-
Articles:	-	-	-	-	-
Description: RDT&E Articles Quantity ***FY 2014 Accomplishments:*** - Initiated updates to Block 2 logistics products. - Provided ongoing technical engineering support to Block 1 and Block 2. - Conducted repairs to Block 2 EDMs following DT activities.					
FY 2015 Plans: - Provide ongoing technical engineering support to AN/AQS-20A.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 0529 / *ABN Mine Hunt System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Complete updates to Block 2 logistics products based on the results of DT. - Conduct repairs to AN/AQS-20A following TECHEVAL activities. ***FY 2016 Base Plans:*** -Realigned to Program Element 0603502N. ***FY 2016 OCO Plans:*** N/A					
Title: AN/AQS-20A Test and Evaluation	3.606	3.100	-	-	-
Articles:	-	-	-	-	-
Description: RDT&E Articles Quantity ***FY 2014 Accomplishments:*** - AN/AQS-20A Block 1 successfully supported 385 Total System Operating Hours over 18 missions during the RMMV RGP v4.2 Developmental Test (DT-IIG). - Updated RMS Test and Evaluation Master Plan (TEMP) with AN/AQS-20A Block 2 requirements. - Participated in LCS MCM Mission Module DT events. - Conducted integration and validation testing of the 3 Block 2 EDMs from Research Vessel Athena and the RMMV. - Participated in RMS (RMMV v6.0 and AN/AQS-20A) Contractor and Developmental Testing. ***FY 2015 Plans:*** - Participate in RMS (RMMV v6.0 and AN/AQS-20A) Developmental and Integrated Testing. - Conduct Technical Evaluation (TECHEVAL) and IOT&E of AN/AQS-20A. - Support LCS MCM MP TECHEVAL and IOT&E. ***FY 2016 Base Plans:*** -Realigned to Program Element 0603502N. ***FY 2016 OCO Plans:*** N/A					
Title: AN/AQS-20A Management Services	1.288	1.320	-	-	-
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 0529 / *ABN Mine Hunt System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: RDT&E Articles Quantity ***FY 2014 Accomplishments:*** - Updated Acquisition Program Baseline (APB). - Continued to provide planning and management for the AN/AQS-20A program. - Awarded and managed the competitive contract for Low Rate Initial Production (LRIP) /Full Rate Production (FRP) Block 2 units. - Provided Program Office travel support. ***FY 2015 Plans:*** - Continue to provide planning and management for the AN/AQS-20A program to include the competitive contract. - Update acquisition documentation such as the Acquisition Strategy and Plan in support of procuring Block 1 P3I kits and follow-on maintenance, and support. - Provide Program Office travel support. ***FY 2016 Base Plans:*** -Realigned to Program Element 0603502N. ***FY 2016 OCO Plans:*** N/A					
Title: AN AQS-24 Product Development	10.791	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Upgraded the fielded AN/AQS-24 systems by integrating a volume search capability (AN/AQS-24C). ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: AN AQS-24 Test and Evaluation	5.090	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 0529 / *ABN Mine Hunt System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Tested the AN/AQS-24C system volume search capability on the MH-53E Helicopter. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: AN AQS-24 Program Management	0.250	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided management support and contract oversight for the development of the AN/AQS-24C Volume Search Capability ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: AN AQS-24 Support	1.551	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided Engineering and Logistical support for the initial fielding of the AN/AQS-24C Volume Search Capability ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 0529 / *ABN Mine Hunt System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	40.862	13.319	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN 4248: *Airborne Mine Countermeasure (AN/AQS-20A/24)*	42.500	19.524	1.771	-	1.771	18.819	7.343	-	-	Continuing	Continuing
• OPN 1601: *LCS MCM Mission Modules (AN/AQS-20A)*	16.196	8.244	85.742	-	85.742	53.191	46.551	49.993	-	Continuing	Continuing
• RDT&E 0603502N: *Surface & Shallow Water MCM*	-	-	9.571	-	9.571	9.888	4.140	4.285	4.371	Continuing	Continuing

Remarks

D. Acquisition Strategy

AN/AQS-20A LRIP procurement continues following Block 2 competitive contract award in FY14. FRPDR will occur in second quarter FY16. Procure P3I kits to upgrade all Block 1 units to meet Block 2 capability.

AN/AQS-24C contract award will occur 3Q FY14 and integrate and test volume search upgrade kits.

E. Performance Metrics

AN/AQS-20A Block 2 competitive award in FY14.
AN/AQS-20A - Successfully support LCS MCM MP IOT&E in FY15.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 0529 / *ABN Mine Hunt System*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/AQS-20A Hardware/ Software Development Q-20 on the H-53	SS/CPIF	Raytheon : Portsmouth, RI	31.120	-		-		-		-		-	-	31.120	-
AN/AQS-20A Hardware/ Software Development Q-20A on the H-60	C/CPFF	Raytheon : Portsmouth, RI	60.150	-		-		-		-		-	-	60.150	-
AN/AQS-20A Hardware/ Software Development	WR	NSWC, PC : Panama City FL	14.578	-		-		-		-		-	-	14.578	-
AN/AQS-20A Hardware/ Software Development	C/FP	Northrop Grumman : Melbourne, FL	4.572	-		-		-		-		-	-	4.572	-
AN/AQS-20A P3I	C/CPFF	Raytheon : Portsmouth, RI	16.441	10.263	Oct 2013	4.673	Nov 2014	-		-		-	-	31.377	-
AN/AQS-20A P3I	C/CPFF	ARL/UT : Austin, TX	7.767	2.658	Oct 2013	0.450	Dec 2014	-		-		-	-	10.875	-
AN/AQS-20A P3I	WR	NSWC, PC : Panama City FL	3.732	1.085	Oct 2013	0.476	Nov 2014	-		-		-	-	5.293	-
AN/AQS-24 Hardware/ Software Development	C/CPIF	Northrop Grumman : Annapolis, MD	0.000	6.072	Nov 2013	-		-		-		-	-	6.072	-
AN/AQS-24 Hardware/ Software Development	C/CPFF	ARL/UT : Austin, TX	0.000	4.191	Nov 2013	-		-		-		-	-	4.191	-
AN/AQS-24 Hardware/ Software Development	WR	NSWC, PC : Panama City, FL	0.000	0.528	Nov 2013	-		-		-		-	-	0.528	-
AN/AQS-20A Materiel Reliability ECP Development	C/CPFF	Raytheon : Portsmouth, RI	0.000	2.075	Oct 2013	1.000	Nov 2014	-		-		-	-	3.075	-
AN/AQS-20A P3I	WR	Naval Research Lab : Stennis Space Center, MS	0.225	0.127	Oct 2013	0.200	Nov 2014	-		-		-	-	0.552	-
		Subtotal	138.585	26.999		6.799		-		-		-	-	172.383	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	Project (Number/Name) 0529 / *ABN Mine Hunt System*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/AQS-20A Engineering Services	WR	NSWC, PC : Panama City, FL	31.570	1.600	Oct 2013	2.100	Nov 2014	-		-		-	-	35.270	-
AN/AQS-20A Engineering Services	C/CPFF	Raytheon : Portsmouth, RI	3.686	-		-		-		-		-	-	3.686	-
AN/AQS-20A Engineering Services	Various	Various : Various	54.018	-		-		-		-		-	-	54.018	-
AN/AQS-20A Engineering Services 2	SS/CPIF	Raytheon : Portsmouth, RI	3.464	-		-		-		-		-	-	3.464	-
AN/AQS-20A ILS Function	WR	NSWC, PC : Panama City FL	6.368	0.478	Oct 2013	-		-		-		-	-	6.846	-
AN/AQS-20A ILS Function	SS/CPIF	Raytheon : Portsmouth, RI	1.546	-		-		-		-		-	-	1.546	-
AN/AQS-20A ILS Function	Various	Various : Various	0.981	-		-		-		-		-	-	0.981	-
AN/AQS-20A Engineering Services	WR	NSWC/CD : Carderock, MD	0.500	-		-		-		-		-	-	0.500	-
AN/AQS-24 Engineering Services/ILS Functions	C/CPIF	Northrop Grumman : Annapolis, MD	0.000	0.250	Nov 2013	-		-		-		-	-	0.250	-
AN/AQS-24 Engineering Services/ILS Functions	C/CPFF	ARL/UT : Austin, TX	0.000	0.741	Nov 2013	-		-		-		-	-	0.741	-
AN/AQS-24 Engineering Services/ILS Functions	WR	NSWC, PC : Panama City, FL	0.000	0.560	Nov 2013	-		-		-		-	-	0.560	-
		Subtotal	102.133	3.629		2.100		-		-		-	-	107.862	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/AQS-20A T&E Functions	WR	COTF : Norfolk, VA	0.000	0.200	Oct 2013	0.300	Dec 2014	-		-		-	-	0.500	-
AN/AQS-20A T&E Functions	WR	NSWC, PC : Panama City FL	18.115	3.106	Oct 2013	2.600	Nov 2014	-		-		-	-	23.821	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 0529 / *ABN Mine Hunt System*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/AQS-20A T&E Functions	C/CPFF	Raytheon : Portsmouth, RI	4.134	0.300	Oct 2013	0.100	Nov 2014	-		-		-	-	4.534	-
AN/AQS-20A T&E Functions	Various	Various : Various	1.583	-		-		-		-		-	-	1.583	-
AN/AQS-24 T&E Functions	WR	NSWC, PC : Panama City, FL	0.000	1.700	Nov 2013	-		-		-		-	-	1.700	-
AN/AQS-24 T&E Functions	WR	NAVAIR : Pax River, MD	0.000	0.290	Nov 2013	-		-		-		-	-	0.290	-
AN/AQS-24 T&E Functions	WR	COTF : Norfolk, VA	0.000	1.600	Nov 2013	-		-		-		-	-	1.600	-
AN/AQS-24 T&E Functions	C/CPIF	Northrop Grumman : Annapolis, MD	0.000	1.000	Nov 2013	-		-		-		-	-	1.000	-
AN/AQS-24 T&E Functions	C/CPFF	ARL/UT : Austin, TX	0.000	0.500	Nov 2013	-		-		-		-	-	0.500	-
AN/AQS-20A T&E Functions	C/CPFF	ARL/UT : Austin, TX	0.000	-		0.100	Dec 2014	-		-		-	-	0.100	-
		Subtotal	23.832	8.696		3.100		-		-		-	-	35.628	-

Remarks

COFT - Naval Command Operational Test and Evaluation Force

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/AQS-20A Management Services	TBD	Various : Various	5.732	1.248	Oct 2013	1.280	Dec 2014	-		-		-	-	8.260	-
AN/AQS-20A Travel	TBD	Various : Various	0.587	0.040	Nov 2013	0.040	Jan 2015	-		-		-	-	0.667	-
AN/AQS-20A Acquisition Workforce Fund	Various	Various : Various	0.012	-		-		-		-		-	-	0.012	-
AN/AQS-24 Program Management	WR	NSWC, PC : Panama City, FL	0.000	0.250	Nov 2013	-		-		-		-	-	0.250	-
Need Item Text	C/BA	Not Specified : Not Specified	0.000	-		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 0529 / *ABN Mine Hunt System*

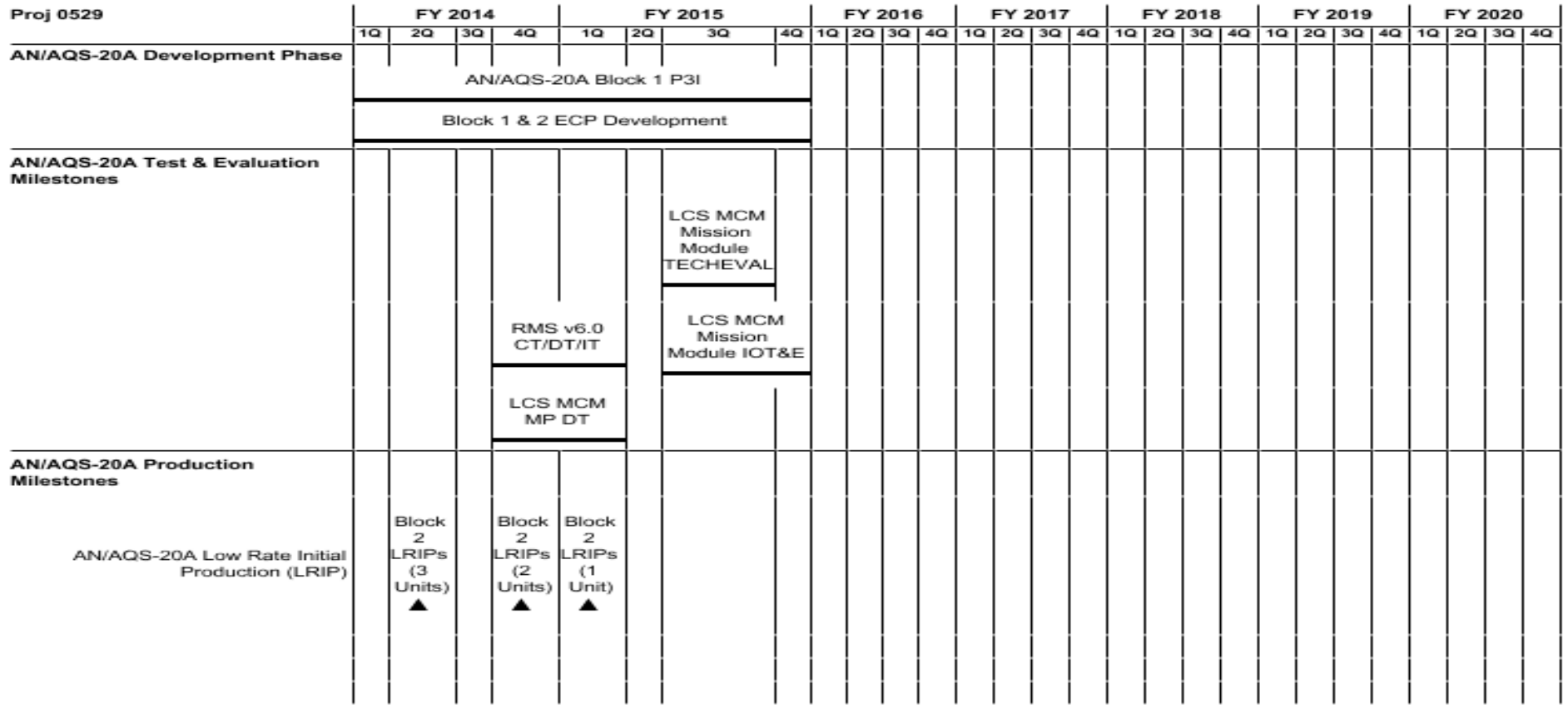
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	6.331	1.538		1.320		-		-		-	-	9.189	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	270.881	40.862		13.319		-		-		-	-	325.062	-

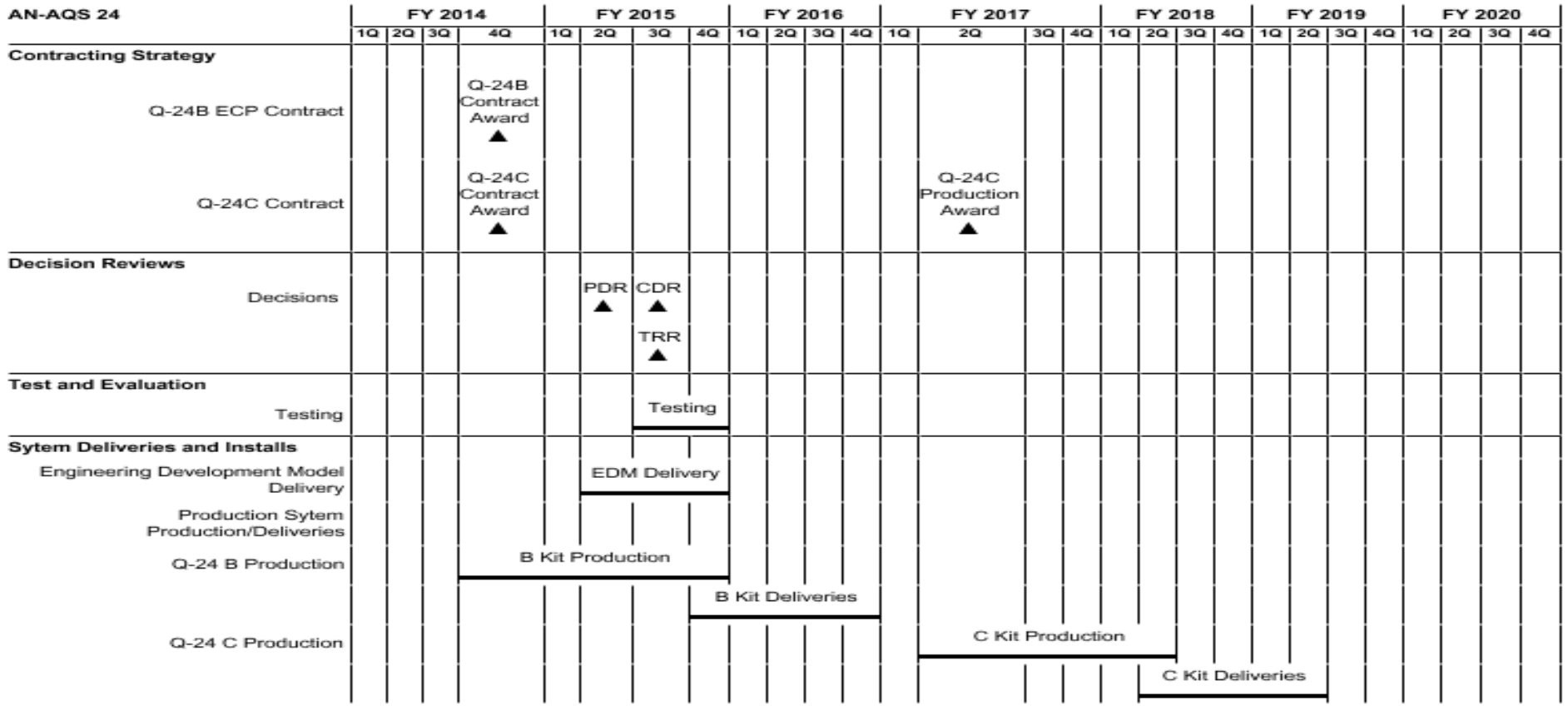
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 0529 / *ABN Mine Hunt System*



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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 0529 / *ABN Mine Hunt System*



2016PB - 0604373N - 0529

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 0529 / *ABN Mine Hunt System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0529				
AN/AQS-20A Development Phase: AN/AQS-20A Block 1 P3I	1	2014	4	2015
AN/AQS-20A Development Phase: AN/AQS-20A Materiel Reliability, Obsolesence, and Performance ECP Development (Block 1 & 2)	1	2014	4	2015
AN/AQS-20A Test & Evaluation Milestones: AN/AQS-20A Littoral Combat Ship Based LCS MCM Mission Module TECHEVAL	3	2015	3	2015
AN/AQS-20A Test & Evaluation Milestones: AN/AQS-20A Littoral Combat Ship Based LCS MCM Mission Module IOT&E	3	2015	4	2015
AN/AQS-20A Test & Evaluation Milestones: RMS version 6.0 Contractor Testing (CT)/ Developmental Test (DT)/Integrated Test (IT)	4	2014	1	2015
AN/AQS-20A Test & Evaluation Milestones: Littoral Combat Ship Mine Countermeasure Mission Package Developmental Testing	4	2014	1	2015
AN/AQS-20A Production Milestones: AN/AQS-20A Low Rate Initial Production (LRIP): AN/AQS-20A Block 2 Low Rate Initial Production (LRIP) Basic Award (3 Units)	2	2014	2	2014
AN/AQS-20A Production Milestones: AN/AQS-20A Low Rate Initial Production (LRIP): AN/AQS-20A Block 2 Low Rate Initial Production (LRIP) Basic Award (2 Units)	4	2014	4	2014
AN/AQS-20A Production Milestones: AN/AQS-20A Low Rate Initial Production (LRIP): AN/AQS-20A Block 2 Low Rate Initial Production (LRIP) Option 1 Award (1 Unit)	1	2015	1	2015
AN-AQS 24				
Contracting Strategy: Q-24B ECP Contract: Q-24B Contract Award	4	2014	4	2014
Contracting Strategy: Q-24C Contract: Q-24C Contract Award	4	2014	4	2014
Contracting Strategy: Q-24C Contract: Production Award	2	2017	2	2017
Decision Reviews: Decisions: Preliminary Design Review	2	2015	2	2015
Decision Reviews: Decisions: Critical Design Review	3	2015	3	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 0529 / *ABN Mine Hunt System*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Decision Reviews: Decisions: Test Readiness Review	3	2015	3	2015
Test and Evaluation: Testing: Testing	3	2015	4	2015
Sytem Deliveries and Installs: Engineering Development Model Delivery: Engineering Development Model Delivery	2	2015	4	2015
Sytem Deliveries and Installs: Q-24 B Production: B Kit Production	4	2014	4	2015
Sytem Deliveries and Installs: Q-24 B Production: B Kit Deliveries & Integration	4	2015	4	2016
Sytem Deliveries and Installs: Q-24 C Production: C Kit Production	2	2017	2	2018
Sytem Deliveries and Installs: Q-24 C Production: C Kit Deliveries & Integration	2	2018	2	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	Project (Number/Name) 2047 / *ALMDS*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2047: *ALMDS*	154.949	34.918	10.140	4.084	-	4.084	9.063	5.176	6.040	6.166	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Airborne Laser Mine Detection System (ALMDS), designation AN/AES-1, is a light detection and ranging (LIDAR) Airborne Mine Countermeasures (AMCM) high area coverage system that detects, classifies, and localizes near-surface moored sea mines. The system is deployed from the MH-60S helicopter and will provide Organic Airborne Mine Countermeasures (OAMCM) defense to the battle force. The system represents a capability that does not exist in the current Mine Countermeasures (MCM) inventory.

ALMDS Pre-planned Product Improvement (P3I) began in 2013.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Hardware and Software technology development and demonstration/Engineering Services:	22.989	6.582	1.615	-	1.615
Articles:	-	-	-	-	-
Description: Engineering, oversight, and support of engineering efforts to meet baseline performance and P3I performance. ***FY 2014 Accomplishments:*** Provided OA phase B, DT Phase 4 period 2 support. Continued P3I development and implementation (False Alarm Algorithms, false classification density, dual slope, laser tail, laser pulse width and VSW). Continued engineering services, pod repair, and maintenance. Supported ALMDS early deployment efforts. ***FY 2015 Plans:*** Provide LCS Independence MCM IOT&E support. Continue to provide engineering services, pod repair, and maintenance. Continue P3I development (False Alarm Algorithms, false classification density, dual slope, laser tail, laser pulse width and VSW). ***FY 2016 Base Plans:*** Continue to provide engineering services, pod repair, and maintenance. Conduct FOT&E on LCS MCM variant. ***FY 2016 OCO Plans:*** N/A					
Title: Integrated Logistics Support:	0.940	0.834	0.595	-	0.595

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 2047 / *ALMDS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided Logistics support to LRIP units, OA phase B, DT phase 4 period 2, IOC and FR PDR preparation efforts and early deployment. ***FY 2015 Plans:*** Provide logistics support, depot analysis to LRIP units, LCS MCM MP IOT&E support, IOC and FR PDR preparation. ***FY 2016 Base Plans:*** Provide logistics support, depot analysis to LRIP units, IOC and FR PDR support. ***FY 2016 OCO Plans:*** N/A					
Title: Testing and Evaluation:	8.486	1.745	1.102	-	1.102
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Supported OA phase B, DT phase 4 period 2, environmental qualification test (EQT), early depolyment and P3I data collection flight test. ***FY 2015 Plans:*** Complete EQT, OA phase B, DT phase 4 period 2, and support Mine Countermeasures (MCM) Mission Package (MP) IOT&E. ***FY 2016 Base Plans:*** Complete LCS IOT&E/AMNS OT reports and ALMDS upgrade testing. Conduct FOT&E of LCS Mine Countermeasures (MCM) Mission Package (MP). ***FY 2016 OCO Plans:*** N/A					
Title: Project Management:	2.503	0.979	0.772	-	0.772
Articles:	-	-	-	-	-
Description: Completion of OA					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 2047 / *ALMDS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Program management, financial management and contractor support. ***FY 2015 Plans:*** Program management, financial management and contractor support. ***FY 2016 Base Plans:*** Program management, financial management and contractor support. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	34.918	10.140	4.084	-	4.084

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN 4248: *Airborne MCM*	10.237	-	2.300	-	2.300	2.300	2.300	-	-	-	113.319
• OPN 1601: *LCS MCM Mission Modules*	7.951	16.173	16.448	-	16.448	16.728	17.062	-	-	105.764	180.126

Remarks

D. Acquisition Strategy

The program entered Production and Development Acquisition Phase following MS C in May 2005. August 2007 program authorized to meet full performance in two increments. The first LRIP lot was awarded as a new sole-source contract to the SD&D contractor in FY05. FRP will be based on Increment 1 performance. In FY14 a new competitive awarded FFP production contract is planned. This is a Fixed-Price Incentive (FPI) contract with cost and schedule incentives.

E. Performance Metrics

Conducted Operational Assessment (OA) Phase A in FY12. Conducted OA Phase B, Environmental Qualification Test (EQT), and Equipment Qualifications Test in FY14 . On track to support OA Phase B and DT phase 4 period 2 in FY14, and LCS MCM MP IOT&E in FY15.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 2047 / *ALMDS*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware/Software Development	WR	NSWC PC : Panama City FL	1.958	0.942	Nov 2013	0.502	Nov 2014	0.123	Nov 2015	-		0.123	-	3.525	-
Hardware/Software Development	C/CPAF	Northrop Grumman : Melbourne, FL	30.976	10.047	Nov 2013	0.200	Nov 2014	-	Nov 2015	-		-	-	41.223	-
Hardware/Software Development	WR	NUWC NPT : VA	1.083	0.378	Nov 2013	0.453	Nov 2014	0.150	Nov 2015	-		0.150	-	2.064	-
Hardware/Software Development	WR	NSWC IH : MD	0.200	0.585	Nov 2013	0.374	Nov 2014	-		-		-	-	1.159	-
Engineering Services1	WR	NSWC PC : Panama City FL	15.511	2.626	Nov 2013	2.287	Nov 2014	0.777	Nov 2015	-		0.777	Continuing	Continuing	Continuing
Engineering Services2	C/CPAF	Northrop Grumman : Melbourne, Fl	21.152	4.576	Nov 2013	0.200	Nov 2014	0.250	Nov 2015	-		0.250	-	26.178	-
Engineering Services3	WR	NUWC NPT : VA	19.337	0.785	Nov 2013	0.961	Nov 2014	0.550	Nov 2015	-		0.550	Continuing	Continuing	Continuing
Engineering Services4	MIPR	Various : Various	3.922	1.500	Nov 2013	0.944	Nov 2014	0.490	Nov 2015	-		0.490	Continuing	Continuing	Continuing
Engineering Services5	MIPR	various : Various	1.024	1.550	Nov 2013	0.661	Nov 2014	0.377	Nov 2015	-		0.377	-	3.612	-
		Subtotal	95.163	22.989		6.582		2.717		-		2.717	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ILS Functions1	WR	NSWC PC : Panama City FL	4.620	0.145	Nov 2013	0.634	Nov 2014	0.395	Nov 2015	-		0.395	Continuing	Continuing	Continuing
ILS Functions2	WR	Northrop Grumman : Melbourne FL	7.091	0.795	Nov 2013	0.200	Nov 2014	0.200	Nov 2015	-		0.200	Continuing	Continuing	Continuing
ILS Functions3	C/CPAF	Various/NRL Stennis : Various	1.062	-		-		-		-		-	-	1.062	-
ILS Functions4	WR	NSWC PC : Panama City FL	0.300	-		-		-		-		-	-	0.300	-
		Subtotal	13.073	0.940		0.834		0.595		-		0.595	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 2047 / *ALMDS*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing and Evaluation1	C/CPAF	Northrp Grumman : Melbourne FL	15.771	1.683	Nov 2013	0.150	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Testing and Evaluation2	WR	NSWC PC : Panama City FL	18.152	5.613	Nov 2013	1.595	Nov 2014	-	Nov 2015	-		-	Continuing	Continuing	Continuing
Testing and Evaluation	C/CPAF	Various : Various	1.894	1.190	Nov 2013	-		-		-		-	-	3.084	-
Testing and Evaluation	WR	NAWC AD PAX : Panama City FL	2.110	-		-		-		-		-	-	2.110	-
		Subtotal	37.927	8.486		1.745		-		-		-	-	-	-

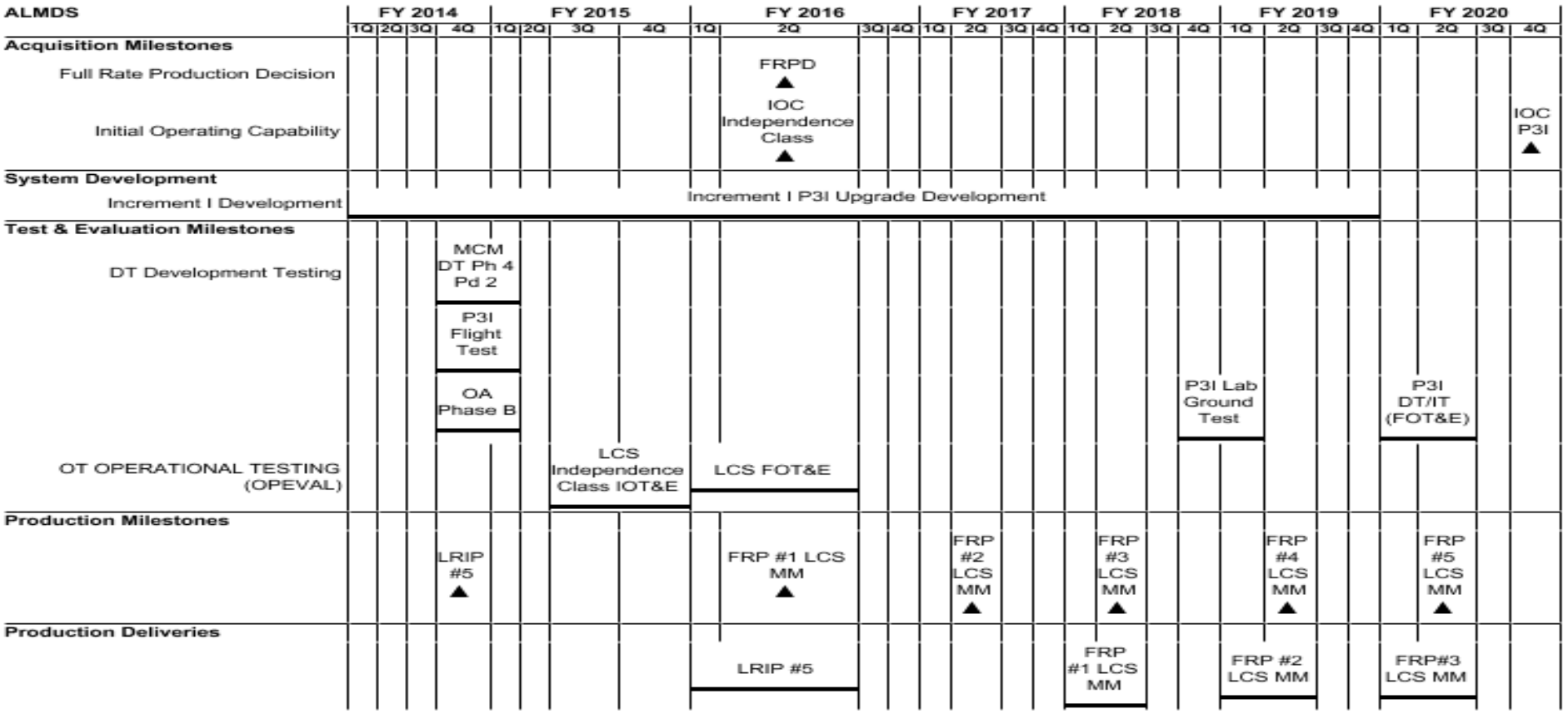
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support1	C/CPAF	NGC : Various	0.380	2.053	Nov 2013	0.100	Nov 2014	0.265	Nov 2015	-		0.265	-	2.798	-
Management Support2	WR	NSWC PC : Panama City FL	5.994	-	Nov 2013	0.879	Nov 2014	0.507	Nov 2015	-		0.507	-	7.380	-
Management Support3	WR	ARINC : Panama City FL	2.332	0.450	Nov 2013	-		-		-		-	-	2.782	-
DAWDF	Various	Various : Various	0.080	-		-		-		-		-	-	0.080	-
		Subtotal	8.786	2.503		0.979		0.772		-		0.772	-	13.040	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	154.949	34.918		10.140		4.084		-		4.084	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 2047 / *ALMDS*



2016PB - 0604373N - 2047

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 2047 / *ALMDS*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ALMDS				
Acquisition Milestones: Full Rate Production Decision: Full Rate Production Decision	2	2016	2	2016
Acquisition Milestones: Initial Operating Capability: Initial Operating Capability Independence Class	2	2016	2	2016
Acquisition Milestones: Initial Operating Capability: Initial Operating Capability P3I	4	2020	4	2020
System Development: Increment I Development: Increment I P3I Upgrade Development	1	2014	4	2019
Test & Evaluation Milestones: DT Development Testing: MCM DT PH 4 Period 2	4	2014	1	2015
Test & Evaluation Milestones: DT Development Testing: P3I Flight Test	4	2014	1	2015
Test & Evaluation Milestones: DT Development Testing: OA Phase B	4	2014	1	2015
Test & Evaluation Milestones: DT Development Testing: P3I Lab Ground Test	4	2018	1	2019
Test & Evaluation Milestones: DT Development Testing: P3I DT/IT (FOT&E)	1	2020	2	2020
Test & Evaluation Milestones: OT OPERATIONAL TESTING (OPEVAL): LCS IOT&E Independence Class	3	2015	4	2015
Test & Evaluation Milestones: OT OPERATIONAL TESTING (OPEVAL): LCS FOT&E	1	2016	2	2016
Production Milestones: LRIP 5 Units start	4	2014	4	2014
Production Milestones: Full Rate Production (FRP) Start (FRP 1)	2	2016	2	2016
Production Milestones: Full Rate Production (FRP) Start (FRP 2)	2	2017	2	2017
Production Milestones: Full Rate Production (FRP) Start (FRP 3)	2	2018	2	2018
Production Milestones: Full Rate Production (FRP) Start (FRP 4)	2	2019	2	2019
Production Milestones: Full Rate Production (FRP) Start (FRP 5)	2	2020	2	2020
Production Deliveries: LRIP 5 Units Deliveries	1	2016	2	2016
Production Deliveries: Full Rate Production Delivery Start (FRP 1)	1	2018	2	2018

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 2047 / *ALMDS*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Deliveries: Full Rate Production Delivery Start (FRP 2)	1	2019	2	2019
Production Deliveries: Full Rate Production Delivery Start (FRP 3)	1	2020	2	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	Project (Number/Name) 2473 / *Airborne Mine Neutralization System*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2473: *Airborne Mine Neutralization System*	114.838	27.764	7.507	5.921	-	5.921	6.621	3.160	-	-	-	165.811
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Airborne Mine Neutralization System (AMNS) is a mine neutralization system, deployed from the MH-60S and MH-53E helicopters using an expendable mine neutralization device.

The AMNS (Archerfish) will be deployed from the MH-60S helicopter with the capability to neutralize bottom and moored mines using an expendable mine neutralization device. These systems will be deployed from the Littoral Combat Ship and will provide organic airborne mine neutralization capability as part of Littoral Combat Ship (LCS) Mine Warfare Mission Module. This capability will be of critical importance in littoral zones, confined straits, choke points and the Amphibious Objective Area (AOA). Improved AMNS (iAMNS) provides an expendable, reacquisition, identification and neutralization capability against bottom, moored and Near Surface sea mines. iAMNS is deployed from both MH-60S multi mission helicopters and Unmanned Surface Vehicles (USV), or any craft of opportunity, using existing common communications, command & control and launching equipment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: AMNS: Development/Engineering Support	11.774	3.124	3.434	-	3.434
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Developed logistics products, including training materials and interactive technical manual. Provided engineering support, including review for product development and integration.					
. ***FY 2015 Plans:*** Provide engineering support, including review for product development and integration. Develop logistics products, including training materials and interactive technical manuals.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 2473 / *Airborne Mine Neutralization System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Provide engineering support, including review for product development and integration. Develop logistics products, including training materials and interactive technical manuals. ***FY 2016 OCO Plans:*** N/A					
Title: AMNS: Test and Evaluation	14.068	3.000	1.225	-	1.225
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted DT/IT and Operational Assessment (OA) Phase A. Started OA Phase B. ***FY 2015 Plans:*** Complete OA phase B. Support MCM Tech Eval and LCS IOT&E / AMNS OT. ***FY 2016 Base Plans:*** Complete LCS IOT&E/AMNS OT reports and AMNS upgrade testing. Conduct FOT&E of LCS Mine Countermeasures (MCM) Mission Package (MP). ***FY 2016 OCO Plans:*** N/A					
Title: AMNS: Management Services	1.922	1.383	1.262	-	1.262
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provide program management support, contract management and travel for AMNS ***FY 2015 Plans:*** Provide program management support, contract management and travel for AMNS ***FY 2016 Base Plans:*** Provide program management support, contract management and travel for AMNS ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	27.764	7.507	5.921	-	5.921

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 2473 / *Airborne Mine Neutralization System*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN 4248: *Airborne MCM - AMNS (MH-60 & MH-53)*	9.650	-	-	6.800	6.800	5.435	8.270	0.790	-	-	74.017
• WPN 4225: *Airborne MCM - AMNS (MH-60 & MH-53)*	6.286	9.479	7.766	-	7.766	17.919	15.346	11.941	10.349	-	125.228
• OPN 1601: *LCS MCM Mission Modules*	-	-	9.335	-	9.335	6.388	6.046	6.338	3.233	29.879	64.019

Remarks

D. Acquisition Strategy

AMNS: The Navy awarded six (6) LRIP's to Raytheon in September 2010. Following successful completion of Developmental Testing (Inert) on MH-60S, the Navy awarded four (4) additional LRIP units to Raytheon in September 2011. The Navy awarded four (4) additional LRIP units to Raytheon in March - May 2014. Following a successful OT on an MH-60S, FRP is planned for FY16. The Navy has awarded a sole source contract to BAE for neutralizer procurements.

E. Performance Metrics

Successfully complete Operational Test (OT) and receive Full Rate Production Decision approval.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	Project (Number/Name) 2473 / *Airborne Mine Neutralization System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware/Software Development	Various	Various : Various	3.359	-		-		-		-		-	-	3.359	-
Hardware/Software Development	WR	NSWC PC : Panama City, FL	3.447	3.659	Nov 2013	1.256	Nov 2014	0.190	Nov 2015	-		0.190	3.965	12.517	-
Hardware/Software Development	C/CPAF	Raytheon : Portsmouth, RI	18.445	6.374	Nov 2013	1.868	Nov 2014	0.253	Nov 2015	-		0.253	4.760	31.700	-
Hardware/Software Development	SS/CPIF	Lockheed Martin : Syracuse, NY	3.331	-		-		-		-		-	-	3.331	-
iAMNS Development	C/CPIF	TBD : TBD	0.000	-		-		-		-		-	-	-	-
(Near Surface) Hardware/ Software Development	WR	NUWC, NPT : Newport, RI	4.950	1.741	Nov 2013	-		-		-		-	-	6.691	-
(Near Surface) Hardware/ Software Development	C/CPIF	Raytheon : Portsmouth, RI	4.033	-		-		-		-		-	-	4.033	-
		Subtotal	37.565	11.774		3.124		0.443		-		0.443	8.725	61.631	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	SS/CPFF	Lockheed Martin : Syracuse, NY	1.254	-		-		-		-		-	-	1.254	-
Operational Test & Evaluation	SS/CPFF	Lockheed Martin : Syracuse, NY	0.767	-		-		-		-		-	-	0.767	-
Test Assets	C/CPIF	Raytheon : Portsmouth, RI	3.310	-		-		-		-		-	-	3.310	-
(AMNS) Development Test & Evaluation	WR	NSWC, PC : Panama City, FL	34.303	3.863	Nov 2013	-		1.000	Nov 2015	-		1.000	0.125	39.291	-
(AMNS) Development Test & Evaluation	C/CPIF	Raytheon : Portsmouth, RI	14.045	3.123	Nov 2013	-		1.000	Nov 2015	-		1.000	0.375	18.543	-
(AMNS) Operational Test & Evaluation	WR	COTF : Norfolk, VA	9.288	7.082	Nov 2013	3.000	Nov 2014	2.216	Nov 2015	-		2.216	0.125	21.711	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 2473 / *Airborne Mine Neutralization System*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	62.967	14.068		3.000		4.216		-		4.216	0.625	84.876	-

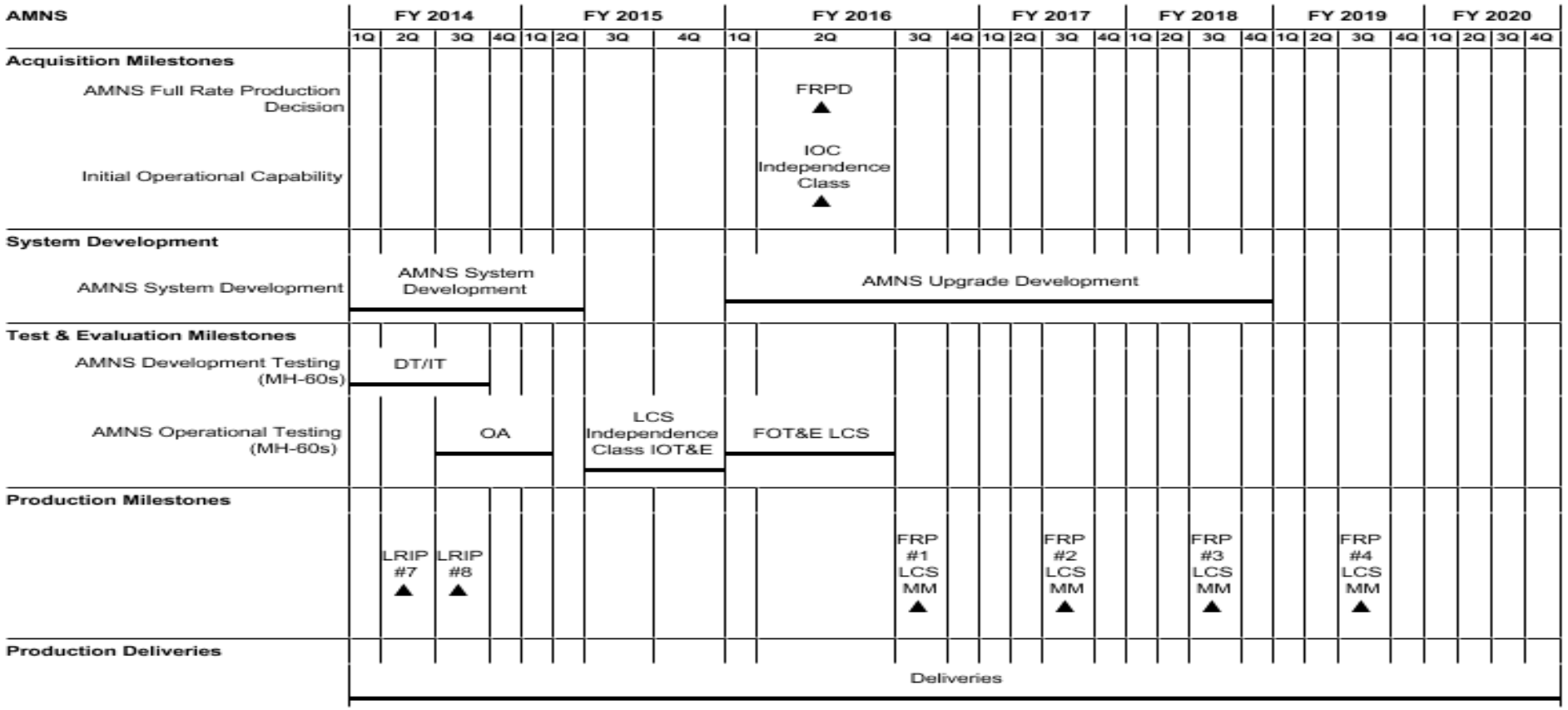
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
iAMNS Management Support	C/BA	NSWC PC : NSWC PC	0.000	-		0.600	Nov 2014	0.200	Nov 2015	-		0.200	0.181	0.981	-
(AMNS) Program Management Support	C/CPFF	Various : Various	6.707	0.221	Nov 2013	0.300	Nov 2014	0.327	Nov 2015	-		0.327	-	7.555	-
(AMNS) Program Management Support	C/CPIF	Raytheon : Portsmouth, RI	0.595	1.401	Nov 2013	0.296	Nov 2014	0.462	Nov 2015	-		0.462	0.250	3.004	-
(AMNS) Program Management Support	Various	Field Activity : Various	1.783	0.250	Nov 2013	0.146	Nov 2014	0.273	Nov 2015	-		0.273	-	2.452	-
(AMNS) Travel	Allot	NAVSEA : Washington, DC	0.068	0.050	Nov 2013	0.041	Nov 2014	-		-		-	-	0.159	-
DAWDF	Sub Allot	NAVSEA : Washington, DC	5.153	-		-		-		-		-	-	5.153	-
		Subtotal	14.306	1.922		1.383		1.262		-		1.262	0.431	19.304	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	114.838	27.764		7.507		5.921		-		5.921	9.781	165.811	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 2473 / *Airborne Mine Neutralization System*



2016PB - 0604373N - 2473

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 2473 / *Airborne Mine Neutralization System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AMNS				
Acquisition Milestones: AMNS Full Rate Production Decision: AMNS FRPD	2	2016	2	2016
Acquisition Milestones: Initial Operational Capability: Initial Operational Capability Independence Class	2	2016	2	2016
System Development: AMNS System Development: AMNS System Development	1	2014	2	2015
System Development: AMNS System Development: AMNS System Upgrade Development	1	2016	4	2018
Test & Evaluation Milestones: AMNS Development Testing (MH-60s): DT/IT	1	2014	3	2014
Test & Evaluation Milestones: AMNS Operational Testing (MH-60s): Operational Assessment	3	2014	1	2015
Test & Evaluation Milestones: AMNS Operational Testing (MH-60s): IOT&E Independence Class	3	2015	4	2015
Test & Evaluation Milestones: AMNS Operational Testing (MH-60s): FOT&E LCS	1	2016	2	2016
Production Milestones: AMNS LRIP (FY13)	2	2014	2	2014
Production Milestones: AMNS LRIP (FY14)	3	2014	3	2014
Production Milestones: AMNS FRP (FY16)	3	2016	3	2016
Production Milestones: AMNS FRP (FY17)	3	2017	3	2017
Production Milestones: AMNS FRP (FY18)	3	2018	3	2018
Production Milestones: AMNS FRP (FY19)	3	2019	3	2019
Production Deliveries: Production Deliveries	1	2014	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	Project (Number/Name) 4026 / *Strat Into Medal, Tactics & Trng Organic Force*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
4026: *Strat Into Medal, Tactics & Trng Organic Force*	19.823	5.062	7.094	1.642	-	1.642	12.345	11.462	9.535	9.742	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The C4I, Tactics, Mission Planning (CTMP), and Post-Mission Analysis (PMA) program began in FY97 as an initiative to provide near-real-time data linking of mine sensor data between the MH-53E aircraft and ship- and/or shore-based command centers. CTMP evolved into both developing MEDAL modules for each "Next Generation" system and developing "Next Generation" Tactics. Additionally, CTMP provides threat data and system requirements and capabilities to the MEDAL software development effort. Finally, CTMP develops Networked Sensor Analysis for Mine Warfare (NSAM) as a MOSA compliant plug-in architecture of common post-mission analysis tools for "Next Generation" systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Hardware/Software Development	3.297	5.394	0.731	-	0.731
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued NSAM Open Architecture development					
FY 2015 Plans: Continue NSAM Open Architecture development, enhanced design and test					
FY 2016 Base Plans: Continue NSAM Open Architecture development, enhanced design and test					
FY 2016 OCO Plans: N/A					
Title: Engineering Services/ILS:	1.522	1.519	0.753	-	0.753
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed LCSP for OPMA					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 4026 / *Strat Into Medal, Tactics & Trng Organic Force*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Update ALMDS & AMNS TACMEMOs, upgrade tactics for MCM Mission Package and NSAM Engineering Support. ***FY 2016 Base Plans:*** Continue to update ALMDS & AMNS TACMEMOs, upgrade tactics for P3I sensors on AN/AQS-20A and NSAM Engineering Support, draft new effects based risk TACMEMO. ***FY 2016 OCO Plans:*** N/A					
Title: Management Support	0.243	0.181	0.158	-	0.158
Articles:	-	-	-	-	-
FY 2014 Accomplishments: CTMP Management Support NSAM Management Support ***FY 2015 Plans:*** CTMP Management Support NSAM Management Support ***FY 2016 Base Plans:*** CTMP Management Support NSAM Management Support ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	5.062	7.094	1.642	-	1.642

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Organic Post-Mission Analysis (OPMA) capability for the OAMCM systems was developed by NSWC PCD, Panama City, FL. OMN funding will be used to procure COTS ruggedized portable OPMA computers for LCS MCM Mission Package, ship of opportunity deployments, land basing, and training. NSWC-PCD has awarded a

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 4026 / *Strat Into Medal, Tactics & Trng Organic Force*

FY14 contract for this Technical Refresh procurement with option years extending until FY18. NSAM will merge capabilities of OPMA and NAVO's Environmental PMA (EPMA) capabilities into an Open Architecture framework. Increment Build One will utilize government teams NSWC PCD and NRL-SSC to expedite fielding significant contact management improvements, data fusion techniques, and environmental PMA. NSAM when fielded will utilize OPMA computers being tech refreshed FY14-FY16.

The tactics development, tactics training, and tactics algorithms/database efforts are performed by NSWC-PCD. These efforts will provide reach back support as the OAMCM systems begin to be fielded; will develop modifications to environmental databases necessary to support OAMCM mission planning; will update the MIW Tactics Continuum to address OAMCM; and will update the gear and mine database for threats addressed by the OAMCM systems.

E. Performance Metrics

Successfully integrate CTMP into LCS MCM Mission Package.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	Project (Number/Name) 4026 / *Strat Into Medal, Tactics & Trng Organic Force*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Software Development	WR	NSWC PCD : Panama City FL	10.885	2.947	Nov 2013	5.044	Nov 2014	0.558	Nov 2015	-		0.558	Continuing	Continuing	Continuing
Hardware/Software Development	WR	NRL-SSC : Bay St. Louis, MS	0.250	0.350	Nov 2013	0.350	Nov 2014	0.173	Nov 2015	-		0.173	Continuing	Continuing	Continuing
		Subtotal	11.135	3.297		5.394		0.731		-		0.731	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Services	WR	SSC-PAC : Various	0.040	-	Nov 2013	-	Nov 2014	-		-		-	-	0.040	-
Engineering Services	WR	NSWC PCD : Panama City FL	6.088	1.210	Nov 2013	1.169	Nov 2014	0.501	Nov 2015	-		0.501	Continuing	Continuing	Continuing
Engineering Services	WR	NRL-SSC : Bay St. Louis, MS	0.225	0.112	Nov 2013	0.125	Nov 2014	0.132	Nov 2015	-		0.132	Continuing	Continuing	Continuing
ILS	WR	NSWC PC : Panama City FL	1.200	0.200	Nov 2013	0.225	Nov 2014	0.120	Nov 2015	-		0.120	Continuing	Continuing	Continuing
		Subtotal	7.553	1.522		1.519		0.753		-		0.753	-	-	-

Management Services ($ in Millions)

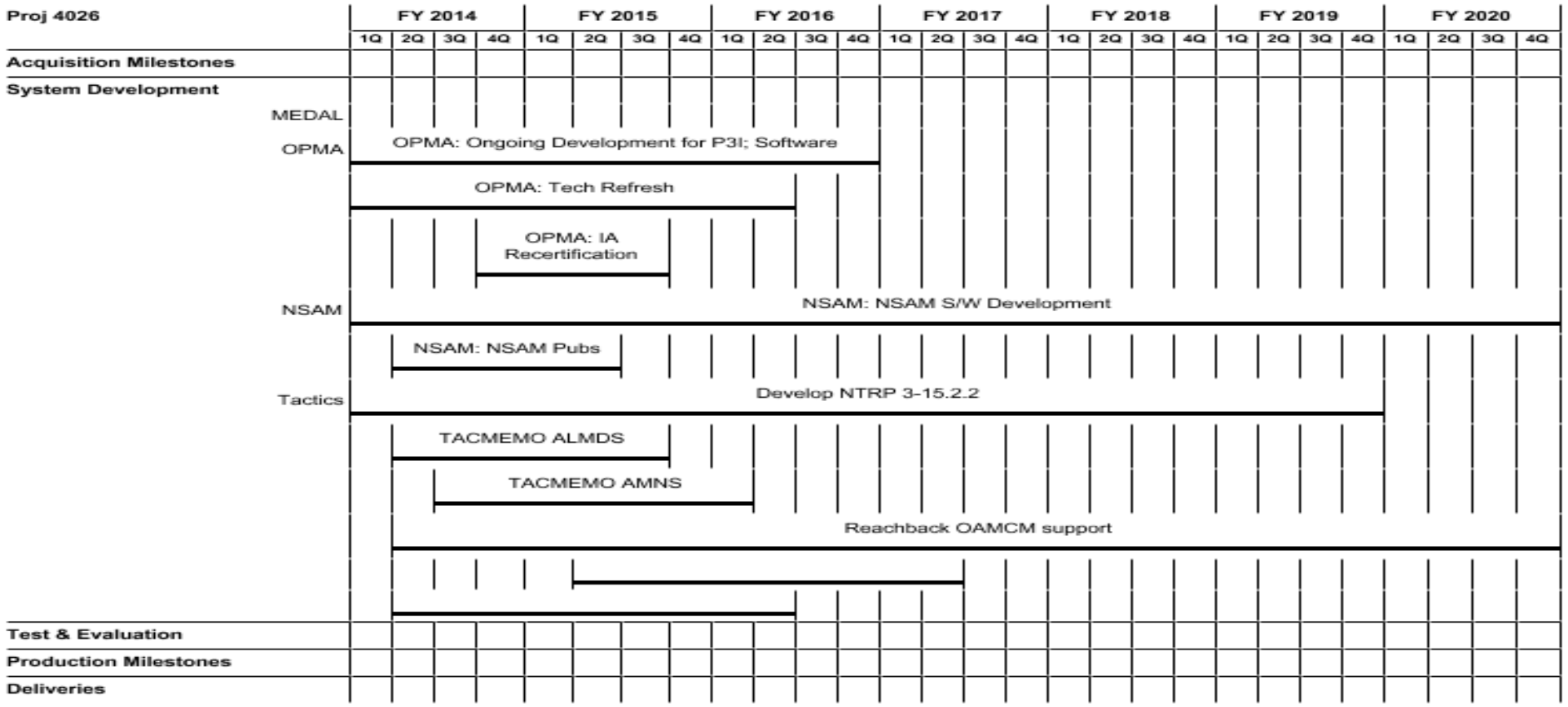
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support	WR	NSWC PC : Panama City FL	1.122	0.243	Nov 2013	0.181	Nov 2014	0.158	Nov 2015	-		0.158	Continuing	Continuing	Continuing
Acquisition Workforce Fund	Various	Various : Various	0.013	-		-		-		-		-	-	0.013	-
		Subtotal	1.135	0.243		0.181		0.158		-		0.158	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	Project (Number/Name) 4026 / *Strat Into Medal, Tactics & Trng Organic Force*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	19.823	5.062		7.094		1.642		-		1.642	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 4026 / *Strat Into Medal, Tactics & Trng Organic Force*



2016OSD - 0604373N - 4026

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 4026 / *Strat Into Medal, Tactics & Trng Organic Force*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 4026				
System Development: OPMA: OPMA: Ongoing Development for Sensor P3I; Software	1	2014	4	2017
System Development: OPMA: OPMA: Tech Refresh to address Window XP End of Life	1	2014	2	2016
System Development: OPMA: OPMA: IA Recertification	4	2014	3	2015
System Development: NSAM: NSAM: NSAM S/W Development	1	2014	4	2020
System Development: NSAM: NSAM: NSAM Pubs	2	2014	2	2017
System Development: Tactics: Develop NTRP 3-15.2.2	1	2014	4	2020
System Development: Tactics: TACMEMO ALMDS	2	2014	3	2015
System Development: Tactics: TACMEMO AMNS	3	2016	2	2017
System Development: Tactics: Reachback OAMCM support	2	2014	4	2020
System Development: Tactics: Update NTTP 3-15.22	2	2015	4	2017
System Development: Tactics: TACMEMO Efforts based application of Risk (EBAR)	2	2014	2	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	Project (Number/Name) 9179 / *Surf Navy Integ Undersea Tactical Tech*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9179: *Surf Navy Integ Undersea Tactical Tech*	4.059	0.880	0.881	-	-	-	1.447	1.286	0.948	0.968	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Surface Navy Integrated Undersea Tactical Technology (SNIUTT) will be used to develop an AN/SQQ-32, AN/AQS-24 and AN/AQS-20A sensor training modules and future Organic Airborne Mine Countermeasures (OAMCM) Sensor Training Modules.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Hardware and Software Development	0.748	0.747	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Developed an AN/AQS-24, AN/AQS-20A sonar training module. Also developed a COBRA refresher Senaric Training module ALMDS training modules.					
FY 2015 Plans: Update the AN/AQS-24, AN/AQS-20A sonar training module. Development of a Scenario Generator software system for COBRA for mine field recognition training and ALMDS training modules.					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Title: Engineering and ILS Services	0.132	0.134	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Provided SNIUTT In-Service Engineering Agent (ISEA) and development support.					
FY 2015 Plans: Provide SNIUTT In-Service Engineering Agent (ISEA) and development support.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 9179 / *Surf Navy Integ Undersea Tactical Tech*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.880	0.881	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN 4248: *Airborne MCM - SNIUTT*	0.300	-	-	-	-	-	-	-	-	-	0.600

Remarks

D. Acquisition Strategy

Surface Navy Integrated Undersea Tactical Training (SNIUTT) has been used to develop AN/SQQ-32, AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training modules. Funds will continue to support training for these sonar systems, as well as training for the REMUS sonar systems and other OAMCM systems in the same format as previous training. The SNIUTT sensor training modules will be developed by NSWC PCD, Panama City, FL,. Funds are being provided for development and delivery of refresher scenario based contact recognition training, and the update and modification of contact recognition training (interactive web based training and proficiency focused stand-alone training) in support of the SNIUTT program.

E. Performance Metrics

Successfully integrate SNIUTT into the school house training facility and provide to AMCM detachments for refresher training.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	Project (Number/Name) 9179 / *Surf Navy Integ Undersea Tactical Tech*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Software Development	WR	NSWC PC : Panama City Fl	3.437	0.748	Dec 2013	0.747	Nov 2014	-	Nov 2015	-		-	Continuing	Continuing	Continuing
		Subtotal	3.437	0.748		0.747		-		-		-	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ISEA	WR	NSWC, PC : Panama City FL	0.619	0.132	Nov 2013	0.134	Nov 2014	-	Nov 2015	-		-	Continuing	Continuing	Continuing
		Subtotal	0.619	0.132		0.134		-		-		-	-	-	-

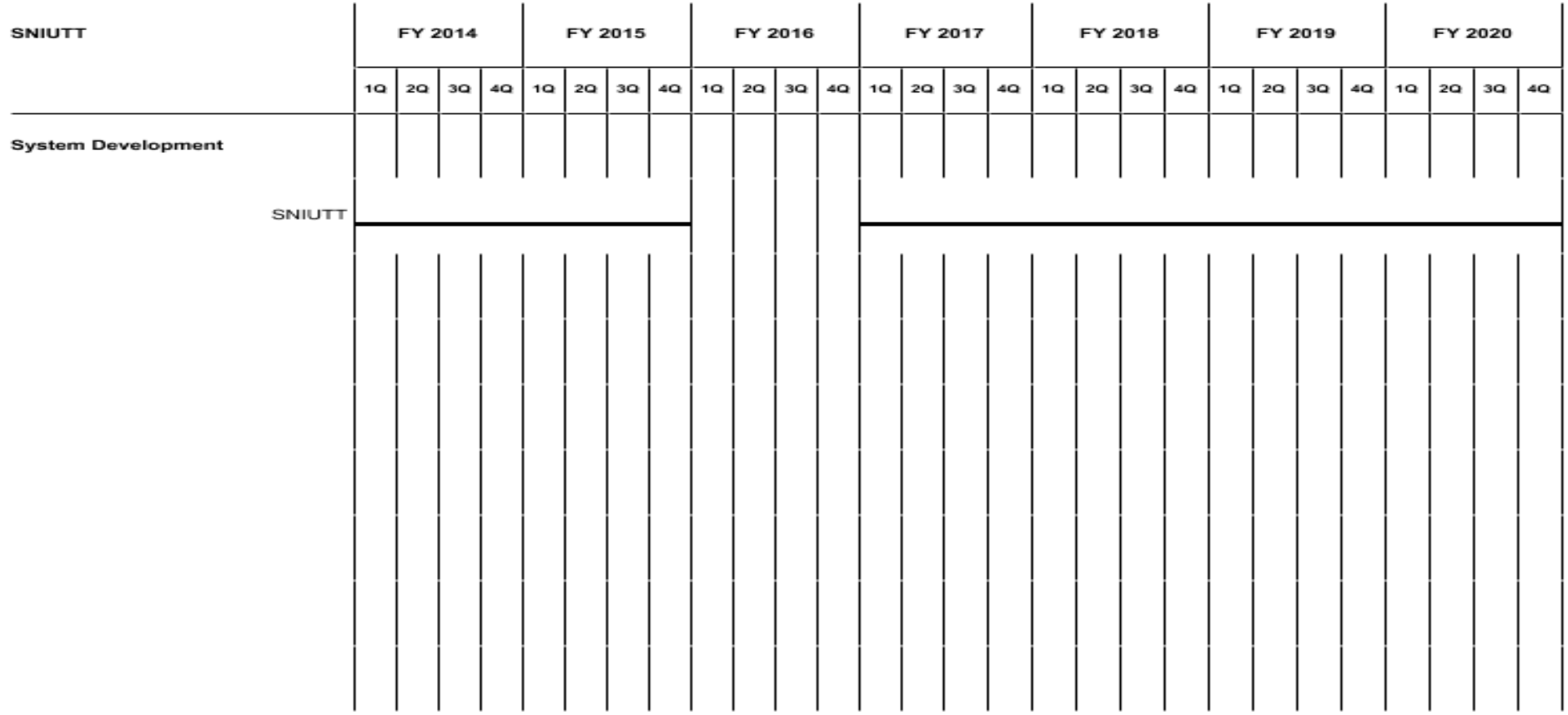
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DAWDF	Various	Various : Various	0.003	-		-		-		-		-	-	0.003	-
		Subtotal	0.003	-		-		-		-		-	-	0.003	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	4.059	0.880		0.881		-		-		-	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 9179 / *Surf Navy Integ Undersea Tactical Tech*



2016PB - 0604373N - 9179

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604373N / *Airborne Mine Countermeasures (AMCM)*	**Project (Number/Name)** 9179 / *Surf Navy Integ Undersea Tactical Tech*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SNIUTT				
System Development: SNIUTT: SNIUTT	1	2014	4	2015
System Development: SNIUTT: SNIUTT Continued	1	2017	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604376M *I (U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	11.576	12.032	7.832	2.778	-	2.778	24.885	23.053	4.017	3.879	Continuing	Continuing
3327: *MAGTF EW Aviation Development*	11.576	12.032	3.277	1.107	-	1.107	23.086	21.404	3.055	2.896	Continuing	Continuing
3371: *MAGTF EW Interoperability Development*	0.000	-	4.555	1.671	-	1.671	1.799	1.649	0.962	0.983	Continuing	Continuing

Note

The ALQ-231(V)1 for Rotary Wing aircraft was re-designated ALQ-231(V)3 by ASN(RD&A).

A. Mission Description and Budget Item Justification

This program element includes development of Electronic Warfare (EW) systems for the United States Marine Corps (USMC) tactical aircraft, USMC helicopters, unmanned air vehicles, data link vulnerability assessments, precision targeting, USN and USMC radio frequency jammers, and development and testing of EW devices on emerging platforms to combat emerging threats and emergency contingencies.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

The FY 2016 funding request was reduced by $268 thousand to account for the availability of prior year execution balances.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	10.080	7.832	3.065	-	3.065
Current President's Budget	12.032	7.832	2.778	-	2.778
Total Adjustments	1.952	-	-0.287	-	-0.287
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.000	-			
• SBIR/STTR Transfer	-0.048	-			
• Rate/Misc Adjustments	-	-	-0.287	-	-0.287

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604376M *I (U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*

Change Summary Explanation

Schedule:

Initial Operational Capability (IOC) for ALQ-231 Intrepid Tiger II changed from 1Q FY 2014 to 1Q FY 2016 due to addition of the (V)3 Rotary Wing variant.

Schedule for Intrepid Tiger II ALQ-231(V)1 BLK X Radar Jammer added.

* PU 3371 created to administratively highlight specific work being done in 3327.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	Project (Number/Name) 3327 / *MAGTF EW Aviation Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3327: *MAGTF EW Aviation Development*	11.576	12.032	3.277	1.107	-	1.107	23.086	21.404	3.055	2.896	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project unit supports the United States Marine Corps development of Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) and the various elements of its distributed System of Systems (SoS) that support the Commandant of the Marine Corps' Strategy and Vision 2025 and Joint Vision 2025. The SoS will address MAGTF EW sufficiency gaps in the areas of Electronic Attack, EW Support, and Electronic Protection with a multitude of payloads designed for carriage on a variety of organic MAGTF air and ground assets. Payload development plans follow an adaptable, modular and open architecture philosophy to combat the increasing capability gap and enable future growth at a reduced operational and sustainment cost.

The ALQ-231(v)1 pod is the Fixed-Wing variant of the Intrepid Tiger II pod flown on the AV-8B and F/A-18A-D platforms. The ALQ-231(v)2 will be the variant of the Intrepid Tiger II pod flown on unmanned aerial vehicle (UAV) platforms once integration is complete. The ALQ-231(v)3 is the Rotary-Wing variant of the Intrepid Tiger II pod flown on the AH-1 and UH-1 platforms. As of the PresBud15 submission, the ALQ-231(v)1 was the only approved configuration and nomenclature for the Intrepid Tiger II pod. The re-designation of the ALQ-231 variants occurred with the approval of Rapid Deployment Capability authorization for ALQ-231 on Rotary Wing platforms by the Assistant Secretary of the Navy for Research, Development, and Acquisition (ASN(RD&A)) on January 14, 2014.

Prior to FY11, Intrepid Tiger II efforts were budgeted under Program Element (PE) 0604270N, Project Unit (PU) 0556.
In FY12, Intrepid Tiger II efforts were budgeted under PE 0604270N, PU 3327.

The sum of All Prior Years does not include a FY 2013 Below Threshold Reprogramming action for $1.929M. The sum of All Prior Years for Project Unit 3327 should total $11.576M.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: MAGTF EW Software Reprogrammable Payload (SRP)	6.672	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued transition of SRP and associated components; Collaborative EW/EW Battle Management, and EW Services Architecture (formerly Collaborative Online Reconnaissance Provider Operationally Responsive Attack Link) from a Joint Capabilities Technology Demonstration into a viable capability.					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	**Project (Number/Name)** 3327 / *MAGTF EW Aviation Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
In FY15, SRP was moved to Project Unit 3371.					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Title: Intrepid Tiger II (ALQ-231)	5.360	3.277	1.107	-	1.107
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued to integrate ALQ-231 Intrepid Tiger II (v)3 on United States Marine Corps rotary wing platforms to include AH-1 and UH-1 Type/Model/Series. Continued to mature hardware technology, update targeting techniques, and correct identified software discrepancies.					
FY 2015 Plans: Continue to integrate ALQ-231 Intrepid Tiger II (v)3 on United States Marine Corps rotary wing platforms to include AH-1 and UH-1 Type/Model/Series and continue efforts to integrate Intrepid Tiger II (ALQ-231) capability on unmanned aerial vehicle (UAV) platforms. Continue to mature hardware technology, update targeting techniques, and correct identified software discrepancies. Continue efforts to identify Intrepid Tiger II based solution to radar threats. Implement logistics plans to support and sustain unmanned aerial vehicle requirements. Continue research efforts to develop an enabling capability to facilitate Collaborative EW (CEW) through shared organic, national and spaced EMS sensing (ES) and coordinated non-kinetic fires (EA) in accordance with spectrum operations objectives by linking C2, operators and sensors across a network interface.					
FY 2016 Base Plans: The Intrepid Tiger II (ALQ-231) program will continue to mature hardware technology, update targeting techniques, and correct identified software discrepancies. Work will continue to identify Intrepid Tiger II based solutions to radar threats in support of the penetrating jammer mission, culminating in the ALQ-231(v)1 BLK X Radar Jammer. Investigate potential for integration of the Intrepid Tiger II capability on tilt-rotor and C-130 platforms. Continue research efforts to develop an enabling capability to facilitate Collaborative EW (CEW) through shared organic, national and spaced EMS sensing (ES) and coordinated non-kinetic fires (EA) in accordance with spectrum operations objectives by linking C2, operators and sensors across a network					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	**Project (Number/Name)** 3327 / *MAGTF EW Aviation Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
interface, and continue to explore uses for Intrepid Tiger II with the Cyber Electronic Warfare Coordination Cell (CEWCC). ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	12.032	3.277	1.107	-	1.107

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0587: *MAGTF EW for Aviation*	34.131	14.770	7.680	-	7.680	5.792	5.832	11.455	11.572	126.995	255.723

Remarks

D. Acquisition Strategy

This project unit is part of United States Marine Corps led efforts to ensure Marine Corps requirements are included in the budget process for the Future Year Defense Program and beyond. These efforts include ALQ-231 Intrepid Tiger II(v)1, Intrepid Tiger II(v)2, Intrepid Tiger II(v)3, Collaborative Electronic Warfare (EW)/EW Battle Management, EW Payload, and EW Service Architecture (formerly Collaborative Online Reconnaissance Provider Operationally Responsive Attack Link). These programs are the Marine Corps' initial steps to create systems to distribute EW capability across the battle space with the intent of replacing EA-6B capabilities for the Marine Air Ground Task Force (MAGTF) by 2019.

E. Performance Metrics

Successful completion of Intrepid Tiger II(v)3 (ALQ-231) Initial Operational Capability (IOC). Commencement of research into Engineering Change Proposals (ECPs) for capability upgrades for Intrepid Tiger II(v)1 and Intrepid Tiger II(v)3 pods.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	**Project (Number/Name)** 3327 / *MAGTF EW Aviation Development*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWC AD : Patuxent River, MD	0.200	-		0.050	Jan 2015	0.047	Nov 2015	-		0.047	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Various	0.188	-		0.191	Jan 2015	-		-		-	Continuing	Continuing	Continuing
Systems Engineering	WR	Naval Research Lab : Washington, DC	5.243	6.672	Dec 2013	0.305	Jan 2015	0.125	Nov 2015	-		0.125	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWC WD : Pt. Mugu, CA	1.321	3.272	Nov 2013	1.350	Nov 2014	0.419	Nov 2015	-		0.419	Continuing	Continuing	Continuing
		Subtotal	6.952	9.944		1.896		0.591		-		0.591	-	-	-

Remarks

Line items not funded in FY15 or FY16 display "Cont" in the Cost to Complete field in order to preserve the ability to respond to emerging threats that are undefined at the time of budget submission.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	Various : Various	2.628	0.413	May 2014	-		0.415	Nov 2015	-		0.415	Continuing	Continuing	Continuing
Eng & Tech Srvc (Non-FFRDC)	Various	Various : Various	1.296	1.675	Nov 2013	0.593	Jan 2015	0.101	Nov 2015	-		0.101	Continuing	Continuing	Continuing
		Subtotal	3.924	2.088		0.593		0.516		-		0.516	-	-	-

Remarks

Line items not funded in FY15 or FY16 display "Cont" in the Cost to Complete field in order to preserve the ability to respond to emerging threats that are undefined at the time of budget submission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	Project (Number/Name) 3327 / *MAGTF EW Aviation Development*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing	WR	NAWC AD : Patuxent River, MD	0.000	-		0.508	Jan 2015	-		-		-	Continuing	Continuing	Continuing
Flight Testing	WR	NAWC WD : China Lake, CA	0.700	-		0.280	Jan 2015	-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.700	-		0.788		-		-		-	-	-	-

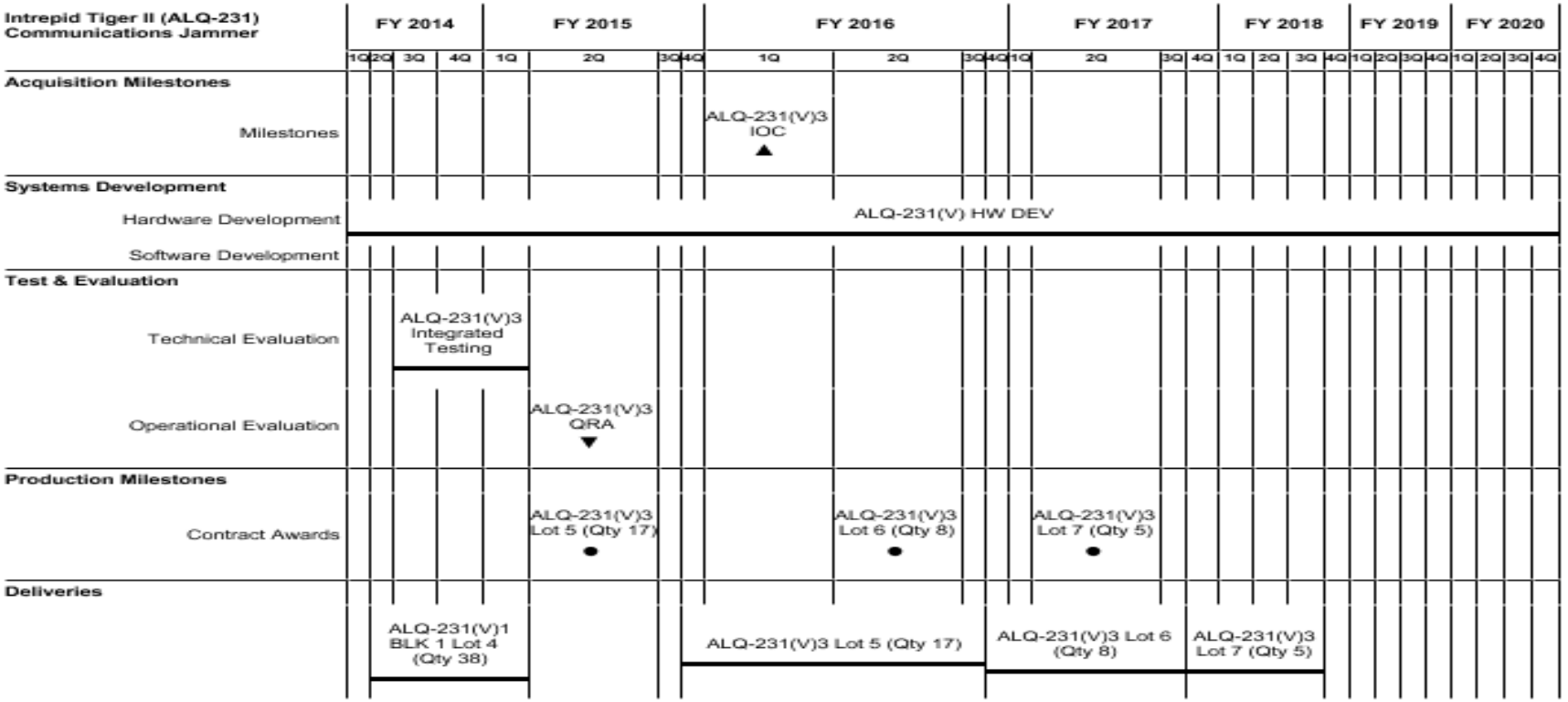
Remarks

Line items not funded in FY15 or FY16 display "Cont" in the Cost to Complete field in order to preserve the ability to respond to emerging threats that are undefined at the time of budget submission.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	11.576	12.032		3.277		1.107		-		1.107	-	-	-

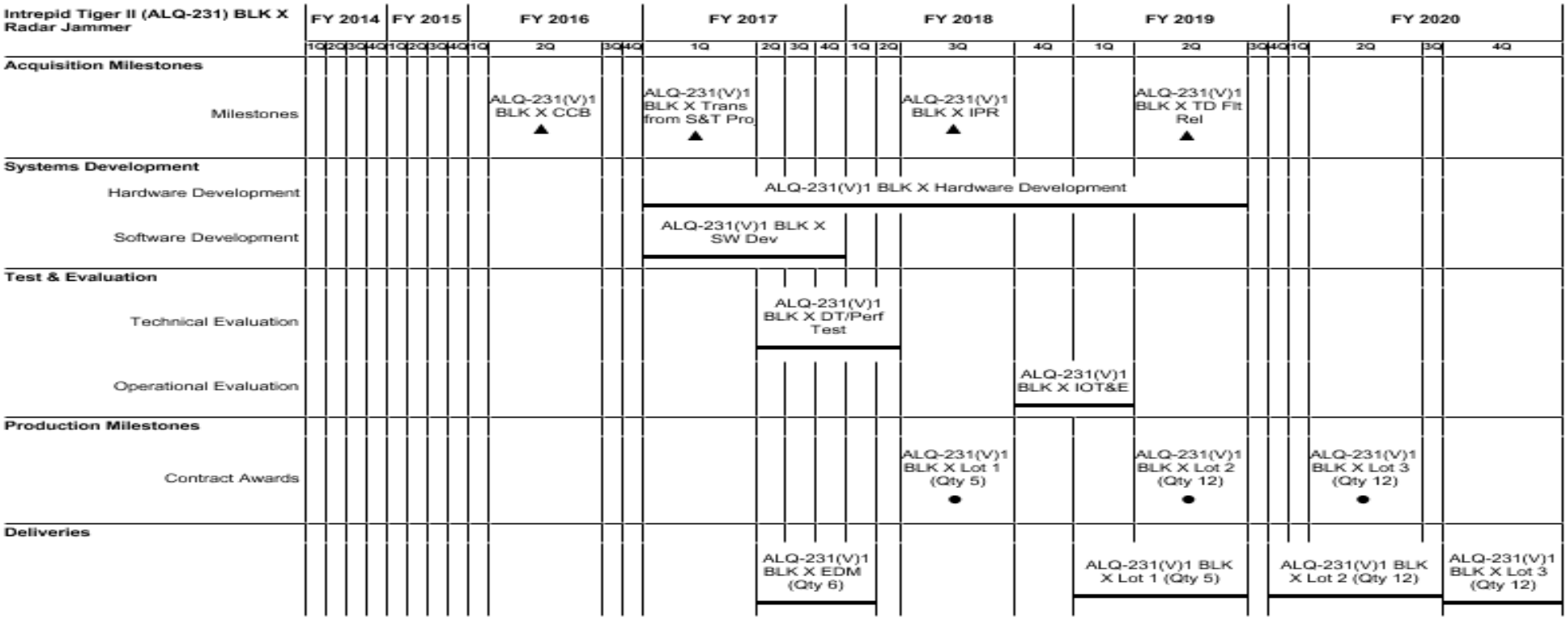
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	**Project (Number/Name)** 3327 / *MAGTF EW Aviation Development*



2016PB - 0604376M - 3327

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	**Project (Number/Name)** 3327 / *MAGTF EW Aviation Development*



2016PB - 0604376M - 3327

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	**Project (Number/Name)** 3327 / *MAGTF EW Aviation Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Intrepid Tiger II (ALQ-231) Communications Jammer				
Acquisition Milestones: Milestones: ALQ-231(V)3 Initial Operational Capability (IOC)	1	2016	1	2016
Systems Development: Hardware Development: ALQ-231(V) Hardware Development	1	2014	4	2020
Test & Evaluation: Technical Evaluation: ALQ-231(V)3 Integrated Testing	3	2014	1	2015
Test & Evaluation: Operational Evaluation: ALQ-231(V)3 Quick Reaction Assessment (QRA)	2	2015	2	2015
Production Milestones: Contract Awards: ALQ-231(V)3 Production Lot 5 (Qty 17)	2	2015	2	2015
Production Milestones: Contract Awards: ALQ-231(V)3 Production Lot 6 (Qty 8)	2	2016	2	2016
Production Milestones: Contract Awards: ALQ-231(V)3 Production Lot 7 (Qty 5)	2	2017	2	2017
Deliveries: ALQ-231(V)1 BLK 1 Lot 4 Deliveries (Qty 38)	2	2014	1	2015
Deliveries: ALQ-231(V)3 Lot 5 Deliveries (Qty 17)	4	2015	3	2016
Deliveries: ALQ-231(V)3 Lot 6 Deliveries (Qty 8)	4	2016	3	2017
Deliveries: ALQ-231(V)3 Lot 7 Deliveries (Qty 5)	4	2017	3	2018
Intrepid Tiger II (ALQ-231) BLK X Radar Jammer				
Acquisition Milestones: Milestones: ALQ-231(V)1 BLK X Configuration Control Board (CCB)	2	2016	2	2016
Acquisition Milestones: Milestones: ALQ-231(V)1 BLK X Transition from S&T project	1	2017	1	2017
Acquisition Milestones: Milestones: ALQ-231(V)1 BLK X TD Fleet Release	2	2019	2	2019
Acquisition Milestones: Milestones: ALQ-231(V)1 BLK X In Progress Review	3	2018	3	2018
Systems Development: Hardware Development: ALQ-231(V)1 BLK X Hardware Development	1	2017	2	2019
Systems Development: Software Development: ALQ-231(V)1 BLK X Software Development	1	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	**Project (Number/Name)** 3327 / *MAGTF EW Aviation Development*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Test & Evaluation: Technical Evaluation: ALQ-231(V)1 BLK X Developmental/ Performance Test	2	2017	2	2018
Test & Evaluation: Operational Evaluation: ALQ-231(V)1 BLK X IOT&E	4	2018	1	2019
Production Milestones: Contract Awards: ALQ-231(V)1 BLK X Production Lot 1 (5 units)	3	2018	3	2018
Production Milestones: Contract Awards: ALQ-231(V)1 BLK X Production Lot 2 (12 units)	2	2019	2	2019
Production Milestones: Contract Awards: ALQ-231(V)1 BLK X Production Lot 3 (12 units)	2	2020	2	2020
Deliveries: ALQ-231(V)1 BLK X EDM (6 units)	2	2017	1	2018
Deliveries: ALQ-231(V)1 BLK X Production Lot 1 Deliveries (5 units)	1	2019	2	2019
Deliveries: ALQ-231(V)1 BLK X Production Lot 2 Deliveries (12 units)	4	2019	3	2020
Deliveries: ALQ-231(V)1 BLK X Production Lot 3 Deliveries (12 units)	4	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	Project (Number/Name) 3371 / *MAGTF EW Interoperability Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3371: *MAGTF EW Interoperability Development*	-	-	4.555	1.671	-	1.671	1.799	1.649	0.962	0.983	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

PU 3371 has been created to administratively highlight specific work that was being done in 3327. This Project Unit continues efforts previously funded under PU 3327 and is not a new start for FY 2015.

A. Mission Description and Budget Item Justification

This project unit supports the United States Marine Corps Air-Ground interoperability by providing a variety of capabilities through multiple functions of the Software Reprogrammable Payload (SRP) when installed onboard SRP capable aircraft. The spiral development plans allow adaptable, scalable and open architecture philosopy to reduce stove pipe solutions but enable future growth at a reduced operational and sustainment cost.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Software Reprogrammable Payload	-	4.555	1.671	-	1.671
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: Begin to integrate the Spiral 2 SRP on the United States Marine Corps MV-22 Platform.					
FY 2016 Base Plans: Continue integration of the SRP on the United States Marine Corps MV-22 Platform.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	-	4.555	1.671	-	1.671

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	**Project (Number/Name)** 3371 / *MAGTF EW Interoperability Development*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0587: *Software Reprogrammable Payload*	-	2.100	-	-	-	-	-	-	-	-	2.589

Remarks

D. Acquisition Strategy

This project unit is part of United States Marine Corps led efforts to ensure Marine Corps requirements are included in the budget process for the Future Year Defense Program and beyond. This effort is for the Software Reprogrammable Payload. This program is part of the Marine Corps initial steps to create a common interoperable system to distribute multiple data types across the battle space through spiral development.

E. Performance Metrics

Successful completion of the Spiral 2 Development and Demonstration onboard MV-22 Test Platform.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	Project (Number/Name) 3371 / *MAGTF EW Interoperability Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWCAD : Patuxent River, MD	0.000	-		1.680	Oct 2014	0.330	Nov 2015	-		0.330	Continuing	Continuing	Continuing
Systems Engineering	WR	NRL : Washington, DC	0.000	-		0.330	Dec 2014	0.130	Nov 2015	-		0.130	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	Assurance Technology Corp : Carlisle, MA	0.000	-		2.000	Dec 2014	-		-		-	-	2.000	2.000
		Subtotal	0.000	-		4.010		0.460		-		0.460	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering and Tech Support	C/FFP	TBD : TBD	0.000	-		-		1.211	Nov 2015	-		1.211	-	1.211	1.211
Engineering and Tech Support	C/FFP	NSMA : Washington, DC	0.000	-		0.095	Nov 2014	-		-		-	-	0.095	0.095
		Subtotal	0.000	-		0.095		1.211		-		1.211	-	1.306	1.306

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	MIPR	GAPO FT : Ft. Belvoir, VA	0.000	-		0.450	Nov 2014	-		-		-	-	0.450	0.450
		Subtotal	0.000	-		0.450		-		-		-	-	0.450	0.450

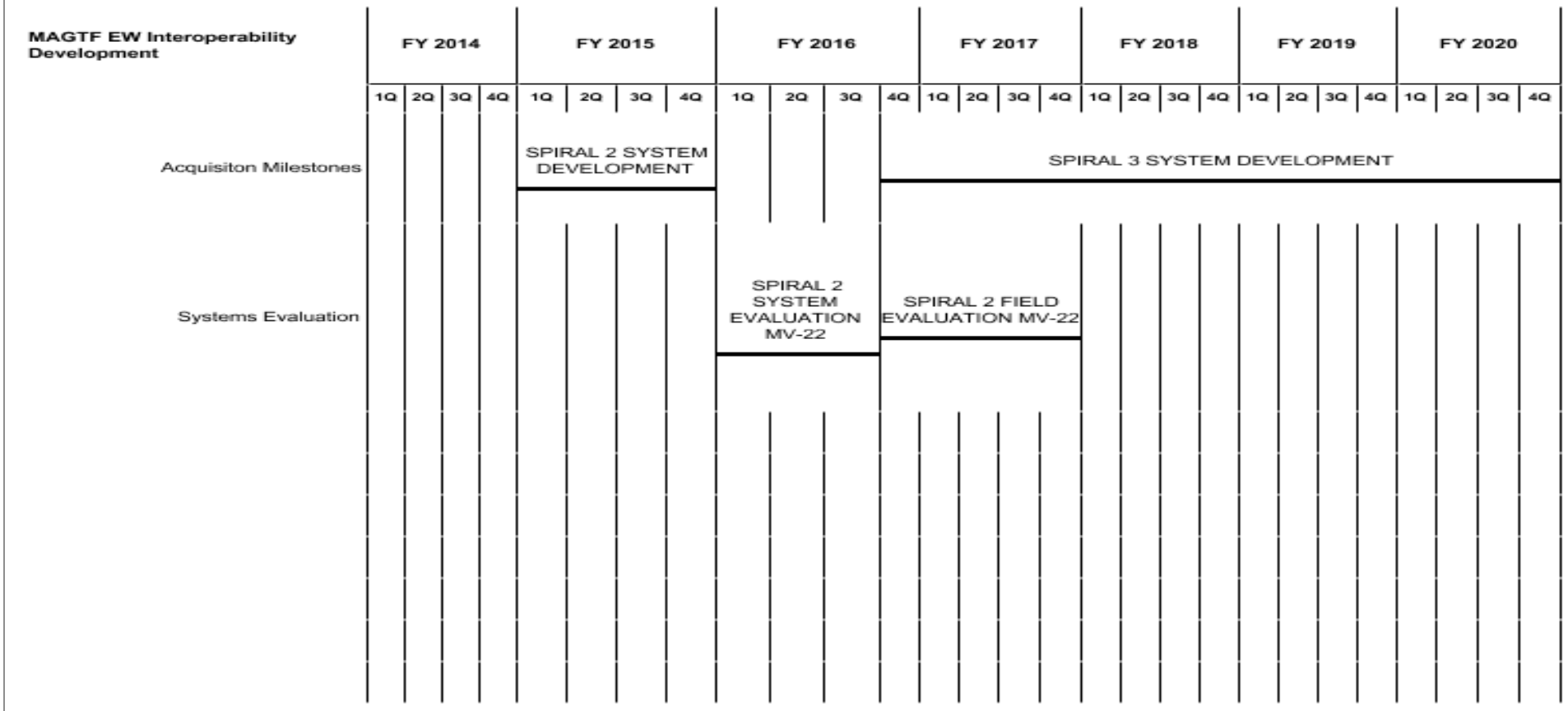
	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		4.555		1.671		-		1.671	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	Project (Number/Name) 3371 / *MAGTF EW Interoperability Development*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	**Project (Number/Name)** 3371 / *MAGTF EW Interoperability Development*



2016PB - 0604376M - 3371

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604376M / *(U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio*	**Project (Number/Name)** 3371 / *MAGTF EW Interoperability Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MAGTF EW Interoperability Development				
Acquisiton Milestones: SPIRAL 2 SYSTEM DEVELOPMENT	1	2015	4	2015
Acquisiton Milestones: SPIRAL 3 SYSTEM DEVELOPMENT	4	2016	4	2020
Systems Evaluation: SPIRAL 2 SYSTEM EVALUATION MV-22	1	2016	3	2016
Systems Evaluation: SPIRAL 2 FIELD EVALUATION MV-22	4	2016	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604378N *I Nav Integrated Fire Control-Counter Air Sys Eng*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	130.559	20.937	15.263	23.695	-	23.695	28.436	28.062	29.708	28.476	Continuing	Continuing
3159: *Naval Integrated Fire Control-Counter Air SE&I*	130.559	20.937	15.263	23.695	-	23.695	28.436	28.062	29.708	28.476	Continuing	Continuing

A. Mission Description and Budget Item Justification

3159 Naval Integrated Fire Control - Counter Air (NIFC-CA) Systems Engineering Integration and Test (SEI&T) project is a systems engineering effort to extend the Naval Theater Air and Missile Defense battlespace out to the maximum kinematic range of our weapons. This includes targets beyond the detection range of the shooter, including Engage On Remote (EoR) and Over the Horizon (OTH) targets. The NIFC-CA project exploits capabilities inherent in existing systems, optimizes current and emerging technologies in component system upgrades, integrates them together, and performs kill chain tests, forming an interoperable System of Systems (SoS) to maximize future air defense capabilities. As directed by OPNAV, the project is focused on SEI&T efforts to integrate the From The Sea (FTS) kill chain consisting of the E-2D Advanced Hawkeye, Cooperative Engagement Capability (CEC), AEGIS, and SM-6 missile. This PE will support efforts including system definition and architecture development, performance prediction, performance assessment, system test and risk reduction efforts, system analysis, modeling and simulation, and capability demonstrations for the FTS kill chain. The project also facilitates the development of the concept of operations with the warfighter to maximize effectiveness when deployed with the Fleet.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	21.413	15.263	26.167	-	26.167
Current President's Budget	20.937	15.263	23.695	-	23.695
Total Adjustments	-0.476	-	-2.472	-	-2.472
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.476	-			
• Program Adjustments	-	-	-2.324	-	-2.324
• Rate/Misc Adjustments	-	-	-0.148	-	-0.148

Change Summary Explanation

FY14 decrease in funding due to SBIR/STTR Transfer.
The FY 2016 funding request was reduced by $3.304 million to account for the availability of prior year execution balances.
The FY 2016 funding request was increased by $.980 million support NIFC-CA integration.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / *Nav Integrated Fire Control-Counter Air Sys Eng*	Project (Number/Name) 3159 / *Naval Integrated Fire Control-Counter Air SE&I*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3159: *Naval Integrated Fire Control-Counter Air SE&I*	130.559	20.937	15.263	23.695	-	23.695	28.436	28.062	29.708	28.476	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

3159 Naval Integrated Fire Control - Counter Air (NIFC-CA) Systems Engineering Integration and Test (SEI&T) project is a systems engineering effort to extend the Naval Theater Air and Missile Defense battlespace out to the maximum kinematic range of our weapons. This includes targets beyond the detection range of the shooter, including Engage On Remote (EoR) and Over the Horizon (OTH) targets. The NIFC-CA project exploits capabilities inherent in existing systems, optimizes current and emerging technologies in component system upgrades, integrates them together, and performs kill chain tests, forming an interoperable System of Systems (SoS) to maximize future air defense capabilities. NIFC-CA consists of three kill chains called From the Air (FTA), From the Sea (FTS), and From the Land (FTL). As directed by OPNAV, the project is focused on SEI&T efforts to integrate the From The Sea (FTS) kill chain consisting of the E-2D Advanced Hawkeye, Cooperative Engagement Capability (CEC), AEGIS, and SM-6 missile. This PE will support efforts including system definition and architecture development, performance prediction, performance assessment, system test and risk reduction efforts, system analysis, modeling and simulation, and capability demonstrations for the FTS kill chain. The project also facilitates the development of the concept of operations with the warfighter to maximize effectiveness when deployed with the Fleet.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Integration and Test (I&T) Integrated Product Team	8.787	6.344	9.815	-	9.815
Articles:	-	-	-	-	-
Description: The Integration and Test (I&T) Integrated Product Team (IPT) develops and executes the test plan to assess the FTS operational capability, performs risk reduction testing leveraging various component system tests. Test data will be used over time to verify, validate, and accredit the FTS simulation federation.					
FY 2014 Accomplishments: Continued the execution of test programming, including 18 successful over land simulated engagements leading up to the FTS live fire test that was conducted in March. Planned and executed numerous at sea simulated engagements leading to the successful completion of the 3 FTS live-fire test at Point Mugu Test Center (PMTC) on board the DDG-53 USS JOHN PAUL JONES in June.					
FY 2015 Plans: Continue execution of test program, support post mission analysis, and provide input and analysis of tracking exercises (TrackEx) leading to 2 FTS live fire test (LFT) events to further define the battlespace. Continue					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604378N / *Nav Integrated Fire Control-Counter Air Sys Eng*	**Project (Number/Name)** 3159 / *Naval Integrated Fire Control-Counter Air SE&I*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
employment of Fleet Training in order to deploy capability on the Theodore Roosevelt Carrier Strike Group (TR CSG) during 3Q FY 2015. ***FY 2016 Base Plans:*** The I&T IPT will continue to plan and execute test events and conduct follow-on NIFC-CA battlespace assessments for AEGIS Baseline 9 and SM-6 BLK I. Continue planning and conduct associated tracking events, modeling and simulation analysis, including execution of two live fire events in FY16. Continue operations and maintenance activities for the White Sands Missile Range (WSMR) Desert Ship Combat System and associated range facilities. Additional funding provides for the IPT to begin detailed planning for the future testing of NIFC-CA from the Sea capability with upgraded CEC, E2-D, SM-6 BLK IA, and AEGIS Advanced Capability Build (ACB)16. The next upgrade to WSMR will be the first implementation of the future NIFC-CA design (NIFC-CA 2019 configuration). The NIFC-CA 2019 configuration Live Fire test will provide critical risk reduction data prior to Live Fire Testing At-Sea in the following years. Detailed design work commencing in FY16 will include system engineering and integration aspects of the NIFC-CA 2019 configuration, with follow-on FY17-FY18 development, installation and checkout of the NIFC-CA 2019 configuration in support of Live Fire Testing in FY18. ***FY 2016 OCO Plans:*** N/A					
Title: ENGINEERING MANAGMENT AND SYSTEM DEFINITION	12.150	8.919	13.880	-	13.880
Articles:	-	-	-	-	-
Description: Engineering management and system definition including the development of the Systems Performance Document (SPD), SoS functional allocations, requirements, traceability, SoS trades studies, SoS information exchange requirements, interface specifications, and sensor network capability analysis. Provides for complete FTS kill chain performance analysis and interface verification through development of a federation of simulations provided directly from the FTS Programs of Record. Federated SoS simulations support architecture development, scenario development, predictive analysis for testing, and define capabilities and limitations of FTS kill chain performance analysis and interface verification through development of a federation of simulations provided directly from the FTS Programs of Record. Federated SoS simulations support architecture development, scenario development, predictive analysis for testing, and define capabilities and limitations of FTS kill chain for deployment.					
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604378N / *Nav Integrated Fire Control-Counter Air Sys Eng*	**Project (Number/Name)** 3159 / *Naval Integrated Fire Control-Counter Air SE&I*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continued the integration of Pillar program models into the NIFC-CA Federation that supported the pre-mission and post-mission analysis for NIFC-CA test events. Successful completion of WSMR over land trackex in March and live fire event in June. Continuing to update NIFC-CA Architecture and maintain the NIFC-CA Risk Register. ***FY 2015 Plans:*** Continue integration of Pillar program models into the NIFC-CA Federation to support pre-mission and post-mission analysis for NIFC-CA test events for upcoming over land and over sea trackex and live fire events scheduled for 2QFY15. Conduct verification and initial validation efforts. Continue to ensure that Methods of Effectiveness (MOEs) and Methods of Performance (MOPs) are validated in test plans and interface with Pillar programs to maintain and update interface and performance specifications. Update NIFC-CA Architecture. Update and maintain NIFC-CA Risk Register. Continue employment of Fleet Training in order to deploy capability on the TR-CSG during 3Q FY 2015. ***FY 2016 Base Plans:*** Continue the integration of Pillar program models into the NIFC-CA Federation to support pre-mission and post-mission analysis for the two planned NIFC-CA live fire events in 2016. Continue to ensure MOEs and MOPs are validated in test plans and in more stressing test scenarios. Additional funding is required to meet design, development, installation, and check out schedule for the NIFC-CA 2019 configuration Live Fire at White Sands Missile Range while concurrently supporting Increment 1 Test Efforts (2 Firings per year on 9-month intervals) in FY16. This will support the AEGIS ACB-16 configuration and SM-6 BLK IA live fire tests and will demonstrate improved FTS capability. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	20.937	15.263	23.695	-	23.695

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0604366N: *Standard Missile SM-6*	5.775	1.943	2.106	-	2.106	3.081	2.238	0.336	0.319	Continuing	Continuing

Remarks

D. Acquisition Strategy

Not Applicable

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604378N / *Nav Integrated Fire Control-Counter Air Sys Eng*	**Project (Number/Name)** 3159 / *Naval Integrated Fire Control-Counter Air SE&I*

E. Performance Metrics

Test Program and analysis conducted using the NIFC-CA Federation will provide data to verify NIFC-CA performance with respect to NIFC-CA MOEs, MOPs, and requirements being tracked as NIFC-CA related in the Pillar Programs. NIFC-CA Federation, once validated using test event data, will be used to update the expected performance of NIFC-CA, as required, and provide feedback to Pillar programs.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / *Nav Integrated Fire Control-Counter Air Sys Eng*	Project (Number/Name) 3159 / *Naval Integrated Fire Control-Counter Air SE&I*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	C/CPFF	Various : Various	31.333	7.495	Feb 2014	5.640	Feb 2015	6.595	Feb 2016	-		6.595	-	51.063	-
Systems Engineering	C/CPFF	JHU/APL : Laurel, MD	1.665	0.500	Mar 2014	0.485	Dec 2014	0.545	Dec 2015	-		0.545	-	3.195	-
Systems Engineering	C/CPFF	NGIS : Bethpage, NY	7.621	0.205	Oct 2013	0.185	Oct 2014	0.490	Oct 2015	-		0.490	-	8.501	-
Systems Engineering	C/CPFF	LM MS2 : Moorestown, NJ	8.757	2.015	Mar 2014	1.435	Oct 2014	3.025	Oct 2015	-		3.025	-	15.232	-
Systems Engineering	C/CPFF	Raytheon Co. : Tucson, AZ	12.127	0.506	Mar 2014	0.420	Oct 2014	0.570	Oct 2015	-		0.570	-	13.623	-
Systems Engineering	WR	COTF : Norfolk, VA	0.782	0.003	Feb 2014	0.005	Dec 2014	0.005	Dec 2015	-		0.005	-	0.795	-
		Subtotal	62.285	10.724		8.170		11.230		-		11.230	-	92.409	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration and Test	C/CPAF	Raytheon : Tucson, AZ	7.148	0.090	Mar 2014	0.064	Nov 2014	0.090	Dec 2015	-		0.090	-	7.392	-
Integration and Test	WR	COTF : Norfolk, VA	0.000	0.013	Feb 2014	0.013	Dec 2014	0.013	Oct 2015	-		0.013	-	0.039	-
Integration and Test	C/BA	Wallops Island : Wallops Island, VA	0.000	0.247	Apr 2014	0.120	Nov 2014	0.325	Nov 2015	-		0.325	-	0.692	-
Integration and Test	WR	NAWC AD : Pax River, MD	0.000	0.250	Dec 2013	0.125	Nov 2014	0.250	Nov 2015	-		0.250	-	0.625	-
Integration and Test	C/CPFF	Lockheed Martin - Moorestown, NJ : Moorestown, NJ	13.638	2.011	Mar 2014	1.440	Oct 2014	2.192	Dec 2015	-		2.192	Continuing	Continuing	Continuing
Integration and Test	MIPR	PT MUGU : PT Mugu, CA	2.875	2.126	Oct 2013	1.225	Oct 2014	3.155	Oct 2015	-		3.155	-	9.381	-
Integration and Test	Various	Various : Various	24.006	4.266	Feb 2014	2.981	Feb 2015	5.318	Feb 2016	-		5.318	Continuing	Continuing	Continuing
Integration and Test	MIPR	Dept of Interior : Boise, ID	1.500	0.250	Oct 2013	0.250	Jan 2015	0.250	Jan 2016	-		0.250	-	2.250	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604378N / *Nav Integrated Fire Control-Counter Air Sys Eng*	Project (Number/Name) 3159 / *Naval Integrated Fire Control-Counter Air SE&I*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration and Test	WR	NSWC/PHD : Port Hueneme, CA	3.123	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	52.290	9.253		6.218		11.593		-		11.593	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Planning and Management	C/CPFF	Various : Various	15.984	0.960	Feb 2014	0.875	Feb 2015	0.872	Feb 2016	-		0.872	Continuing	Continuing	Continuing
		Subtotal	15.984	0.960		0.875		0.872		-		0.872	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	130.559	20.937		15.263		23.695		-		23.695	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604378N / *Nav Integrated Fire Control-Counter Air Sys Eng*	**Project (Number/Name)** 3159 / *Naval Integrated Fire Control-Counter Air SE&I*

NIFC-CA
Planning Schedule

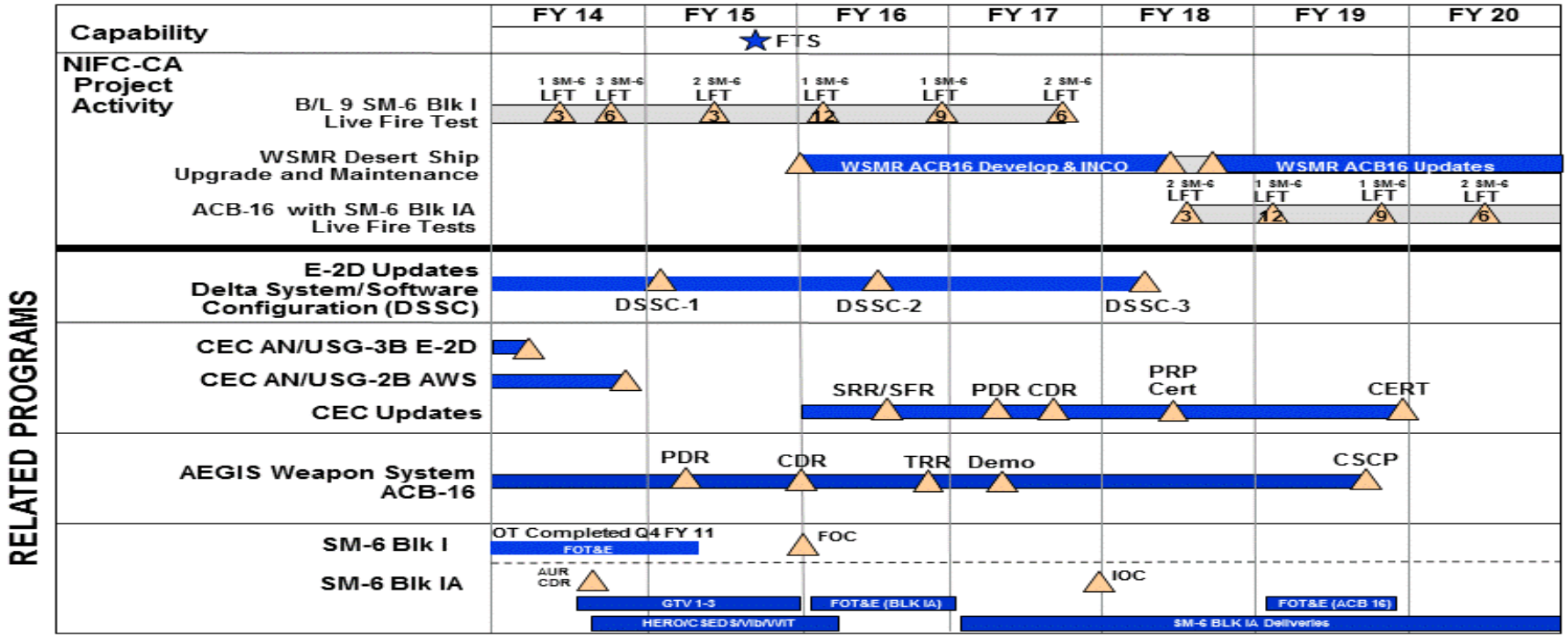


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604378N / *Nav Integrated Fire Control-Counter Air Sys Eng*	**Project (Number/Name)** 3159 / *Naval Integrated Fire Control-Counter Air SE&I*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3159				
FROM THE SEA (FTS) CAPABILITY DEPLOYMENT	3	2015	3	2015
NIFC-CA FIRING EVENT 1	2	2014	2	2014
NIFC-CA FIRING EVENT 2	3	2014	3	2014
NIFC-CA FIRING EVENT 3	2	2015	2	2015
NIFC-CA FIRING EVENT 4	1	2016	1	2016
NIFC-CA FIRING EVENT 5	4	2016	4	2016
NIFC-CA FIRING EVENT 6	3	2017	3	2017
NIFC-CA FIRING EVENT 7	2	2018	2	2018
NIFC-CA FIRING EVENT 8	1	2019	1	2019
NIFC-CA FIRING EVENT 9	4	2019	4	2019
NIFC-CA FIRING EVENT 10	2	2020	2	2020
WSMR ACB16 Develop & INCO	1	2016	2	2018
WSMR ACB16 Updates	3	2018	4	2020
E-2D UPDATES DELTA SYSTEM SOFTWARE CONFIGURATION 1	1	2015	1	2015
E-2D UPDATES DELTA SYSTEM SOFTWARE CONFIGURATION 2	3	2016	3	2016
E-2D UPDATES DELTA SYSTEM SOFTWARE CONFIGURATION 3	2	2018	2	2018
CEC AN/USG-3B E-2D INTEGRATION	2	2014	2	2014
CEC AN/USG-2B AWS INTEGRATION	4	2014	4	2014
CEC UPDATE SRR/SFR	3	2016	3	2016
CEC UPDATE PDR	2	2017	2	2017
CEC UPDATE CDR	3	2017	3	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604378N / *Nav Integrated Fire Control-Counter Air Sys Eng*	**Project (Number/Name)** 3159 / *Naval Integrated Fire Control-Counter Air SE&I*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CEC UPDATE PRODUCT RELEASE PANEL (PRP) CERTIFICATION	2	2018	2	2018
CEC UPDATE CERTIFICATION	4	2019	4	2019
AEGIS WEAPON SYSTEM ACB-16 PDR	2	2015	2	2015
AEGIS WEAPON SYSTEM ACB 16 CDR	4	2015	4	2015
AEGIS WEAPON SYSTEM ACB 16 TRR	4	2016	4	2016
AEGIS WEAPON SYSTEM ACB 16 DEMONSTRATION	2	2017	2	2017
AEGIS WEAPON SYSTEM ACB 16 COMBAT SYSTEM CERTIFICATION PANEL (CSCP)	3	2019	3	2019
SM-6 BLK 1 FOC	4	2015	4	2015
SM-6 BLK 1A ALL UP ROUND (AUR) CDR	3	2014	3	2014
SM-6 BLK 1A IOC	4	2017	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604404N *I (U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	144.994	115.275	403.008	134.708	-	134.708	326.387	509.504	727.924	842.455	Continuing	Continuing
3278: *UCLASS Development*	144.994	115.275	403.008	134.708	-	134.708	326.387	509.504	727.924	842.455	Continuing	Continuing
MDAP/MAIS Code: P462												

A. Mission Description and Budget Item Justification

The Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) system will enhance carrier capability and versatility for the Joint Forces Commander through integration of a persistent and mission flexible unmanned aircraft into the Carrier Air Wing. The UCLASS Initial Capabilities Document (ICD) highlights the need for a persistent, survivable carrier-based Intelligence, Surveillance, Reconnaissance, & Targeting (ISR&T) and precision strike asset. The Department continues to assess the UCLASS program and will conduct a Strategic Portfolio Review (SPR) of Department of Defense airborne ISR&T systems and the future composition of the carrier air wing. The current funding profile reflects a rephase to the program while the SPR is conducted. The Joint Requirements Oversight Council (JROC) endorsed the UCLASS ICD in April 2011 and formally approved it on 9 Jun 11 via Joint Requirements Oversight Council Memorandum (JROCM) 087-11. In support of affordability and adaptability directives, JROCMs 086-12 and 196-12 redefined the scope of JROCM 087-11 and affirmed the urgency for a platform that supports missions ranging from permissive counter-terrorism operations, to missions in low-end contested environments, to providing enabling capabilities for high-end denied operations, as well as supporting organic Naval missions. JROCM 009-14 was issued on 4 Feb 14, directing UCLASS Early Operational Capability delivery within four to five years from Air Segment contract award. The Service approved a draft Capability Development Document on 5 Apr 13.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	121.673	403.017	668.749	-	668.749
Current President's Budget	115.275	403.008	134.708	-	134.708
Total Adjustments	-6.398	-0.009	-534.041	-	-534.041
• Congressional General Reductions	-	-0.009			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.149	-			
• SBIR/STTR Transfer	-2.249	-			
• Program Adjustments	-	-	-75.500	-	-75.500
• Rate/Misc Adjustments	-	-	-458.541	-	-458.541

Change Summary Explanation

Schedule: As a result of the decision to conduct a SPR, the program's funding profile and schedule have been adjusted to reflect an Air System contract award in 2QTR17

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604404N *I (U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*

Technical: Not Applicable

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	Project (Number/Name) 3278 / *UCLASS Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3278: *UCLASS Development*	144.994	115.275	403.008	134.708	-	134.708	326.387	509.504	727.924	842.455	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) system will enhance carrier capability and versatility for the Joint Forces Commander through integration of a persistent and mission flexible unmanned aircraft into the Carrier Air Wing (CVW). The UCLASS Initial Capabilities Document (ICD) highlights the need for a persistent, survivable carrier-based Intelligence, Surveillance, Reconnaissance, & Targeting (ISR&T) and precision strike asset. The Department continues to assess the UCLASS program and will conduct a Strategic Portfolio Review (SPR) of Department of Defense airborne ISR&T systems and the future composition of the carrier air wing. The current funding profile reflects a rephase to the program while the SPR is conducted. The Joint Requirements Oversight Council (JROC) endorsed the UCLASS ICD in April 2011 and formally approved it on 9 Jun 11 via Joint Requirements Oversight Council Memorandum (JROCM) 087-11. In support of affordability and adaptability directives, JROCMs 086-12 and 196-12 redefined the scope of JROCM 087-11 and affirmed the urgency for a platform that supports missions ranging from permissive counter-terrorism operations, to missions in low-end contested environments, to providing enabling capabilities for high-end denied operations, as well as supporting organic Naval missions. JROCM 009-14 was issued on 4 Feb 14, directing UCLASS Early Operational Capability delivery within four to five years from Air Segment contract award. The Service approved a draft Capability Development Document on 5 Apr 13.

The UCLASS system will provide persistent ISR&T with precision strike support in a range of missions including irregular warfare and major combatant operation environments. UCLASS will be a major step forward in achieving integration of manned and unmanned systems within the CVW and will contribute to increasing sea-based capacity across the spectrum of maritime and littoral missions. UCLASS will allow a CVW to provide continuous 24/7 ISR&T/strike capability. The UCLASS system will be sustainable onboard an aircraft carrier, as well as ashore, and will be designed to minimize increases in the logistics footprint of the current CVW.

The UCLASS system will have the ability to pass command and control information along with sensor data to other aircraft, naval vessels, and ground forces. Sensor data will be transmitted, in either raw or processed forms, at appropriate classification levels, to exploitation nodes afloat and ashore (e.g. Distributed Common Ground/ Surface System - Navy).

The UCLASS system will achieve these capabilities through the use of a carrier-suitable, semi-autonomous, unmanned Air Segment; a Control System and Connectivity Segment; and a Carrier Segment. These segments will be overseen by the Government Lead System Integrator (LSI), providing government-led system of systems integration for the UCLASS Program. The LSI will coordinate across all segments and with external stakeholders to ensure program activities are synchronized. The UCLASS system will interface with existing ship and land-based command and control systems, including ISR&T Tasking, Processing, Exploitation, and Dissemination systems.

The scope of the program includes, but is not limited to, system level requirements identification, allocation of requirements to segments and components, design, development, integration, fabrication, test, training, and support activities to provide the UCLASS capabilities. To accomplish these capabilities the UCLASS program will (as required) transition technologies from other programs and adapt them into the carrier environment. The UCLASS system will deliver the necessary air vehicles,

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	**Project (Number/Name)** 3278 / *UCLASS Development*

command, control, connectivity, shipboard and land-based launch and recovery control systems, associated support systems, interfaces, and upgrades to other Navy systems (as required) to meet the required capabilities.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Air Segment Product Development	45.833	259.233	20.143	-	20.143
Articles:	-	-	-	-	-
Description: Air Segment Product Development efforts include, but are not limited to, design, development, integration, fabrication, test and training to deliver a carrier-suitable, semi-autonomous, unmanned vehicle capable of sustained Intelligence, Surveillance, Reconnaissance, & Targeting (ISR&T) operations and strike capability. A prime contractor, selected following a limited source competition, will deliver the Air Segment products.					
FY 2014 Accomplishments: Continued Air Segment design and integration activities. Continued Air Segment interface activities. Continued Preliminary Design Review contracts.					
FY 2015 Plans: Continue Air Segment design and integration activities. Continue Preliminary Design Review contracts. Support Department of Defense (DoD)-led Strategic Portfolio Review (SPR) of DoD airborne ISR&T systems.					
FY 2016 Base Plans: Continue support of DoD-led SPR of DoD airborne ISR&T systems. Release Request for Proposal for the Air System contract and begin source selection activities. Continue Air Segment system integration and interface activities.					
FY 2016 OCO Plans: N/A					
Title: Control System & Connectivity (CS&C) Segment Product Development	40.071	90.113	42.738	-	42.738
Articles:	-	-	-	-	-
Description: CS&C Segment Product Development is a Government-led effort which includes, but is not limited to, the hardware, software and networks needed to establish interfaces and upgrades to existing ship and land-based command and control systems. Specifically, ISR&T, Tasking, Processing, Exploitation, and Dissemination systems will be utilized.					
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	**Project (Number/Name)** 3278 / *UCLASS Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continued CS&C Segment integration activities. Continued CS&C hardware/software development. Delivered CS&C software development tools and documentation for design and integration activities. Fabricated and delivered prototype control station for continued Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) integration activities. ***FY 2015 Plans:*** Continue Control System & Connectivity (CS&C) hardware/software development and integration. Continue fabrication of prototype control station. Initiate development and fabrication of additional prototype Common Display Station (CDS) based control stations, to include the test-transportable control station and test-ashore control station, in order to meet timelines required to support integration and flight test. Complete development of CS&C software development tools and documentation for land-based and CVN-based control stations. Conduct control station requirements verification/validation activities in Government integration lab. Continue integration of Automated Digital Network System (ADNS) hardware/software components. Complete interface development to shipboard networks. Begin integration testing between control station with shipboard networks and data links. ***FY 2016 Base Plans:*** Continue CS&C hardware/software development and integration. Continue development and fabrication of prototype CDS based control stations, to include the test-transportable control station and test-ashore control station, in order to meet timelines required to support integration and flight test. Deliver test-transportable control station. Conduct control station requirements verification/validation activities in Government integration lab. Continue integration of ADNS hardware/software components. Continue integration testing between control station with shipboard networks and data links. ***FY 2016 OCO Plans:*** N/A					
Title: Carrier (CVN) Segment Product Development	8.066	26.244	32.835	-	32.835
Articles:	-	-	-	-	-
Description: CVN Segment Product Development is a Government-led effort which includes, but is not limited to, upgrades to existing CVN infrastructure to support UCLASS capabilities. ***FY 2014 Accomplishments:*** Continued CVN Segment design and integration activities. Began implementation of ship change requests (SCDs) and Engineering Change Proposals (ECPs), and ship integration activities in accordance with Naval					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	**Project (Number/Name)** 3278 / *UCLASS Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Sea Systems Command (NAVSEA), Space and Naval Warfare Systems Command (SPAWAR), and Program Executive Office, Aircraft Carriers (PEO(CARRIERS)) processes. ***FY 2015 Plans:*** Continue engineering efforts in support of implementing SCDs and ECPs to modify CVNs for UCLASS hardware and software. Continue CVN ship integration activities and development of Concept of Operations in accordance with NAVSEA, SPAWAR, PEO(CARRIERS) Commander Naval Air Forces (CNAF), and Office of the Chief of Naval Operations (OPNAV) processes. Begin development of UCLASS modifications to existing Program of Record (PoR) shipboard systems needed to support the Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) capability to include required hardware for shipboard test and integration activities. Continue development of Navy Modernization Processes (NMP) supporting shipboard Configuration Management and Logistics. ***FY 2016 Base Plans:*** Initiate ship installation activities and upgrades to existing Carrier (CVN) infrastructure, especially critical CVN suitable technologies and mission essential equipment. Continue engineering efforts in support of implementing ship change requests (SCDs) and Engineering Change Proposals (ECP) to modify CVNs for UCLASS hardware and software. Continue CVN ship integration activities and development of Concept of Operations in accordance with Naval Sea Systems Command, Space and Naval Warfare Systems Command, Program Executive Office, Aircraft Carriers, Commander Naval Air Forces, and Office of the Chief of Naval Operations processes. Continue development of UCLASS modifications to existing PoR shipboard systems needed to support the UCLASS capability to include required hardware for shipboard test and integration activities. Continue development of NMP supporting shipboard Configuration Management and Logistics. ***FY 2016 OCO Plans:*** N/A					
Title: Lead Systems Integrator (LSI) Product Development	13.622	12.698	19.449	-	19.449
Articles:	-	-	-	-	-
Description: The LSI task is a Government-led effort including, but not limited to, architecture development, interface definition, integration, system level test and evaluation, science and technology investments, roadmap refinement, and coordination of all UCLASS capabilities across system segments.					
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	**Project (Number/Name)** 3278 / *UCLASS Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continued UCLASS efforts to implement an open system architecture across all UCLASS segments. Incorporated delivered software development tools and documentation for design and integration activities. Continued Air Segment, Control System & Connectivity (CS&C) Segment, and Carrier Segment interface activities. Continued stand up of system integration laboratories and test facilities in support of government-led program activities, including implementation of open system architectures. ***FY 2015 Plans:*** Continue UCLASS efforts to implement an open system architecture across all UCLASS segments. Continue design and integration activities. Continue Air Segment, CS&C Segment, and Carrier Segment interface activities. Continue stand up of system integration laboratories and test facilities in support of government-led program activities, including implementation of open system architectures. ***FY 2016 Base Plans:*** Continue Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) efforts to implement an open system architecture across all UCLASS segments. Continue design and integration activities. Continue Air Segment, Control System & Connectivity Segment, and Carrier Segment interface activities. Continue stand up of system integration laboratories and test facilities in support of government-led program activities, including implementation of open system architectures. ***FY 2016 OCO Plans:*** N/A					
Title: Management	5.401	9.498	10.993	-	10.993
Articles:	-	-	-	-	-
Description: Efforts include program, engineering, test, and logistics management. ***FY 2014 Accomplishments:*** Continued oversight, coordination, and management of UCLASS acquisition, system interface and integration activities. Provided oversight of UCLASS contract activities, including development of Air Segment Technology Maturation Risk Reduction (TMRR) Request for Proposal and conducted source selection. Continued logistics management tasks. Continued to maintain security and program office environments. ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	**Project (Number/Name)** 3278 / *UCLASS Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue oversight, coordination, and management of UCLASS acquisition, system interface and integration activities. Provide oversight of UCLASS contract activities. Continue logistics management tasks. Continue to maintain security and program office environments. ***FY 2016 Base Plans:*** Continue oversight, coordination, and management of UCLASS acquisition, system interface and integration activities. Provide oversight of UCLASS contract activities, including source selection for the Air System contract. Continue logistics management tasks. Continue to maintain security and program office environments. Conduct UCLASS System PDR to support key point decisions. ***FY 2016 OCO Plans:*** N/A					
Title: Test and Evaluation	2.282	4.779	6.552	-	6.552
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued test plans for surrogates, refined test facility, range and lab test requirements and supported engineering events and program management activities. ***FY 2015 Plans:*** Continue test plans for surrogates, oversee implementation of test facility, range and lab test requirements and support engineering events and program management activities. Support test for Control System & Connectivity (CS&C) and Carrier (CVN) Segments. ***FY 2016 Base Plans:*** Continue test plans for surrogates, oversee implementation of test facility, range and lab test requirements and support engineering events and program management activities. Support test for CS&C and CVN segments. ***FY 2016 OCO Plans:*** N/A					
Title: Support	-	0.443	1.998	-	1.998
Articles:	-	-	-	-	-
Description: Efforts include studies, analyses and training development support. ***FY 2014 Accomplishments:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	**Project (Number/Name)** 3278 / *UCLASS Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2015 Plans:*** Initiate logistics supportability studies and analyses, modeling and simulation, and development of manpower and training assessments. ***FY 2016 Base Plans:*** Continue logistics supportability studies and analyses, modeling and simulation, and development of manpower and training assessments. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	115.275	403.008	134.708	-	134.708

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Government will act as the system integrator across all Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) segments, including Air Segment, Control System & Connectivity (CS&C) Segment, and Carrier (CVN) Segment. The UCLASS Program will leverage existing Navy information dissemination and Department infrastructures, as the government-led system of systems integration is accomplished across all segments. The Government will manage the system level architecture and interfaces, and foster efficient data exchanges and integration. Specifically, the CS&C and CVN segments will be organically managed by the Government Lead System Integrator and will modify existing systems via the effected system's Engineering Change Proposal and configuration management processes. These integration tasks include successful demonstration of integration with the CVN landing system, integration of control system, and integration with the Tasking, Collecting, Processing, Exploitation, Dissemination interfaces to include successful transmission of mission system data. The Government will develop and award contracts as required to support program activities, including a contract for the Air System. The Government's acquisition strategy was approved on 7 Jun 13. Acquisition and contracting strategies comply with current statutes, regulations, and instructions.

E. Performance Metrics

Meet Navy operational requirements as defined in requirements documents.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	Project (Number/Name) 3278 / *UCLASS Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Segment (Primary Hardware Development)	SS/FFP	Boeing : St. Louis, MO	6.250	8.750	Nov 2013	5.000	Nov 2014	-		-		-	-	20.000	20.000
Air Segment (Primary Hardware Development)	SS/FFP	General Atomics : Poway, CA	6.250	8.750	Nov 2013	5.000	Nov 2014	-		-		-	-	20.000	20.000
Air Segment (Primary Hardware Development)	SS/FFP	Lockheed Martin : Palmdale, CA	6.250	8.750	Nov 2013	5.000	Nov 2014	-		-		-	-	20.000	20.000
Air Segment (Primary Hardware Development)	SS/FFP	Northrop Grumman : El Segundo, CA	6.250	8.750	Nov 2013	5.000	Nov 2014	-		-		-	-	20.000	20.000
Air Segment (Primary Hardware Development)	C/CPIF	TBD : TBD	0.000	-		218.050	Sep 2016	-		-		-	Continuing	Continuing	Continuing
Air Segment - Systems Engineering	WR	NAWCAD : Patuxent River, MD	14.179	10.082	Dec 2013	20.453	Dec 2014	19.069	Dec 2015	-		19.069	Continuing	Continuing	Continuing
Air Segment - Systems Engineering	Various	Various : Various	0.415	0.751	Dec 2013	0.730	Dec 2014	1.074	Dec 2015	-		1.074	Continuing	Continuing	Continuing
CS&C Segment	WR	NAWCAD : Patuxent River, MD	14.988	10.239	Dec 2013	31.938	Dec 2014	12.048	Dec 2015	-		12.048	Continuing	Continuing	Continuing
CS&C Segment	Various	Various : Various	8.274	3.412	Dec 2013	5.549	Dec 2014	3.674	Dec 2015	-		3.674	Continuing	Continuing	Continuing
CS&C Segment	Various	NSMA : Arlington, VA	5.586	0.960	Dec 2013	5.398	Dec 2014	4.987	Dec 2015	-		4.987	Continuing	Continuing	Continuing
CS&C Segment	WR	NAWCWD : China Lake, CA	7.064	3.462	Dec 2013	1.723	Dec 2014	-		-		-	-	12.249	12.249
CS&C Segment	WR	NAWCWD : Point Mugu, CA	4.879	4.082	Dec 2013	2.323	Dec 2014	-		-		-	-	11.284	11.284
CS&C Segment	WR	SPAWAR : San Diego, CA	4.622	7.420	Dec 2013	13.129	Dec 2014	10.737	Dec 2015	-		10.737	Continuing	Continuing	Continuing
CS&C Segment	C/CPFF	Raytheon : El Segundo, CA	0.000	10.496	Dec 2013	-		-		-		-	-	10.496	10.496
CS&C Segment (Comms, Network, Intel)	TBD	TBD : TBD	0.000	-		14.169	Dec 2014	3.726	Dec 2015	-		3.726	Continuing	Continuing	Continuing
CS&C Segment (CDS)	TBD	TBD : TBD	0.000	-		15.884	Mar 2015	7.566	Nov 2015	-		7.566	Continuing	Continuing	Continuing
Carrier Segment (Ship Integration)	Various	Various : Various	2.903	0.796	Dec 2013	0.656	Dec 2014	0.767	Dec 2015	-		0.767	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	Project (Number/Name) 3278 / *UCLASS Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Carrier Segment (Ship Integration)	WR	NAWCAD : Patuxent River, MD	7.901	7.270	Dec 2013	22.923	Dec 2014	21.748	Dec 2015	-		21.748	Continuing	Continuing	Continuing
Carrier Segment (Ship Integration)	WR	NAWCAD : Lakehurst, NJ	0.000	-		1.948	Dec 2014	3.801	Dec 2015	-		3.801	Continuing	Continuing	Continuing
Carrier Segment	WR	SPAWAR : San Diego, CA	0.000	-		0.717	Dec 2014	6.519	Dec 2015	-		6.519	Continuing	Continuing	Continuing
LSI - Mission Effectiveness Analyses (Primary Hardware Development)	Various	Various : Various	5.709	4.134	Dec 2013	1.402	Dec 2014	2.064	Dec 2015	-		2.064	Continuing	Continuing	Continuing
LSI - Mission Effectiveness Analyses (Primary Hardware Development)	WR	NAWCAD : Patuxent River, MD	3.283	1.398	Dec 2013	1.825	Dec 2014	2.686	Dec 2015	-		2.686	Continuing	Continuing	Continuing
LSI - Mission Effectiveness Analyses (Primary Hardware Development)	WR	NAWCWD : China Lake, CA	3.729	1.520	Dec 2013	1.615	Dec 2014	1.789	Dec 2015	-		1.789	Continuing	Continuing	Continuing
LSI - Systems Engineering	Various	Various : Various	2.045	2.801	Dec 2013	3.937	Dec 2014	4.219	Dec 2015	-		4.219	Continuing	Continuing	Continuing
LSI - Systems Engineering	WR	NAWCAD : Patuxent River, MD	1.059	3.769	Dec 2013	3.919	Dec 2014	8.691	Dec 2015	-		8.691	Continuing	Continuing	Continuing
Prior year Prod Dev costs no longer funded in the FYDP	Various	Various : Various	17.424	-		-		-		-		-	-	17.424	-
		Subtotal	129.060	107.592		388.288		115.165		-		115.165	-	-	-

Remarks

Control System and Connectivity (CS&C) Segment
Navy Systems Management Activity (NSMA)
Common Display Station (CDS)
Lead Systems Integrator (LSI)
Decreases to the CS&C NAWCAD Patuxent River, MD line in FY16 are the result of Common Control Station efforts moving to Program Element 0305205N Unmanned Aircraft System (UAS) Integration and Interoperability in FY16.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	Project (Number/Name) 3278 / *UCLASS Development*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Manpower Studies & Analyses	Various	Various : Various	0.000	-		0.233	Jan 2015	0.343	Jan 2016	-		0.343	Continuing	Continuing	Continuing
Training Development	WR	NAWCAD : Patuxent River, MD	0.000	-		0.210	Dec 2014	1.655	Dec 2015	-		1.655	Continuing	Continuing	Continuing
		Subtotal	0.000	-		0.443		1.998		-		1.998	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NAWCAD : Patuxent River, MD	2.200	2.282	Dec 2013	4.779	Dec 2014	6.552	Dec 2015	-		6.552	Continuing	Continuing	Continuing
		Subtotal	2.200	2.282		4.779		6.552		-		6.552	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management	Various	Various : Various	1.089	1.519	Dec 2013	1.536	Dec 2014	2.274	Dec 2015	-		2.274	Continuing	Continuing	Continuing
Management	WR	NAWCAD : Patuxent River, MD	12.581	3.799	Dec 2013	7.848	Dec 2014	8.552	Dec 2015	-		8.552	Continuing	Continuing	Continuing
Management (Travel)	Various	NAVAIR : Patuxent River, MD	0.064	0.083	Oct 2013	0.114	Oct 2014	0.167	Oct 2015	-		0.167	Continuing	Continuing	Continuing
		Subtotal	13.734	5.401		9.498		10.993		-		10.993	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	144.994	115.275		403.008		134.708		-		134.708	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	**Project (Number/Name)** 3278 / *UCLASS Development*

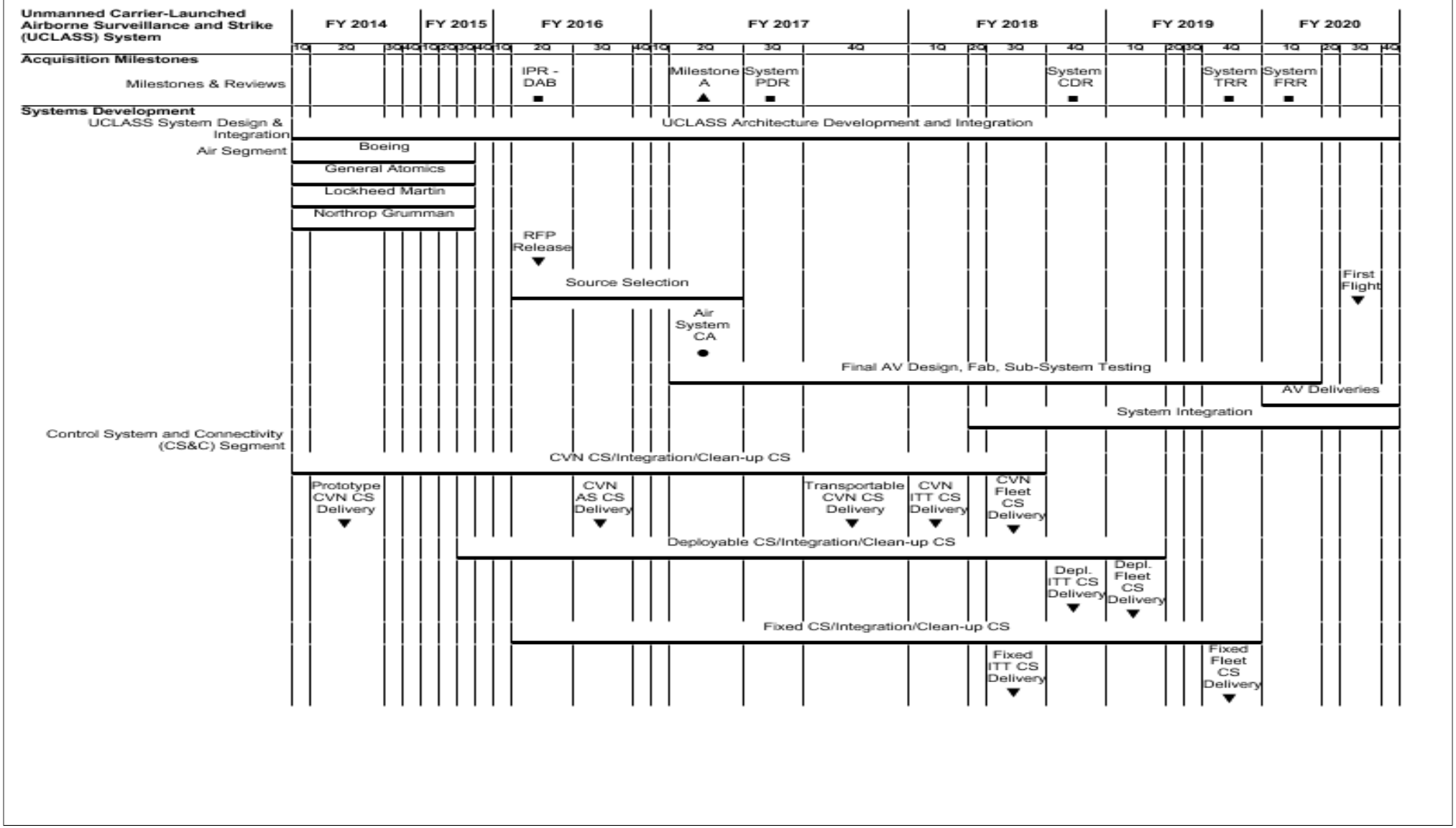
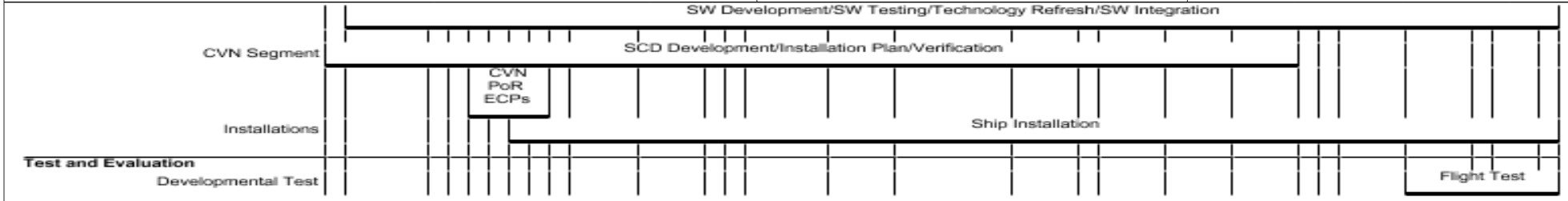


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	**Project (Number/Name)** 3278 / *UCLASS Development*



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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	**Project (Number/Name)** 3278 / *UCLASS Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) System				
Acquisition Milestones: Milestones & Reviews: Milestone A	2	2017	2	2017
Acquisition Milestones: Milestones & Reviews: System Preliminary Design Review (PDR)	3	2017	3	2017
Acquisition Milestones: Milestones & Reviews: System Concept Design Review (CDR)	4	2018	4	2018
Acquisition Milestones: Milestones & Reviews: System Technical Readiness Review (TRR)	4	2019	4	2019
Acquisition Milestones: Milestones & Reviews: Flight Readiness Review (FRR)	1	2020	1	2020
Acquisition Milestones: Milestones & Reviews: In Progress Review (IPR) - Defense Acquisition Board (DAB)	2	2016	2	2016
Systems Development: UCLASS System Design & Integration: UCLASS Architecture Development and Integration	1	2014	4	2020
Systems Development: Air Segment: Boeing	1	2014	3	2015
Systems Development: Air Segment: General Atomics	1	2014	3	2015
Systems Development: Air Segment: Lockheed Martin	1	2014	3	2015
Systems Development: Air Segment: Northrop Grumman	1	2014	3	2015
Systems Development: RFP Release for Air System Contract Award	2	2016	2	2016
Systems Development: Source Selection Activities	2	2016	2	2017
Systems Development: First Flight	3	2020	3	2020
Systems Development: Air System Contract Award	2	2017	2	2017
Systems Development: Final Air Vehicle (AV) Design, Fab, Sub-System Testing	2	2017	1	2020
Systems Development: AV Deliveries	1	2020	4	2020
Systems Development: System Integration	2	2018	4	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604404N / *(U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys*	**Project (Number/Name)** 3278 / *UCLASS Development*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Systems Development: Carrier Vessel Nuclear (CVN) Control Station (CS)/Integration/ Clean-up CS	1	2014	3	2018
Systems Development: Prototype CVN CS Delivery	2	2014	2	2014
Systems Development: CVN Integrated Test Team (ITT) CS Delivery	1	2018	1	2018
Systems Development: Transportable CVN CS for ITT	4	2017	4	2017
Systems Development: CVN Fleet CS Delivery	3	2018	3	2018
Systems Development: CVN Air System (AS) CS Delivery	3	2016	3	2016
Systems Development: Deployable CS/Integration/Clean-up CS	3	2015	1	2019
Systems Development: Deployable ITT CS Delivery	4	2018	4	2018
Systems Development: Deployable Fleet Deployable CS Delivery	1	2019	1	2019
Systems Development: Fixed CS/Integration/Clean-up CS	2	2016	4	2019
Systems Development: Fixed ITT CS Delivery	3	2018	3	2018
Systems Development: Fixed Fleet CS Delivery	4	2019	4	2019
Systems Development: Software (SW) Development/SW Testing/Technology Refresh/ SW Integration	2	2014	4	2020
Systems Development: CVN Segment: Ship Change Document (SCD) Development/ Installation Plan/Verification	1	2014	1	2019
Systems Development: CVN Segment: CVN Program of Record (PoR) Engineering Change Proposals (ECP)	1	2015	4	2015
Systems Development: Installations: Ship Installation	3	2015	4	2020
Test and Evaluation: Developmental Test: Flight Test	1	2020	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604501N *I Advanced Above Water Sensors*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	1,078.859	144.589	19.809	43.914	-	43.914	92.562	89.722	49.314	21.045	Continuing	Continuing
3186: *Air and Missile Defense Radar*	879.721	112.658	-	-	-	-	-	-	-	-	-	992.379
3188: *Dual-Band Radar*	66.768	15.513	8.774	6.385	-	6.385	5.009	5.133	5.299	5.410	Continuing	Continuing
3232: *Multi-Mission Signal Processor*	121.000	14.376	9.669	13.432	-	13.432	13.749	14.073	14.479	14.782	Continuing	Continuing
3236: *Advanced Radar Technology*	0.000	-	0.600	23.301	-	23.301	73.000	69.700	28.700	-	-	195.301
3301: *Improved Capabilities SPY-1 Radar*	11.370	2.042	0.766	0.796	-	0.796	0.804	0.816	0.836	0.853	Continuing	Continuing

A. Mission Description and Budget Item Justification

Air and Missile Defense Radar (AMDR): (Note: Beginning in FY15, this effort transfers to PE 0604522N) The AMDR suite is being developed to fulfill Integrated Air and Missile Defense requirements for multiple ship classes. This suite consists of an S-Band radar (AMDR-S), an X-band radar and a Radar Suite Controller (RSC). Funding will develop AMDR-S and RSC, and integrate these components with an available X band radar. AMDR will provide multi-mission capabilities, simultaneously supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as Area and Self Defense against air and surface threats. For the Ballistic Missile Defense capability, increased radar sensitivity and bandwidth over current radar systems are needed to detect, track and support engagements of advanced ballistic missile threats at the required ranges, concurrent with Area and Self Defense against Air and Surface threats. For the Area Air Defense and Self Defense capability, increased sensitivity and clutter capability is needed to detect, react to, and engage stressing Very Low Observable/Very Low Flyer (VLO/VLF) threats in the presence of heavy land, sea, and rain clutter. This effort provides for the development of an active phased array radar with the required capabilities to address the evolving threat. The AMDR suite will obtain performance and technology enhancements throughout its service life based upon an approach that includes modularity of hardware and software, a scalable design and Open Architecture (OA) compliance.

Dual Band Radar (DBR) Upgrades: Funding is for Dual Band Radar (DBR) System upgrades to implement cost savings initiatives for Volume Search Radar (VSR) modifications, supportability analysis and associated logistics product updates; future upgrades/technology insertion efforts for Multi-Function Radar (MFR)/VSR as a part of the DBR suite on CVN 78 Class ships and the MFR on DDG 1000 Class ships. Funding is also required to resolve the hardware and software issues discovered during the various test events to include: DTB2-411, Self Defense Test Ship (SDTS) testing, Land Based Testing and pertinent At-Sea test events. The upgrades will include all aspects of the radar system/subsystems, including hardware and software. Specific subsystem areas include the Array, Transmit/Receive (T/R) module, Receiver/Exciter, Signal Data Processor, Radome, and power/cooling systems. Upgrades and technology insertions are required to maintain the level of force protection needed for ship defense against all threats envisioned in the littoral environment. The supportability analysis and logistic products associated with these upgrades will also be developed and updated. DBR Battle Force Tactical Trainer (BFTT)/Cooperative Engagement Capability (CEC)/Surface Electronic Warfare Improvement Program (SEWIP) Interface: FY14-15 requirement supports the design and development of the software interface between DBR and AN/USQ-46 BFTT, CEC and

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604501N *I Advanced Above Water Sensors*

SEWIP to enhance CVN 78 combat readiness. DBR CVN 78 Testing and Certification: FY14-FY17 requirement supports DBR At-Sea Test and Evaluation (T&E), Environmental Testing and DBR Systems Certification for CVN 78.

Multi-Mission Signal Processor (MMSP): The development of Multi-Mission Signal Processor (MMSP) provides Anti-Air Warfare (AAW)/Ballistic Missile Defense (BMD) Multi-mission capability for DDG 51 class ships as part of Aegis Modernization Program. This capability will be utilized for DDG 113 and follow new construction and Aegis Ashore. Modifies SPY-1D Transmitters to enable dual beam for reduced frame times and better reaction time, and provides stability for all D (V) waveforms and avoid operational degradation. The SPY-1 radar system detects, tracks and supports engagements of a broader range of threats. MMSP improves performance in littoral, ducted clutter environments, and in electronic attack (EA), and chaff environments and provides greater commonality in computer programs and equipment. This effort also provides for the development of a Solid State Switch Assembly (SSSA) through an ONR/MANTECH project, MMSP Commercial Off-The-Shelf (COTS) refresh, radar capability upgrades, reliability improvements, and ship-based Non-Cooperative Target Recognition (NCTR).

Advanced Radar Technology (ART): Funds the development and integration of existing and new radar technologies into the Navy's sensors to enhance performance and/or ensure sensor operations and sustainment throughout the lifecycle of the sensor and platforms on which installed.

Enterprise Air Surveillance Radar (EASR): EASR will modify an existing radar technology to meet the air surveillance requirements for multiple ship classes. EASR will be one sensor in a suite that is designed to meet the performance needs for ship self-defense, situational awareness and air traffic control. EASR will replace the Volume Search Radar (VSR) in the CVN 78 Class Dual Band Radar system and the AN/SPS-48/49 radar systems in numerous ship classes. The AN/SPS-48 Radars are long-range, three-dimensional (3-D) radars used to search, detect and provide space-stabilized, three-coordinate (range, bearing, height) data for air intercept control and designation to a weapon system. The AN/SPS-49A(V)1 radar system is a long range, two dimensional (2-D), L-Band air surveillance radar installed on USN major combatants. The AN/SPY-4 Volume Search Radar (VSR) is an S-Band active phased array radar deployed on CVN 78 providing volume surveillance and air traffic control. EASR funding will develop a modern 3-D air search radar that addresses the latest requirements for Aviation and Amphibious Warfare Ships and closely conforms to existing combat system interfaces, as well as aligns with existing shipboard space, weight, and power limits. The architecture and acquisition strategy for EASR is intended to drive a lower recurring cost by utilizing the same core technology for both fixed-face and rotating array variants.

Enterprise X-Band Illuminator (EXI): EXI funding will develop an X-band illuminator compatible with the EASR into a radar and Combat System suite, in order to mitigate the risk of changes to the CVN 78 class Island. Funding will also integrate a new planar array missile illuminator for future CVN applications as well as other ship classes.

Improved Capabilities for SPY-1 Radar: These Reliability, Maintainability, and Availability (RM&A) improvements are intended to reduce cascading failures, mitigate obsolescence issues, and improve reliability in support of Anti-Air Warfare (AAW) and Ballistic Missile Defense (BMD) missions; while still providing AN/SPY-1 Radar Total Ownership Cost Reductions. Improvements will yield reductions in annual fleet maintenance costs.

Advanced Radar Innovation Fund/Advanced Radar Research: Funds the development and integration of existing and new technologies into the Navy's sensors to enhance performance and ensure sensor operations and sustainment throughout the lifecycle of the sensor and platforms on which installed.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604501N *I Advanced Above Water Sensors*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	157.871	20.409	20.755	-	20.755
Current President's Budget	144.589	19.809	43.914	-	43.914
Total Adjustments	-13.282	-0.600	23.159	-	23.159
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.600			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-9.141	-			
• SBIR/STTR Transfer	-4.141	-			
• Program Adjustments	-	-	23.300	-	23.300
• Rate/Misc Adjustments	-	-	-0.141	-	-0.141

Change Summary Explanation

FY14: Decrease due to SBIR/STTR reduction and funding realignment to DDG1000 and SSDS RDTEN

FY16: Proj: 3236: Increase due to the development of the Enterprise Air Surveillance Radar (EASR).

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / *Advanced Above Water Sensors*	Project (Number/Name) 3186 / *Air and Missile Defense Radar*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3186: *Air and Missile Defense Radar*	879.721	112.658	-	-	-	-	-	-	-	-	-	992.379
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Air and Missile Defense Radar (AMDR): (Note: Beginning in FY15, this effort transfers to PE 0604522N) The AMDR suite is being developed to fulfill Integrated Air and Missile Defense requirements for multiple ship classes. This suite consists of an S-Band radar (AMDR-S), an X-band radar and a Radar Suite Controller (RSC). Funding will develop AMDR-S and RSC, and integrate these components with an available X band radar. AMDR will provide multi-mission capabilities, simultaneously supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as Area and Self Defense against air and surface threats. For the Ballistic Missile Defense (BMD) capability, increased radar sensitivity and bandwidth over current radar systems are needed to detect, track and support engagements of advanced ballistic missile threats at the required ranges, concurrent with Area and Self Defense against Air and Surface threats. For the Area Air Defense and Self Defense capability, increased sensitivity and clutter capability is needed to detect, react to, and engage stressing Very Low Observable/Very Low Flyer (VLO/VLF) threats in the presence of heavy land, sea, and rain clutter. This effort provides for the development of an active phased array radar with the required capabilities to address the evolving threat. The AMDR suite will obtain performance and technology enhancements throughout its service life based upon an approach that includes modularity of hardware and software, a scalable design and Open Architecture (OA) compliance.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SYSTEMS ENGINEERING	109.159	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Awarded AMDR-S/RSC Engineering and Manufacturing Development (E&MD) contract - Matured AMDR design and radar parameters necessary for ship integration - Supported E&MD Phase Integrated Baseline Review (IBR) - Conducted Hardware Delta Preliminary Design review (PDR) and System Delta PDR - Developed modeling and simulation tools - Conducted performance analysis in support of system design					
FY 2015 Plans: N/A					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3186 / *Air and Missile Defense Radar*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 OCO Plans:*** N/A					
Title: PROGRAM MANAGEMENT SUPPORT	3.499	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Provided support to IPTs and WGs required for program execution of the E&MD contract - Analyzed and assessed contractor deliverables - Conducted regular Program Management reviews - Assisted in cost, schedule, and performance management, contract administration and oversight, earned value assessment, and risk identification and mitigation - Provided support to Hardware Delta PDR and System Delta PDR - Provided support to technical interchange meetings (TIMs). ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	112.658	-	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0604522N: *Air and Missile Defense Radar*	-	129.706	241.754	-	241.754	151.870	32.662	28.877	29.868	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3186 / *Air and Missile Defense Radar*

D. Acquisition Strategy

AMDR: Plans for the Air and Missile Defense Radar are to leverage research and development investments, integrate sufficiently matured fundamental advanced technologies from technology risk reduction efforts, and incorporate Open Architecture approaches to develop a scalable radar design with major improvements in power, sensitivity, resistance to natural and man-made environments over current radar systems for simultaneous multi-mission BMD, Area and Self Defense Anti-Air Warfare (AAW). System design will be accomplished by employing proven technologies and commercial standards to lower schedule risk and develop a product with the lowest life-cycle cost.

Program scope consists of the following phases: a Concept Studies phase; a Technology Development phase which included competitive prototyping; an E&MD phase which includes completion of a full Engineering Development Model (EDM) for land-based testing; and transition to production. The detailed scope of this acquisition is defined in the approved Milestone B AMDR Acquisition Strategy.

E. Performance Metrics

- Complete Technology Development (TD) phase System Requirements Review, Test Readiness Review, TD Prototype testing, TD System Functional Review, and TD Preliminary Design Review (PDR)
- Achieve Milestone B decision to proceed into E&MD phase
- Award E&MD contract
- Conduct E&MD Phase Integrated Baseline Review
- Conduct Hardware Delta PDR and System Delta PDR
- Conduct Hardware and System CDRs
- Complete Engineering Development Model (EDM) Testing
- Achieve Milestone C decision to proceed into production and exercise Low Rate Initial Production (LRIP) options

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / *Advanced Above Water Sensors*	Project (Number/Name) 3186 / *Air and Missile Defense Radar*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Risk Reduction	WR	SCSC Wallops : Wallops Island, VA	10.530	-		-		-		-		-	-	10.530	-
Risk Reduction	MIPR	DMEA : McClellen AFB, CA	48.022	-		-		-		-		-	-	48.022	-
Risk Reduction	SS/CPFF	JHU/APL : Baltimore, MD	9.920	-		-		-		-		-	-	9.920	-
Risk Reduction	MIPR	MIT : Cambridge, MA	2.538	-		-		-		-		-	-	2.538	-
Risk Reduction	WR	NRL : Washington, DC	8.094	-		-		-		-		-	-	8.094	-
Risk Reduction	C/CPAF	BAE Systems : Rockville, MD	1.980	-		-		-		-		-	-	1.980	-
Risk Reduction	WR	NSWC/CR : Crane, IN	0.746	-		-		-		-		-	-	0.746	-
Risk Reduction	C/CPFF	SPA-PSS : Alexandria, VA	3.817	-		-		-		-		-	-	3.817	-
Risk Reduction	WR	NSWC/DD : Dahlgren, VA	6.439	-		-		-		-		-	-	6.439	-
Risk Reduction	MIPR	DARPA : Adelphi, MD	5.882	-		-		-		-		-	-	5.882	-
Engineering & Manufacturing Development	C/CPIF	Raytheon : Sudbury, MA	156.960	76.796	Apr 2014	-		-		-		-	-	233.756	-
Systems Engineering	SS/FFP	BAE Systems : Rockville, MD	9.536	-		-		-		-		-	-	9.536	-
Systems Engineering	Various	VARIOUS-SPECIAL : Special	3.078	-		-		-		-		-	-	3.078	-
Systems Engineering	C/FFP	CS-Northrop Grumman : Linthicum Heights, MD	10.000	-		-		-		-		-	-	10.000	-
Systems Engineering	C/FFP	CS-Lockheed Martin : Moorestown, NJ	10.000	-		-		-		-		-	-	10.000	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	C/FFP	CS-Raytheon : Sudbury, MA	9.909	-		-		-		-		-	-	9.909	-
Systems Engineering	WR	NAVFAC MID-ATLANTIC : Pearl Harbor, HI	4.026	-		-		-		-		-	-	4.026	-
Systems Engineering	WR	NSWC/PHD (VAB) : Virginia Beach, VA	0.730	-		-		-		-		-	-	0.730	-
Systems Engineering	C/FP	Program Office Ststem Engineering Staff : Washington, DC	1.855	-		-		-		-		-	-	1.855	-
Systems Engineering	SS/CPFF	INTEGRITS (via KRATOS) : San Diego, CA	0.149	-		-		-		-		-	-	0.149	-
Systems Engineering	C/FPIF	TD Contractor Raytheon : Sudbury, MA	116.839	-		-		-		-		-	-	116.839	-
Systems Engineering	C/FPIF	TD Contractor Northrop Grumman : Linthicum Heights, MD	120.000	-		-		-		-		-	-	120.000	-
Systems Engineering	C/FPIF	TD Contractor Lockheed Martin : Moorestown, NJ	119.157	-		-		-		-		-	-	119.157	-
		Subtotal	660.207	76.796		-		-		-		-	-	737.003	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	COMOPTEVFOR : Norfolk, VA	0.870	-		-		-		-		-	-	0.870	-
Systems Engineering	MIPR	GTRI : Atlanta, GA	6.273	0.415	Apr 2014	-		-		-		-	-	6.688	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / *Advanced Above Water Sensors*	Project (Number/Name) 3186 / *Air and Missile Defense Radar*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/CPFF	JHU/APL : Baltimore, MD	55.296	5.771	Jan 2014	-		-		-		-	-	61.067	-
Systems Engineering	MIPR	MIT : Cambridge, MA	15.608	1.931	Dec 2013	-		-		-		-	-	17.539	-
Systems Engineering	WR	NRL : Washington, DC	5.722	1.606	Dec 2013	-		-		-		-	-	7.328	-
Systems Engineering	WR	NSWC/CR : Crane, IN	5.229	2.515	Dec 2013	-		-		-		-	-	7.744	-
Systems Engineering	WR	NSWC/DD : Dahlgren, VA	49.418	5.817	Dec 2013	-		-		-		-	-	55.235	-
Systems Engineering	WR	NSWC/PHD : Port Hueneme, CA	10.394	1.531	Jan 2014	-		-		-		-	-	11.925	-
Systems Engineering	WR	SPAWAR : San Diego, CA	0.000	0.009	Aug 2014	-		-		-		-	-	0.009	-
Systems Engineering	C/CPFF	SPA-PSS : Alexandria, VA	22.172	1.203	Jan 2014	-		-		-		-	-	23.375	-
Systems Engineering	MIPR	ARL : Adelphi, MD	0.454	0.460	Jun 2014	-		-		-		-	-	0.914	-
Systems Engineering	WR	NSWC/CD : Carderock, MD	0.256	0.291	Dec 2013	-		-		-		-	-	0.547	-
Systems Engineering	C/FFP	Alion Science : Washington, DC	0.543	-		-		-		-		-	-	0.543	-
Systems Engineering	WR	CDSA Dam Neck : Dam Neck, VA	0.723	0.521	Dec 2013	-		-		-		-	-	1.244	-
Systems Engineering	WR	ONI : Washington, DC	1.157	-		-		-		-		-	-	1.157	-
Systems Engineering	WR	NSWC Corona : Corona, CA	0.694	-		-		-		-		-	-	0.694	-
		Subtotal	174.809	22.070		-		-		-		-	-	196.879	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	COMOPTEVFOR : Norfolk, VA	0.066	0.270	Jan 2014	-		-		-		-	-	0.336	-
Test and Evaluation	MIPR	GTRI : Atlanta, GA	0.472	0.100	Apr 2014	-		-		-		-	-	0.572	-
Test and Evaluation	SS/CPFF	JHU/APL : Baltimore, MD	4.162	1.873	Jan 2014	-		-		-		-	-	6.035	-
Test and Evaluation	MIPR	MIT : Cambridge, MA	1.175	0.272	Dec 2013	-		-		-		-	-	1.447	-
Test and Evaluation	WR	NAWC WD : Pt. Mugu, CA	4.976	0.080	May 2014	-		-		-		-	-	5.056	-
Test and Evaluation	WR	NRL : Washington, DC	0.431	0.139	Dec 2013	-		-		-		-	-	0.570	-
Test and Evaluation	WR	NSWC/DD : Dahlgren, VA	3.720	0.398	Dec 2013	-		-		-		-	-	4.118	-
Test and Evaluation	WR	NSWC/PHD : Port Hueneme, CA	0.782	1.679	Jan 2014	-		-		-		-	-	2.461	-
Test and Evaluation	WR	PMRF : Kekaha, HI	1.927	0.407	Jun 2014	-		-		-		-	-	2.334	-
Test and Evaluation	C/CPFF	SPA-PSS : Alexandria, VA	1.669	1.365	Jan 2014	-		-		-		-	-	3.034	-
Test and Evaluation	C/BA	SCSC Wallops : Wallops Island, VA	0.078	0.012	Feb 2014	-		-		-		-	-	0.090	-
Test and Evaluation	C/BA	SPAWAR : San Diego, CA	0.142	-		-		-		-		-	-	0.142	-
Test and Evaluation	C/BA	NSWC PHD WS : Port Hueneme, CA	0.000	3.698	May 2014	-		-		-		-	-	3.698	-
		Subtotal	19.600	10.293		-		-		-		-	-	29.893	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Management Services	C/CPFF	SPA-PSS : Norfolk, VA	14.321	2.263	Jan 2014	-		-		-		-	-	16.584	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / *Advanced Above Water Sensors*	Project (Number/Name) 3186 / *Air and Missile Defense Radar*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Allot	PEOIWS2 : Washington, DC	0.624	0.115	Dec 2013	-		-		-		-	-	0.739	-
Support Management Services	WR	NSWC/DD : Dahlgren, VA	3.186	1.121	Dec 2013	-		-		-		-	-	4.307	-
Support Management Services	SS/FFP	BAE Systems : Rockville, MD	5.319	-		-		-		-		-	-	5.319	-
DAWDF	Various	N/A : N/A	0.513	-		-		-		-		-	-	0.513	-
Support Management Services	WR	NSWC/IHM : Indian Head, MD	1.142	-		-		-		-		-	-	1.142	-
		Subtotal	25.105	3.499		-		-		-		-	-	28.604	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	879.721	112.658		-		-		-		-	-	992.379	-

Remarks

The R-3 cost categories have been expanded from PB15 to show more detail. Specifically, Support and Test and Evaluation categories have been broken out from Product Development.

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3186 / *Air and Missile Defense Radar*

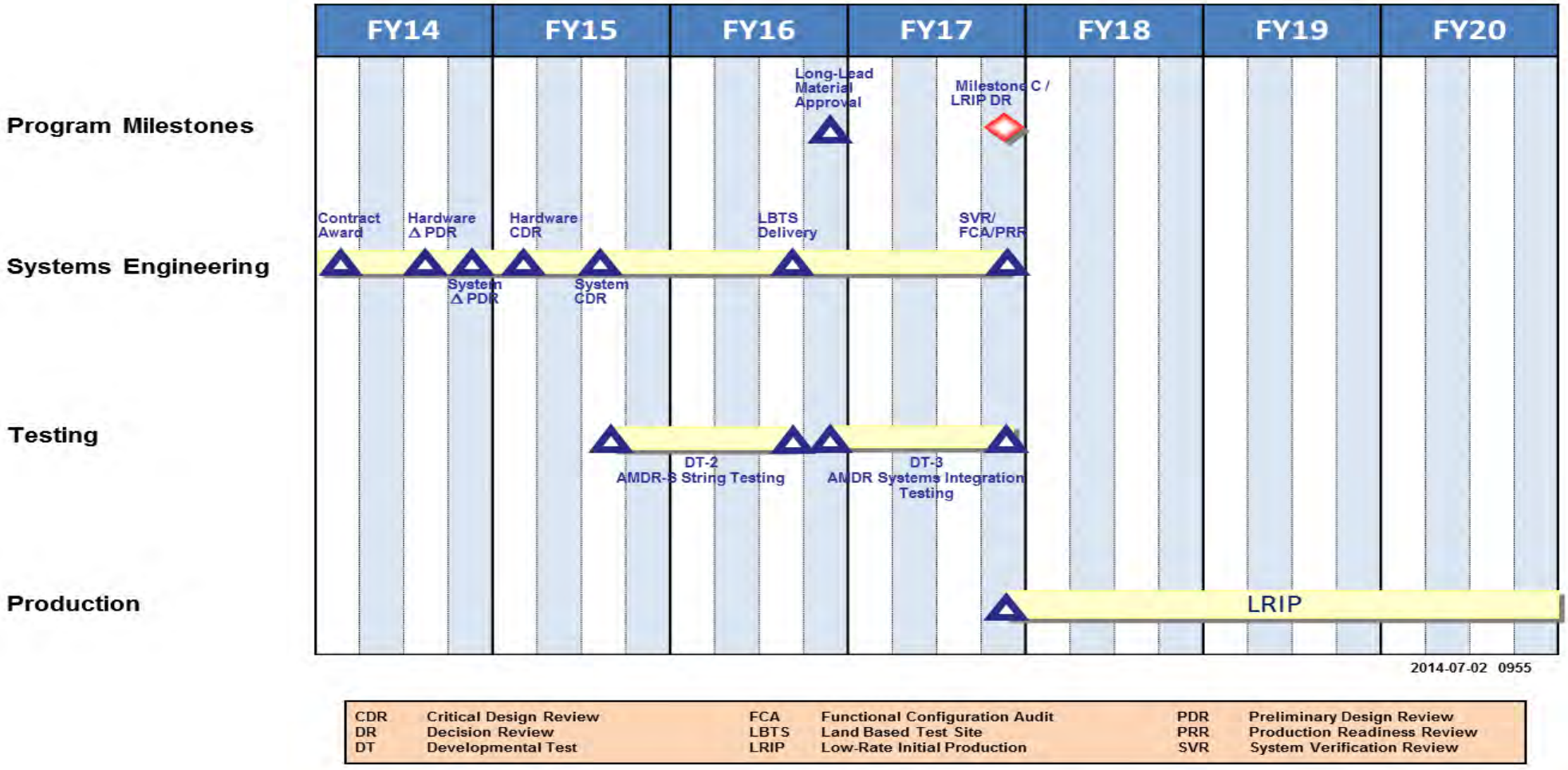


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3186 / *Air and Missile Defense Radar*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3186				
Engineering and Manufacturing Development (E&MD) Contract Award	1	2014	1	2014
E&MD Hardware (HW) Delta Preliminary Design Review (PDR)	3	2014	3	2014
E&MD System Delta PDR	4	2014	4	2014
E&MD HW Critical Design Review (CDR)	1	2015	1	2015
E&MD System CDR	3	2015	3	2015
E&MD AMDR-S String Testing (DT-2)	3	2015	3	2016
Engineering Development Model delivered to Land Based Test Site	3	2016	3	2016
LRIP Long Lead Material Approval	4	2016	4	2016
E&MD AMDR System Integration Testing (DT-3)	4	2016	4	2017
System Verification Review/Functional Configuration Audit/Production Readiness Review	4	2017	4	2017
Milestone C/Low Rate Initial Production (LRIP) Decision Review (DR)	4	2017	4	2017
LRIP Production	4	2017	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / *Advanced Above Water Sensors*	Project (Number/Name) 3188 / *Dual-Band Radar*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3188: *Dual-Band Radar*	66.768	15.513	8.774	6.385	-	6.385	5.009	5.133	5.299	5.410	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Dual-Band Radar (DBR) Upgrades: Funding is for Dual Band Radar (DBR) System upgrades to implement cost savings initiatives for Volume Search Radar (VSR) modifications, supportability analysis and associated logistics product updates; future upgrades/technology insertion efforts for Multi-Function Radar (MFR)/VSR as a part of the DBR suite on CVN 78 Class ships and the MFR on DDG 1000 Class ships. Funding is also required to resolve the hardware and software issues discovered during the various test events to include: DTB2-411, SDTS testing, Land Based Testing and pertinent At-Sea test events. The upgrades will include all aspects of the radar system/subsystems, including hardware and software. Specific subsystem areas include the Array, Transmit/Receive (T/R) module, Receiver/Exciter, Signal Data Processor, Radome, and power/cooling systems. Upgrades and technology insertions are required to maintain the level of force protection needed for ship defense against all threats envisioned in the littoral environment. The supportability analysis and logistic products associated with these upgrades will also be developed and updated.

DBR Battle Force Tactical Trainer (BFTT)/Cooperative Engagement Capability (CEC)/Surface Electronic Warfare Improvement Program (SEWIP) Interface: FY14-15 requirement supports the design and development of the software interface between DBR and AN/USQ-46 BFTT, CEC and SEWIP to enhance CVN 78 combat readiness.

DBR CVN 78 Testing and Certification: FY14-FY17 requirement supports DBR At-Sea Test and Evaluation (T&E), Environmental Testing and DBR Systems Certification for CVN 78.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: RADAR UPGRADES TECHNOLOGY INSERTION	10.986	5.098	4.719	-	4.719
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Completed software development of the DBR/SEWIP interface. - Continued Technology Insertion for the MFR/VSR/DBR hardware and software and development/updates to associated logistics products. - Continued software development of the DBR/BFTT and DBR/CEC interfaces. - Continued software development to implement live over simulation training capability in support of BFTT integration. - Commenced integration of the DBR/BFTT, DBR/SEWIP and DBR/CEC interfaces.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Continued to provide technical support for DBR element certification in support of overall combat system certification. - Commenced validation testing and certification of the DBR/BFTT, DBR/CEC and DBR/SEWIP software interfaces. - Commenced planning for DBR Environmental Testing. ***FY 2015 Plans:*** - Continue Technology Insertion for the MFR/VSR/DBR hardware and software and development/updates to associated logistics products. - Complete software development to implement live over simulation training capability in support of BFTT integration. - Complete software development of the DBR/BFTT and DBR/CEC interfaces. - Complete integration of the DBR/BFTT, DBR/SEWIP and DBR/CEC interfaces. - Continue to provide technical support for DBR element certification in support of overall combat system certification. - Continue validation testing and integration of the DBR/BFFT, DBR/CEC and DBR/SEWIP software interfaces. - Continue DBR Environmental Testing. - Commence DBR Shipboard Testing. ***FY 2016 Base Plans:*** - Continue Technology Insertion for the MFR/VSR/DBR hardware and software and development/updates to associated logistics products. - Continue to provide technical support for DBR element certification in support of overall combat system certification. - Continue to provide technical support for the validation testing and certification of DBR/BFFT, DBR/CEC and DBR/SEWIP software interfaces. - Continue DBR Environmental Testing. - Continue DBR Shipboard Testing. ***FY 2016 OCO Plans:*** N/A					
Title: RADAR UPGRADES GOVERNMENT ENGINEERING SERVICES	3.764	2.616	1.424	-	1.424
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Continued to provide Government Engineering Services support for radar upgrades and technology insertion of the MFR/VSR/DBR radars. Continued to perform oversight and assessment of efforts associated with this phase of the program. - Continued to provide DBR EMI testing efforts. - Continued to provide Government Engineering Services in support of DBR/BFTT, DBR/CEC and DBR/SEWIP software interface development integration. - Continued to provide Government Engineering Services required for DBR element certification to support overall combat system certification. - Commenced validation testing and certification of the DBR/BFTT, DBR/CEC and DBR/SEWIP software interfaces. - Commenced planning for DBR Environmental Testing.					
FY 2015 Plans: - Continue to provide Government Engineering Services support for radar upgrades and technology insertion of the MFR/VSR/DBR radars. Continue to perform oversight and assessment of efforts associated with this phase of the program. - Complete Government Engineering Services support of DBR/BFTT, DBR/CEC and DBR/SEWIP software interface development integration. - Continue to provide Government Engineering Services required to complete DBR element certification to support overall combat system certification. - Continue to provide engineering services to support validation testing and certification of the DBR/BFTT, DBR/CEC and DBR/SEWIP software interfaces. - Continue to provide Government Engineering Services to support DBR EMI testing efforts. - Continue DBR Environmental Testing. - Commence DBR Shipboard Testing.					
FY 2016 Base Plans: - Continue to provide Government Engineering Services support for radar upgrades and technology insertion of the MFR/ VSR/DBR radars. Continue to perform oversight and assessment of efforts associated with this phase of the program. - Continue to provide Government Engineering Services required to complete DBR element certification to support overall combat system certification. - Continue to provide engineering services to support validation testing and certification of the DBR/BFTT, DBR/CEC and DBR/SEWIP software interfaces.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Complete EMI Analysis Testing (Co-site & Off-ship). - Continue DBR Environmental Testing. - Continue DBR Shipboard Testing. ***FY 2016 OCO Plans:*** N/A					
Title: RADAR UPGRADES PROGRAM MANAGEMENT	0.763	1.060	0.242	-	0.242
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Continued to provide Program Management and logistics support for radar upgrades and technology insertion for the MFR/VSR/DBR radars. - Continued to provide Program Management support of DBR/BFTT, DBR/CEC and DBR/SEWIP software interface development. - Commenced Program Management Support for the validation testing and certification of the DBR/BFTT, DBR/ SEWIP and DBR/CEC software interfaces. ***FY 2015 Plans:*** - Continue to provide Program Management and logistics support for radar upgrades and technology insertion for the MFR/VSR/DBR radars. - Complete Program Management support of DBR/BFTT, DBR/CEC and DBR/SEWIP software interface development. - Continue to provide Program Management for validation testing of the DBR/BFTT, DBR/CEC and DBR/SEWIP software interfaces. ***FY 2016 Base Plans:*** - Continue to provide Program Management and logistics support for radar upgrades and technology insertion for the MFR/ VSR/DBR radars. - Continue to provide Program Management for validation testing and certification of the DBR/BFTT, DBR/CEC and DBR/SEWIP software interfaces. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	15.513	8.774	6.385	-	6.385

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3188 / *Dual-Band Radar*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2980: *BLI 2980/ OPN Items Less Than $5M*	3.263	3.087	8.922	-	8.922	18.897	16.303	16.279	16.608	Continuing	Continuing
• OMN/0702228N: *0702228N/1C2C/O&M,N*	2.699	3.173	2.709	-	2.709	2.645	2.642	2.704	2.756	Continuing	Continuing

Remarks

D. Acquisition Strategy

Radar Upgrades and logistic products will be developed to address lessons learned and technology refresh for DBR systems on multiple ship classes.

E. Performance Metrics

- Complete upgrade studies and analyses each fiscal year to determine efficiencies for H/W and S/W upgrades and to determine appropriate logistics product updates
- Complete co-site and off-ship EMI analysis testing
- Complete VSR Radome development and determine opportunities to improve configuration and performance
- Complete upgrade technology insertion
- Complete development of logistics products
- Implement supportability analysis to improve supportability and reduce overall lifecycle cost
- Complete DBR At-Sea Test and Evaluation (T&E)
- Complete Environmental Testing
- Complete DBR/CEC interface development
- Complete DBR Systems Certification
- Complete Common Array Power System (CAPS) redesign
- Complete DBR/SEWIP interface development
- Complete DBR/BFTT interface development

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / *Advanced Above Water Sensors*	Project (Number/Name) 3188 / *Dual-Band Radar*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	Other Government Activities : Various	1.143	-		-		-		-		-	-	1.143	-
Government Engineering Support	WR	NSWC/Dahlgren : Dahlgren, VA	11.175	2.473	Dec 2013	1.352	Nov 2014	0.865	Dec 2015	-		0.865	Continuing	Continuing	Continuing
Government Engineering Support	WR	NSWC/PHD : Port Hueneme, CA	5.856	0.464	Dec 2013	0.166	Feb 2015	0.148	Dec 2015	-		0.148	Continuing	Continuing	Continuing
Government Engineering Support	WR	NSWC/Crane : Crane, IN	4.641	0.406	Mar 2014	0.250	Feb 2015	0.197	Dec 2015	-		0.197	Continuing	Continuing	Continuing
Government Engineering Support	WR	NRL : Washington, DC	3.725	-		-		-		-		-	-	3.725	-
Government Engineering Support	SS/CPFF	JHU/APL : Columbia, MD	0.983	0.176	Apr 2014	0.133	Feb 2015	0.119	Dec 2015	-		0.119	Continuing	Continuing	Continuing
Government Engineering Support	MIPR	NSMA : Arlington, VA	0.903	-		-		-		-		-	-	0.903	-
Government Engineering Support	SS/CPFF	GTRI : Atlanta, GA	0.948	0.132	Apr 2014	0.083	Feb 2015	0.065	Dec 2015	-		0.065	Continuing	Continuing	Continuing
Government Engineering Support	WR	NSWC/Carderock : Philadelphia, PA	0.107	0.036	Mar 2014	0.063	Dec 2014	0.030	Dec 2015	-		0.030	Continuing	Continuing	Continuing
Government Engineering Support	WR	NSWC/Dam Neck : Dam Neck, VA	0.731	0.077	Mar 2014	0.514	Feb 2015	-		-		-	-	1.322	-
Government Engineering Support	SS/CPFF	AEGIS Tech Rep : Moorestown, NJ	0.014	-		-		-		-		-	-	0.014	-
Government Engineering Support	WR	TASC : Andover, MA	0.048	-		-		-		-		-	-	0.048	-
Government Engineering Support	WR	NSWC/Corona : Corona, CA	0.446	-		0.055	Nov 2014	-		-		-	-	0.501	-
Government Engineering Support	WR	NAWC/PT MUGU : PT MUGU, CA	0.586	-		-		-		-		-	-	0.586	-
Systems Engineering	SS/CPFF	Raytheon : Raytheon, Sudbury, MA	29.284	10.986	Dec 2013	5.098	Nov 2014	4.719	Dec 2015	-		4.719	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/CPAF	Raytheon IDS : San Diego, CA	1.500	-		-		-		-		-	-	1.500	-
Systems Engineering	SS/CPFF	General Dynamics AIS : Fairfax, VA	1.000	-		-		-		-		-	-	1.000	-
Systems Engineering	SS/CPFF	PMS 320 Syntek : Arlington, VA	0.400	-		-		-		-		-	-	0.400	-
		Subtotal	63.490	14.750		7.714		6.143		-		6.143	-	-	-

Management Services ($ in Millions)

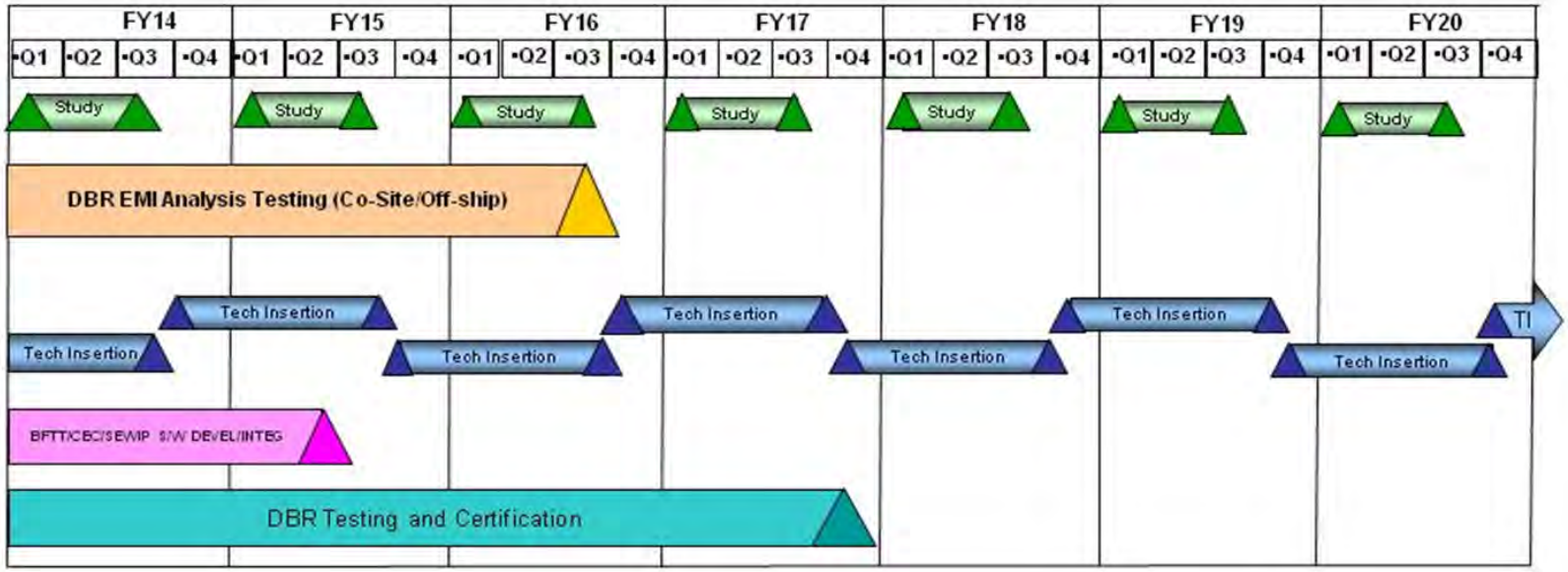
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	SPA : Washington, DC	3.065	0.750	Dec 2013	1.047	Feb 2015	0.232	Dec 2015	-		0.232	Continuing	Continuing	Continuing
DAWDF	Allot	N/A : N/A	0.027	-		-		-		-		-	-	0.027	-
Travel	Allot	PEOIWS2 : Washington, DC	0.120	0.013	Jun 2014	0.013	Jan 2015	0.010	Dec 2015	-		0.010	Continuing	Continuing	Continuing
Program Management Support	C/CPIF	ALION : Washington, DC	0.026	-		-		-		-		-	-	0.026	-
Program Management Support	C/CPFF	CACI : Washington, DC	0.040	-		-		-		-		-	-	0.040	-
		Subtotal	3.278	0.763		1.060		0.242		-		0.242	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	66.768	15.513		8.774		6.385		-		6.385	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3188 / *Dual-Band Radar*

DBR System Upgrades



Note: Supportability Analysis is conducted in conjunction with the Study.
DBR At-Sea T&E, Environmental Testing and DBR System Certification are included in the DBR Testing and Certification support

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3188				
DBR System Upgrade Studies and Analysis	1	2014	3	2020
DBR EMI Analysis Testing (Co-Site & Off-ship)	1	2014	3	2016
DBR System Upgrade Technology Insertion	1	2014	4	2020
DBR BFTT/CEC/SEWIP Integration	1	2014	2	2015
DBR Testing and Certification	1	2014	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / *Advanced Above Water Sensors*	Project (Number/Name) 3232 / *Multi-Mission Signal Processor*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3232: *Multi-Mission Signal Processor*	121.000	14.376	9.669	13.432	-	13.432	13.749	14.073	14.479	14.782	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Multi-Mission Signal Processor (MMSP): The development of Multi-Mission Signal Processor (MMSP) provides simultaneous Anti-Air Warfare (AAW)/Ballistic Missile Defense (BMD) Multi-mission capability for DDG 51 class ships as part of Aegis Modernization Program. This capability will be utilized for DDG 113 and follow new construction and Aegis Ashore. Modifies SPY-1D Transmitters to enable dual beam for reduced frame times and better reaction time, and provides stability for all D (V) waveforms and avoid operational degradation. The SPY-1 radar system detects, tracks and supports engagements of a broader range of threats. MMSP improves performance in littoral, ducted clutter environments, and in electronic attack (EA), and chaff environments and provides greater commonality in computer programs and equipment. This effort also provides for the development of a Solid State Switch Assembly (SSSA) through an ONR/MANTECH project, MMSP Commercial Off-The-Shelf (COTS) refresh, radar capability upgrades, reliability improvements, and ship-based Non-Cooperative Target Recognition (NCTR).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SYSTEMS ENGINEERING	14.376	9.669	13.432	-	13.432
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Supported Combat System Ship Qualification Trials (CSSQT) testing - Continued MMSP/ACB12 Radar Integration at-sea validation testing and computer program correction - Continued design and development of MANTECH SSSA - Continued COTS Refresh and radar improvements - Continued DDG Baseline 9 Radar Capabilities Upgrades, Ship-Based NCTR, and Baseline 9 Radar Synchronization - Finalized ACB16 Radar requirements analysis - Continued to maintain alignment with the Ballistic Missile Defense Program and the associated Ballistic Missile Defense Signal Processor (BSP) adjunct to incorporate BMD capability within MMSP during AEGIS Modernization					
FY 2015 Plans: - Continue to support MMSP/ACB12 Radar Integration at-sea validation testing and computer program correction - Complete design and development of MANTECH SSSA and initiate transition to production					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Continue COTS Refresh and radar improvements - Continue DDG Baseline 9 Radar Capabilities Upgrades, Ship-Based NCTR, and Baseline 9 Radar Synchronization - Commence ACB16 Radar upgrades for MMSP - Continue to maintain alignment with the BMD Program and the associated Ballistic Missile Defense Signal Processor (BSP) adjunct to incorporate BMD capability within MMSP during AEGIS Modernization ***FY 2016 Base Plans:*** - Continue to support MMSP/ACB12 Radar Integration at-sea validation testing and Computer Program Correction - Support Final Certification of MMSP on Destroyers - Continue COTS Refresh and Radar Capability improvements - Continue DDG Baseline 9 Radar Capabilities Upgrades, Ship-Based NCTR, and Baseline 9 Radar Synchronization - Continue ACB16 Radar upgrades for MMSP - Continue to maintain alignment with the Ballistic Missile Defense Program and the associated Ballistic Missile Defense Signal Processor (BSP) adjunct to incorporate BMD capability within MMSP during AEGIS Modernization - Commence ACB 20 Radar upgrades for MMSP - Support design verification testing of Solid State Switch Assembly (SSSA) and complete transition to production ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	14.376	9.669	13.432	-	13.432

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SCN/2122: *BLI 2122/SCN DDG 51*	2,085.115	2,925.090	3,149.703	-	3,149.703	3,353.936	3,440.080	3,543.571	3,633.657	Continuing	Continuing
• OPN/0900: *BLI 0900/ OPN DDG Modernization*	285.994	324.219	364.157	-	364.157	403.782	570.886	507.745	521.562	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3232 / *Multi-Mission Signal Processor*

D. Acquisition Strategy

Multi-Mission Signal Processor (MMSP) provides simultaneous AAW/BMD Multi-mission capability for AEGIS Modernization Program and leverages BMD 4.0.1 and SPY-1D(V) designs. This MMSP development efforts support integration of BMD 5.0 signal processing, and will lead to the OPN/SCN procurement for shore sites and shipsets. This effort also provides for the development of a Solid State Switch Assembly (SSSA) through an ONR/MANTECH project, and will lead to OPN/SCN procurement for shore sites and shipsets. COTS refresh, radar capability upgrades, reliability improvements, and ship-based Non-Cooperative Target Recognition will be incorporated into Baseline 9 and follow.

E. Performance Metrics

- Complete DDG SPY-1D(V) Engineering Exercise (EE) #2
- Complete DDG Qualification Testing
- Complete DDG ACB12 Multi-Mission Exercise
- Complete DDG Delivery
- Complete DDG Aegis Light Off (ALO)
- Complete DDG Combat System Ship Qualification Trials (CSSQT)
- Complete MMSP on DDG on Final Certification
- Complete DDG Commercial Off The Shelf (COTS) Refresh - Engineering Change Proposal (ECP) for MMSP on Destroyers
- Complete Solid State Switch Assembly (SSSA) contract award
- Complete SSSA Critical Design Review (CDR)
- Complete SSSA Final Certification
- Complete Ship-Based Non-Cooperative Target Recognition (SBNCTR) Engineering Exercise (EE)
- Complete ACB16 Preliminary Design Review (PDR)
- Complete ACB16 CDR
- Complete ACB16 Test Readiness Review (TRR)
- Complete ACB16 Demo
- Complete ACB16 AEGIS Light Off (ALO)
- Complete ACB16 Final Certification
- Complete ACB 20 PDR
- Complete ACB 20 CDR
- Complete ACB 20 TRR
- Complete ACB16 COTS Refresh
- Complete SBNCTR TRR
- Complete SSSA qualification testing
- Complete SSSA Production Readiness Review (PRR)
- Complete ACB16 System Readiness review (SRR)
- Complete DDG 116 ALO

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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- Complete ACB 20 SRR
- Complete ACB 20 In Process Review (IPR)

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SYSTEM ENGINEERING	SS/CPFF	Lockheed Martin : Moorestown, NJ	99.921	6.335	Jan 2014	6.471	Feb 2015	8.743	Dec 2015	-		8.743	Continuing	Continuing	Continuing
SYSTEM ENGINEERING	C/CPFF	AEGIS Techrep : Moorestown, NJ	3.184	0.849	Jan 2014	0.259	Feb 2015	0.540	Dec 2015	-		0.540	Continuing	Continuing	Continuing
SYSTEM ENGINEERING	SS/FP	APL/JHU : Laurel, MD	2.611	0.920	Feb 2014	0.250	Feb 2015	0.426	Feb 2016	-		0.426	Continuing	Continuing	Continuing
SYSTEM ENGINEERING	WR	CSCS : Dahlgren, VA	0.951	0.303	Mar 2014	0.122	Apr 2015	0.171	Dec 2015	-		0.171	Continuing	Continuing	Continuing
SYSTEM ENGINEERING	WR	NRL : Washington, DC	1.959	0.499	Dec 2013	0.200	Feb 2015	0.409	Dec 2015	-		0.409	Continuing	Continuing	Continuing
SYSTEM ENGINEERING	MIPR	MIT/LL : Lexington, MA	0.300	0.350	Mar 2014	0.200	Mar 2015	0.395	Mar 2016	-		0.395	Continuing	Continuing	Continuing
SYSTEM ENGINEERING	WR	NSWC/DD : Dahlgren, VA	3.305	1.085	Dec 2013	1.084	Feb 2015	1.218	Nov 2015	-		1.218	Continuing	Continuing	Continuing
SYSTEM ENGINEERING	WR	NSWC/CR : Crane, IN	2.362	0.668	Dec 2013	0.191	Oct 2014	0.277	Nov 2015	-		0.277	Continuing	Continuing	Continuing
SYSTEM ENGINEERING	WR	NSWC/PHD : Port Hueneme, CA	2.849	0.614	Dec 2013	0.210	Feb 2015	0.220	Dec 2015	-		0.220	Continuing	Continuing	Continuing
SYSTEM ENGINEERING	WR	Office of Naval Research : Arlington, VA	2.150	2.400	Mar 2014	0.329	Apr 2015	0.600	Feb 2016	-		0.600	-	5.479	-
		Subtotal	119.592	14.023		9.316		12.999		-		12.999	-	-	-

Management Services ($ in Millions)

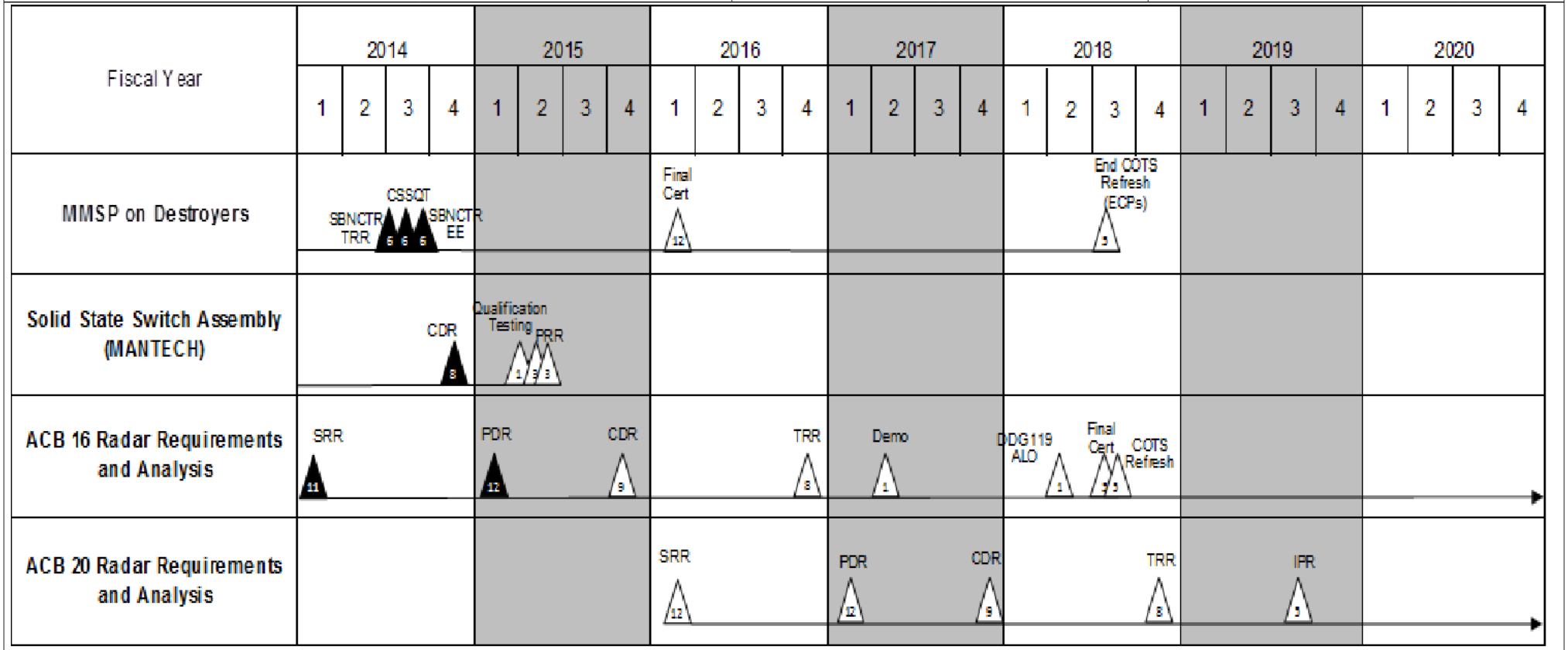
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Allot	PEOIWS2 : Washington, DC	0.158	0.020	Jun 2014	0.020	Feb 2015	0.020	Feb 2016	-		0.020	Continuing	Continuing	Continuing
PSS	C/CPFF	SPA-PSS : Washington, DC	1.250	0.333	Jan 2014	0.333	Jan 2015	0.413	Jan 2016	-		0.413	Continuing	Continuing	Continuing
		Subtotal	1.408	0.353		0.353		0.433		-		0.433	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / *Advanced Above Water Sensors*	Project (Number/Name) 3232 / *Multi-Mission Signal Processor*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	121.000	14.376		9.669		13.432		-		13.432	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3232 / *Multi-Mission Signal Processor*



MMSP on Destroyers and Solid State Switch Assembly are continued development from prior years.
ACB 16 COTS Refresh continues beyond the FYDP.
ACB 20 Radar efforts continue beyond the FYDP.

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3232 / *Multi-Mission Signal Processor*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3232				
DDG Commercial Off The Shelf (COTS) Refresh - Engineering Change Proposals (ECP)	1	2014	3	2018
ACB16 System Readiness Review (SRR)	1	2014	1	2014
Ship-Based Non-Cooperative Target Recognition (SBNCTR) Test Readiness Review (TRR)	3	2014	3	2014
DDG Combat System Ship Qualification Trials (CSSQT)	3	2014	3	2014
SBNCTR Engineering Exercise (EE)	3	2014	3	2014
SSSA Critical Design Review (CDR)	4	2014	4	2014
SSSA Qualification Testing	2	2015	2	2015
ACB16 Preliminary Design Review (PDR)	1	2015	1	2015
SSSA Production Readiness Review (PRR)	2	2015	2	2015
ACB16 CDR	4	2015	4	2015
DDG Final Certification	1	2016	1	2016
ACB 20 System SRR	1	2016	1	2016
ACB16 TRR	4	2016	4	2016
ACB 20 PDR	1	2017	1	2017
ACB16 Demo	2	2017	2	2017
ACB 20 CDR	4	2017	4	2017
DDG 119 ALO	2	2018	2	2018
ACB16 Final Certification	3	2018	3	2018
ACB16 COTS Refresh	3	2018	4	2020
ACB 20 TRR	4	2018	4	2018

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3232 / *Multi-Mission Signal Processor*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ACB 20 In Process Review (IPR)	3	2019	3	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / *Advanced Above Water Sensors*	Project (Number/Name) 3236 / *Advanced Radar Technology*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3236: *Advanced Radar Technology*	-	-	0.600	23.301	-	23.301	73.000	69.700	28.700	-	-	195.301
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Advanced Radar Technology (ART): Funds the development and integration of existing and new radar technologies into the Navy's sensors to enhance performance and/or ensure sensor operations and sustainment throughout the lifecycle of the sensor and platforms on which installed.

Enterprise Air Surveillance Radar (EASR): EASR will modify an existing radar technology to meet the air surveillance requirements for multiple ship classes. EASR will be one sensor in a suite that is designed to meet the performance needs for ship self-defense, situational awareness and air traffic control. EASR will replace the the Volume Search Radar (VSR) in the CVN 78 Class Dual Band Radar system and the AN/SPS-48/49 radar systems in numerous ship classes. The AN/SPS-48 Radars are long-range, three-dimensional (3-D) radars used to search, detect and provide space-stabilized, three-coordinate (range, bearing, height) data for air intercept control and designation to a weapon system. The AN/SPS-49A(V)1 radar system is a long range, two dimensional (2-D), L-Band air surveillance radar installed on USN major combatants. The AN/SPY-4 Volume Search Radar (VSR) is an S-Band active phased array radar deployed on CVN 78 providing volume surveillance and air traffic control. EASR funding will develop a modern 3-D air search radar that addresses the latest requirements for Aviation and Amphibious Warfare Ships and closely conforms to existing combat system interfaces, as well as aligns with existing shipboard space, weight, and power limits. The architecture and acquisition strategy for EASR is intended to drive a lower recurring cost by utilizing the same core technology for both fixed-face and rotating array variants.

Enterprise X-Band Illuminator (EXI): EXI funding will develop an X-band illuminator compatible with the EASR into a radar and Combat System suite, in order to mitigate the risk of changes to the CVN 78 class Island. Funding will also integrate a new planar array missile illuminator for future CVN applications as well as other ship classes.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SYSTEMS ENGINEERING	-	0.600	21.500	-	21.500
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3236 / *Advanced Radar Technology*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Develop and perform limited testing on a pared advanced signal processing capability for X-Band radars (Speed To Fleet). ***FY 2016 Base Plans:*** - Award EASR Engineering and Manufacturing Development (E&MD) contract - Procure EASR Engineering Development Model (EDM) material - Support EASR working groups (WGs) to facilitate successful integration of the radar with the ship and combat system - Initiate EASR test planning in support of test site requirements ***FY 2016 OCO Plans:*** N/A					
Title: PROGRAM MANAGEMENT SUPPORT	-	-	1.801	-	1.801
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** - Provide support to EASR Integrated Product Teams (IPTs) and WGs required for program execution of the E&MD contract - Analyze and assess EASR contractor deliverables - Conduct regular EASR Program Management Reviews - Execute EASR cost, schedule, and performance management, contract administration, contract oversight, risk identification, and risk mitigation - Provide support to EASR technical interchange meetings (TIMs) ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	0.600	23.301	-	23.301

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3236 / *Advanced Radar Technology*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2026: *0204228N Radar Support*	27.934	26.735	20.551	-	20.551	28.603	30.452	29.269	29.911	Continuing	Continuing
• O&MN: *0702228N Radar Support*	2.508	2.897	2.324	-	2.324	2.700	2.854	2.777	2.941	Continuing	Continuing

Remarks

D. Acquisition Strategy

Advanced Radar Technology (ART) will develop and test an advanced signal processing capability for X-Band radars (Speed-to-Fleet).
EASR: The EASR Acquisition is a planned competitive procurement based on a radar specification that incorporates the latest requirements for aviation and amphibious warfare ships, closely conforms to existing combat system interfaces, and includes physical Space Weight and Power (SWAP) Not-to-Exceed (NTE) interface requirements from:
- CVN 79+, LHA(R), and LX(R) for Forward-Fit
- CVN, LHA, LPD for back-fit.

EXI: The EXI Acquisition is a planned competitive procurement based on an illuminator specification that incorporates the latest requirements for aviation and amphibious warfare ships, closely conforms to existing combat system interfaces, and includes physical SWAP NTE interface requirements applicable to CVN 79+, LHA(R), and LX(R).

E. Performance Metrics

- Speed-to-Fleet (S2F) Electronic Pulse (EP) new firmware/software changes testing
- S2F EP Land Based Testing
- S2F EP At-Sea Testing
- Approval for Transition
- EASR - Engineering and Manufacturing Development (E&MD) Contract RFP
- EXI - E&MD Contract RFP
- EASR - E&MD Contract Award
- EXI - E&MD Contract Award
- EASR - E&MD System PDR
- EXI - E&MD System PDR
- EASR - E&MD System CDR
- EXI - E&MD System CDR
- EASR Engineering Development Model delivered to Land Based Test Site
- EXI - Engineering Development Model delivered to Land Based Test Site
- EASR and EXI - E&MD EASR Land Based System Integration Testing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3236 / *Advanced Radar Technology*

- EASR and EXI Low Rate Initial Production (LRIP) Authorization
- EASR and EXI LRIP Production

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / *Advanced Above Water Sensors*	Project (Number/Name) 3236 / *Advanced Radar Technology*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	C/CPFF	Northrop Grumman - ES : Baltimore, MD	0.000	-		0.300	Jan 2015	-		-		-	-	0.300	-
Systems Engineering	TBD	EASR E&MD Contractor - TBD : TBD	0.000	-		-		18.550	Jul 2016	-		18.550	-	18.550	-
		Subtotal	0.000	-		0.300		18.550		-		18.550	-	18.850	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NSWC/CR : Crane, IN	0.000	-		-		0.500	Nov 2015	-		0.500	-	0.500	-
Systems Engineering	WR	NSWC/DD : Dahlgren, VA	0.000	-		-		0.650	Nov 2015	-		0.650	-	0.650	-
Systems Engineering	WR	NSWC/PHD(VAB) : Virginia Beach, VA	0.000	-		-		0.350	Nov 2015	-		0.350	-	0.350	-
Systems Engineering	SS/CPFF	JHU/APL : Baltimore, MD	0.000	-		-		0.400	Nov 2015	-		0.400	-	0.400	-
Systems Engineering	C/CPIF	IWS2:PSS - TBD : TBD	0.000	-		-		0.280	Nov 2015	-		0.280	-	0.280	-
Systems Engineering	MIPR	MIT/LL : Bedford, MA	0.000	-		-		0.430	Nov 2015	-		0.430	-	0.430	-
		Subtotal	0.000	-		-		2.610		-		2.610	-	2.610	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NRL : Washington, DC	0.000	-		0.300	Jan 2015	0.340	Nov 2015	-		0.340	-	0.640	-
		Subtotal	0.000	-		0.300		0.340		-		0.340	-	0.640	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / *Advanced Above Water Sensors*	Project (Number/Name) 3236 / *Advanced Radar Technology*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Management	C/CPIF	IWS2 - PSS - TBD : TBD	0.000	-		-		0.751	Nov 2015	-		0.751	-	0.751	-
Travel	Allot	PEO IWS2 : Washington, DC	0.000	-		-		0.050	Nov 2015	-		0.050	-	0.050	-
Support Management	WR	NSWC/DD : Dahlgren, VA	0.000	-		-		1.000	Nov 2015	-		1.000	-	1.000	-
		Subtotal	0.000	-		-		1.801		-		1.801	-	1.801	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		0.600		23.301		-		23.301	-	23.901	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3236 / *Advanced Radar Technology*

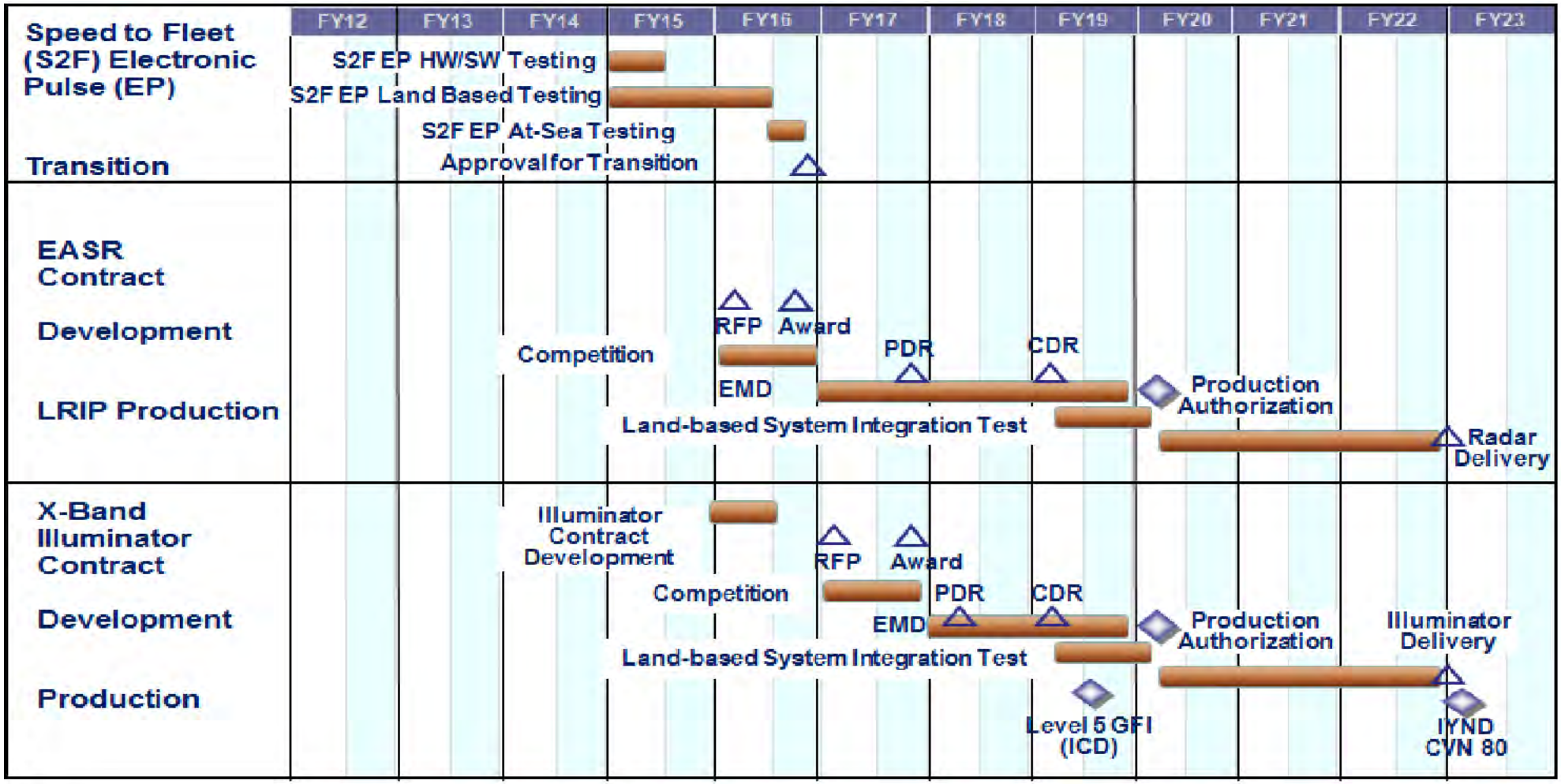


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3236 / *Advanced Radar Technology*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3236				
Speed-to-Fleet (S2F) Electronic Pulse (EP) new firmware/software changes testing	1	2015	2	2015
S2F EP Land Based Testing	1	2015	2	2016
S2F EP At-Sea Testing	3	2016	4	2016
Approval for Transition	4	2016	4	2016
EASR - Engineering and Manufacturing Development (E&MD) Contract RFP	1	2016	1	2016
EASR - Engineering and Manufacturing Development (E&MD) Contract Award	4	2016	4	2016
EXI - Engineering and Manufacturing Development (E&MD) Contract RFP	1	2017	1	2017
EXI - Engineering and Manufacturing Development (E&MD) Contract Award	4	2017	4	2017
EASR - E&MD System PDR	4	2017	4	2017
EXI - E&MD System PDR	2	2018	2	2018
EASR - E&MD System CDR	1	2019	1	2019
EXI - E&MD System CDR	1	2019	1	2019
EASR - Engineering Development Model delivered to Land Based Test Site	2	2019	2	2019
EXI - Engineering Development Model delivered to Land Based Test Site	2	2019	2	2019
EASR and EXI - E&MD EASR Land Based System Integration Testing	2	2019	1	2020
EASR and EXI Low Rate Initial Production (LRIP) Authorization	2	2020	2	2020
EASR and EXI LRIP Production	2	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / *Advanced Above Water Sensors*	Project (Number/Name) 3301 / *Improved Capabilities SPY-1 Radar*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3301: *Improved Capabilities SPY-1 Radar*	11.370	2.042	0.766	0.796	-	0.796	0.804	0.816	0.836	0.853	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Improved Capabilities for SPY-1 Radar: These Reliability, Maintainability, and Availability (RM&A) improvements are intended to reduce cascading failures, mitigate obsolescence issues, and improve reliability in support of Anti-Air Warfare (AAW) and Ballistic Missile Defense (BMD) missions while still providing AN/SPY-1 Radar Total Ownership Cost Reductions. Improvements will yield reductions in annual fleet maintenance costs. Improvements are a top fleet requirement as part of the AEGIS Wholeness initiative.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Improved Capabilities SPY-1 Radar	2.042	0.766	0.796	-	0.796
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					
- Completed design and development of reliability improvements for the Simplified Driver (SDR)					
- Conducted feasibility study for solid state Helix Regulator					
- Conducted feasibility study for 40W/400W Gallium Nitride (GaN) based solid state amplifier					
- Completed design and development of Crossed Field Amplifier (CFA) Microwave Tube					
- Continued Microwave Tube (MWT) improvement design/development					
- Continued development of additional cost reduction initiatives					
FY 2015 Plans:					
- Initiate technology development of solid state Helix Regulator					
- Initiate technology development of 40W/400W GaN based solid state amplifier					
- Continue development of additional cost reduction initiatives					
- Continue Microwave Tube (MWT) improvement design/development					
FY 2016 Base Plans:					
- Complete MWT improvement design/development					
- Continue technology development for Solid State Helix Regulator					
- Continue technology development for GaN Based 40W/400W Solid State Amplifier					
- Initiate technology development for 10KW GaN Based Amplifier for Pre-Drivers					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3301 / *Improved Capabilities SPY-1 Radar*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Continue development of additional cost reduction initiatives ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	2.042	0.766	0.796	-	0.796

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2980: *Items Less Than $5M*	9.592	14.527	17.501	-	17.501	21.973	47.510	29.053	29.673	Continuing	Continuing
• O&MN/0702228N: *O&M,N AEGIS Wholeness SPY Transmitter Reliability*	3.716	4.222	3.807	-	3.807	4.203	4.205	4.294	4.373	Continuing	Continuing

Remarks

D. Acquisition Strategy

Improved Capabilities SPY-1 Reliability, Maintainability, and Availability (RM&A) will design and develop an Ordnance Alterations (ORDALT) Package for fixes and modifications to known transmitter, microwave tube (MWT), and logistic shortcomings (also includes the MK-99 CWI MWT). Investment in development of SPY-1 RM&A improvements to address failure mechanisms and improve reliability is planned to continue beyond the FYDP.

E. Performance Metrics

- Complete 10KW Traveling Wave Tube/Continuous Wave Illumination Microwave Tube (TWT/CWI MWT) Improvement Design/Development/Monitoring
- Complete A/B EI Switch Improvement Design/Development
- Complete Sidewall Capacitor Monitoring Circuit
- Complete 10KW Monitoring Circuit development
- Complete Crossed Field Amplifier/Switch Tube (CFA/SWT) MWT Improvement Design Development
- Complete MWT Improvement Design/Development
- Complete Water Cooled Vane (WCV) to Double Duty (DD) engineering development
- Complete Simplified Driver (SDR) reliability design improvements
- Complete Solid State Helix Regulator technology development
- Complete Gallium Nitride (GaN) based 40W/400W solid state amplifier development
- Complete 10KW GaN based amplifier for Pre-Drivers development
- Complete Switch Tube Drawer (STD) Reliability Project

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3301 / *Improved Capabilities SPY-1 Radar*

- Complete GaN based Driver/Pre-Driver studies/investigations

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3301 / *Improved Capabilities SPY-1 Radar*

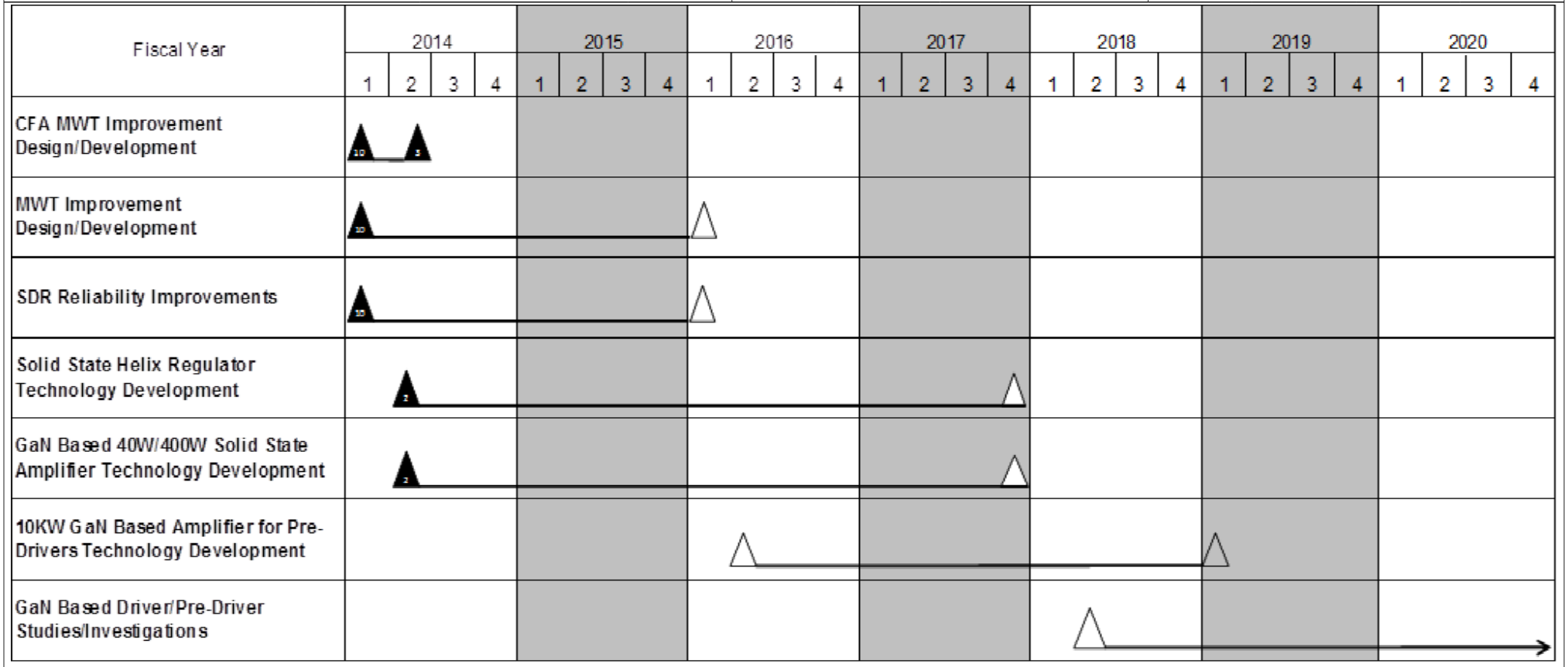
Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SYSTEM ENGINEERING	MIPR	Office of Naval Research : Arlington, VA	1.000	-		-		-		-		-	-	1.000	-
SYSTEM ENGINEERING	C/CPFF	Raytheon : Sudbury, MA	1.741	0.200	Dec 2013	0.100	Feb 2015	0.200	Jan 2016	-		0.200	Continuing	Continuing	Continuing
SYSTEM ENGINEERING	WR	NSWC/Crane, IN : Crane, IN	8.629	1.842	Dec 2013	0.666	Oct 2014	0.596	Dec 2015	-		0.596	Continuing	Continuing	Continuing
		Subtotal	11.370	2.042		0.766		0.796		-		0.796	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	11.370	2.042		0.766		0.796		-		0.796	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3301 / *Improved Capabilities SPY-1 Radar*



Note:

10KW GaN Based Amplifier for Pre-Drivers Technology Development and GaN Based Driver/Pre-Driver Studies/Investigations continue beyond the FYDP.

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604501N / *Advanced Above Water Sensors*	**Project (Number/Name)** 3301 / *Improved Capabilities SPY-1 Radar*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3301				
Crossed Field Amplifier (CFA)/Switch Tube (SWT) Microwave Tube (MWT) Improvement Design/Development	1	2014	2	2014
MWT Improvement Design/Development	1	2014	1	2016
Simplified Driver (SDR) Reliability Improvements	1	2014	1	2016
Solid State Helix Regulator Technology Development	2	2014	4	2017
GaN Based 40W/400W Solid State Amplifier Technology Development	2	2014	4	2017
10KW GaN based Amplifier for Pre-Drivers Technology Development	2	2016	1	2019
GaN based Driver/Pre-Driver Studies/investigations	2	2018	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604503N / *SSN-688 & Trident Modernization*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	1,248.793	83.360	71.551	109.908	-	109.908	97.958	87.662	89.067	96.097	Continuing	Continuing
0219: *Sub Sonar Improvement (ENG)*	800.018	54.008	41.903	68.891	-	68.891	53.617	54.501	55.737	61.588	Continuing	Continuing
0742: *Sub Integrated Ant System*	255.308	14.424	12.779	25.459	-	25.459	24.836	13.321	13.333	13.627	Continuing	Continuing
0775: *Submarine Supt Equip Prog*	7.225	1.314	8.064	6.204	-	6.204	8.837	9.149	9.319	9.986	Continuing	Continuing
1411: *Sub Tact Comm System*	186.242	13.614	8.805	9.354	-	9.354	10.668	10.691	10.678	10.896	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Submarine Support Equipment Program develops and improves submarine Electronic Warfare Support (EWS) technology, components, equipment, and systems that will increase submarine operational effectiveness, safety of ship, and survivability in an increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Enhancements are necessary for submarine EWS to be operationally effective in the following mission areas: Joint Littoral Warfare, Joint Surveillance, Space and Electronic Warfare and Intelligence Collection, Maritime protection, and Joint Strike.

The Submarine Sonar Improvement Program delivers block updates to Sonar Systems and improved Sensors installed on SSN 688, 688I, SSN 21, VIRGINIA, SSBN, and SSGN Class Submarines to maintain clear acoustical, tactical and operational superiority over submarine and surface combatants in all scenarios through detection, classification, localization, and contact following. Current developments are focused on supporting Littoral Warfare, Regional Sea Denial, Battle Group Support, Diesel Submarine Detection, Surveillance, and Peacetime Engagement.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604503N *I SSN-688 & Trident Modernization*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	85.711	71.565	117.014	-	117.014
Current President's Budget	83.360	71.551	109.908	-	109.908
Total Adjustments	-2.351	-0.014	-7.106	-	-7.106
• Congressional General Reductions	-	-0.014			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.350	-			
• Program Adjustments	-	-	-4.661	-	-4.661
• Rate/Misc Adjustments	-0.001	-	-2.445	-	-2.445

Change Summary Explanation

The FY 2016 funding request was reduced by $1.613 million to account for the availability of prior year execution balances.

Schedule:

Advanced High Data Rate (Adv HDR): Schedule and development changes are a result of sequestration reduction. Planned milestones were adjusted accordingly.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604503N / *SSN-688 & Trident Modernization*	Project (Number/Name) 0219 / *Sub Sonar Improvement (ENG)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0219: *Sub Sonar Improvement (ENG)*	800.018	54.008	41.903	68.891	-	68.891	53.617	54.501	55.737	61.588	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program delivers block updates to Sonar Systems installed on SSN 688, 688I, SSN 21, VIRGINIA, SSBN, and SSGN Class Submarines to maintain clear acoustical, tactical and operational superiority over submarines and surface combatants in all scenarios through detection, classification, localization, and contact following.

Acoustics Rapid COTS Insertion (A-RCI) was a multi-phased evolutionary development geared toward addressing acoustic superiority issues through the rapid introduction of interim development products applicable to all classes of submarines. A-RCI Phase I and II introduced Towed Array processing improvements, Phase III introduced Spherical

Array processing improvements, and Phase IV provided High Frequency (HF) Array processing improvements for SSN 688I, SSGN, VIRGINIA, and SSN 21 Class Submarines. As part of CNO N972's plan to maintain acoustic superiority for in-service submarines, a joint cooperative effort with PEO IWS-5 was established to deliver annual Advanced Processing

Builds (APBs) to prevent obsolescence and deliver ongoing capability improvements. The capabilities in the APBs will be integrated as part of A-RCI certified system.

Sensor efforts provide increased operational capabilities for littoral operations, situational awareness, and reliability improvements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: APB Productionization	13.193	12.112	12.000	-	12.000
Articles:	-	-	-	-	-
Description: APB productionization provides for the transition of APB capability improvements to the Fleet for the integration, testing and formal certification.					
FY 2014 Accomplishments: Continued Advanced Processing Build (APB) Sea Testing, Integration, and Certification. This effort is primarily the transition of APB software from development to A-RCI for integration, testing, and formal certification.					
FY 2015 Plans: Continue Advanced Processing Build (APB) Sea Testing, Integration, and Certification. This effort is primarily the transition of APB software from development to A-RCI for integration, testing, and formal certification.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0219 / *Sub Sonar Improvement (ENG)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue Advanced Processing Build (APB) Sea Testing, Integration, and Certification. This effort is primarily the transition of APB software from development to A-RCI for integration, testing, and formal certification. ***FY 2016 OCO Plans:*** N/A					
Title: Integration and Testing	40.815	25.941	35.410	-	35.410
Articles:	-	-	-	-	-
Description: Integration and Testing provides support to integrated and test APB's into all submarine classes with numerous sensor systems. ***FY 2014 Accomplishments:*** Supported Advanced Processing Builds installed on SSN 688I, SSN 688, SSN 21, SSGN 726, and VA Class Submarines. ***FY 2015 Plans:*** Supports Advanced Processing Builds installed on SSN 688I, SSN 688, SSN 21, SSGN 726, SSBN, and VA Class Submarines. FY15 funding level incorporates a $14.3M higher Departmental priority cut, cancelling the TI12/APB13 software upgrade, breaking the TI/APB model which provides for a newer TI hardware baseline to receive two versions of software baselines. By cancelling TI12/APB 13 , eight SSN 688/688I, two SEAWOLF and three VIRGINIA Class submarines will not receive the latest software improvements as part of the APB 13 baseline. ***FY 2016 Base Plans:*** Supports Advanced Processing Builds installed on SSN 688I, SSN 688, SSN 21, SSGN 726, SSBN, and VA Class Submarines. FY15 funding level incorporates a $14.3M higher Departmental priority cut, cancelling the TI12/APB13 software upgrade, breaking the TI/APB model which provides for a newer TI hardware baseline to receive two versions of software baselines. By cancelling TI12/APB 13 , eight SSN 688/688I, two SEAWOLF and three VIRGINIA Class submarines will not receive the latest software improvements as part of the APB 13 baseline. FY16 funding restores the funding to near (but below) FY14 level to enable planned upgrades to be incorporated into the TI14 baseline. ***FY 2016 OCO Plans:*** N/A					
Title: SSBN Combat System Modernization	-	3.850	4.827	-	4.827

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0219 / *Sub Sonar Improvement (ENG)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** This effort incorporates SSBN combat systems into the APB/TI model. ***FY 2016 Base Plans:*** This effort incorporates SSBN combat systems into the APB/TI model. ***FY 2016 OCO Plans:*** N/A					
Title: TB-29X Development	-	-	13.200	-	13.200
Articles:	-	-	-	-	-
Description: Provides funding for the development of TB-29A equivalent Thin Line Array with long range detection and tracking with improved reliability, using improved telemetry. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Provides funding for the development of TB-29A equivalent Thin Line Array with long range detection and tracking with improved reliability, using improved telemetry. This effort incorporates TB-29X system development. Funding will provide for the procurement of a first article TB-29X array, testing and inspections in accordance with the Performance Specification. Testing will include environmental testing, acoustic calibration testing, self-noise tow testing and SONAR/TB-29X interface testing required to ensure the array meets all performance specifications. ***FY 2016 OCO Plans:*** N/A					
Title: SSN Combat Systems ISO Acoustic Superiority	-	-	3.454	-	3.454
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0219 / *Sub Sonar Improvement (ENG)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Maintain Acoustic Superiority for In-service Submarines to deliver biannual Advance Processing Builds (APBs) to prevent obsolescence and deliver emerging capability improvements for current and future threats. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** This effort delivers emerging capability improvements for current and future threats by supporting development, integration, and testing of emerging capability improvements in passive long range detection/wide area search for current and future threats in support of CNO ltr Ser N00/S0100 dtd 7 Jan 13, Subj: SSN/SSBN Acoustic Superiority Campaign Plan. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	54.008	41.903	68.891	-	68.891

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/BLI 214700: *SSN Acoustics*	175.852	160.932	214.835	-	214.835	234.633	274.738	319.822	345.963	Continuing	Continuing

Remarks

D. Acquisition Strategy

Acoustic Systems:
A-RCI utilizes an open architecture and Commercial Off-the-Shelf products in support of new and upgraded sonar systems. A follow-on development and production sole source cost plus incentive fee contract will be awarded to General Dynamics, Advanced Information Systems in January 2015 and a sole source contract will be awarded to Lockheed Martin Maritime Systems & Sensors in January 2015. Program Reviews with the Milestone Decision Authority are conducted granting approval for the production options.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0219 / *Sub Sonar Improvement (ENG)*

E. Performance Metrics

The A-RCI program will modernize approximately 8-12 SSNs per year through executing bi-annual software Advanced Processor Builds (APBs) and bi-annual Technical Insertions (TIs). Beginning with FY17 installations, the A-RCI program will modernize approximately 2-3 SSBNs per year through bi-annual APB/TI.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0219 / *Sub Sonar Improvement (ENG)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPIF	LMC : Manassas, VA	298.801	20.844	Dec 2013	11.586	Jan 2015	18.743	Dec 2015	-		18.743	Continuing	Continuing	Continuing
Ancillary Hardware Development	SS/CPFF	ARL University of Texas : Austin, TX	27.725	3.170	Mar 2014	2.913	Mar 2015	3.595	Mar 2016	-		3.595	Continuing	Continuing	Continuing
Systems Engineering	SS/CPFF	Johns Hopkins APL : Baltimore, MD	30.023	3.082	Dec 2013	2.835	Dec 2014	3.585	Dec 2015	-		3.585	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	LMC : VA - Keyport	27.129	3.127	Jan 2014	2.877	Jan 2015	3.127	Jan 2016	-		3.127	Continuing	Continuing	Continuing
Primary Hardware Development	C/CPIF	Progeny Systems : Manassas, VA	45.408	6.363	Jan 2014	5.854	Jan 2015	6.965	Jan 2016	-		6.965	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC : Newport, RI	155.203	5.951	Dec 2013	5.331	Dec 2014	5.951	Dec 2015	-		5.951	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Carderock, MD	20.571	2.674	Dec 2013	2.393	Dec 2014	2.674	Dec 2015	-		2.674	Continuing	Continuing	Continuing
TB-29X Development	C/CPIF	TBD : TBD	0.000	-		-		13.200	Dec 2015	-		13.200	Continuing	Continuing	Continuing
		Subtotal	604.860	45.211		33.789		57.840		-		57.840	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Software Development	C/CPIF	General Dynamics, AIS : Fairfax, VA	148.389	3.118	Dec 2013	2.869	Jan 2015	5.569	Dec 2015	-		5.569	Continuing	Continuing	Continuing
Primary Software Development	C/CPFF	Sedna Digital, : Manassas, VA	24.507	4.141	Dec 2013	3.810	Dec 2014	4.141	Dec 2015	-		4.141	Continuing	Continuing	Continuing
		Subtotal	172.896	7.259		6.679		9.710		-		9.710	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test and Evaluation	WR	OPTEVFOR : Norfolk, VA	8.565	0.620	Dec 2013	0.571	Dec 2014	0.525	Dec 2015	-		0.525	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604503N / *SSN-688 & Trident Modernization*	Project (Number/Name) 0219 / *Sub Sonar Improvement (ENG)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	8.565	0.620		0.571		0.525		-		0.525	-	-	-

Management Services ($ in Millions)

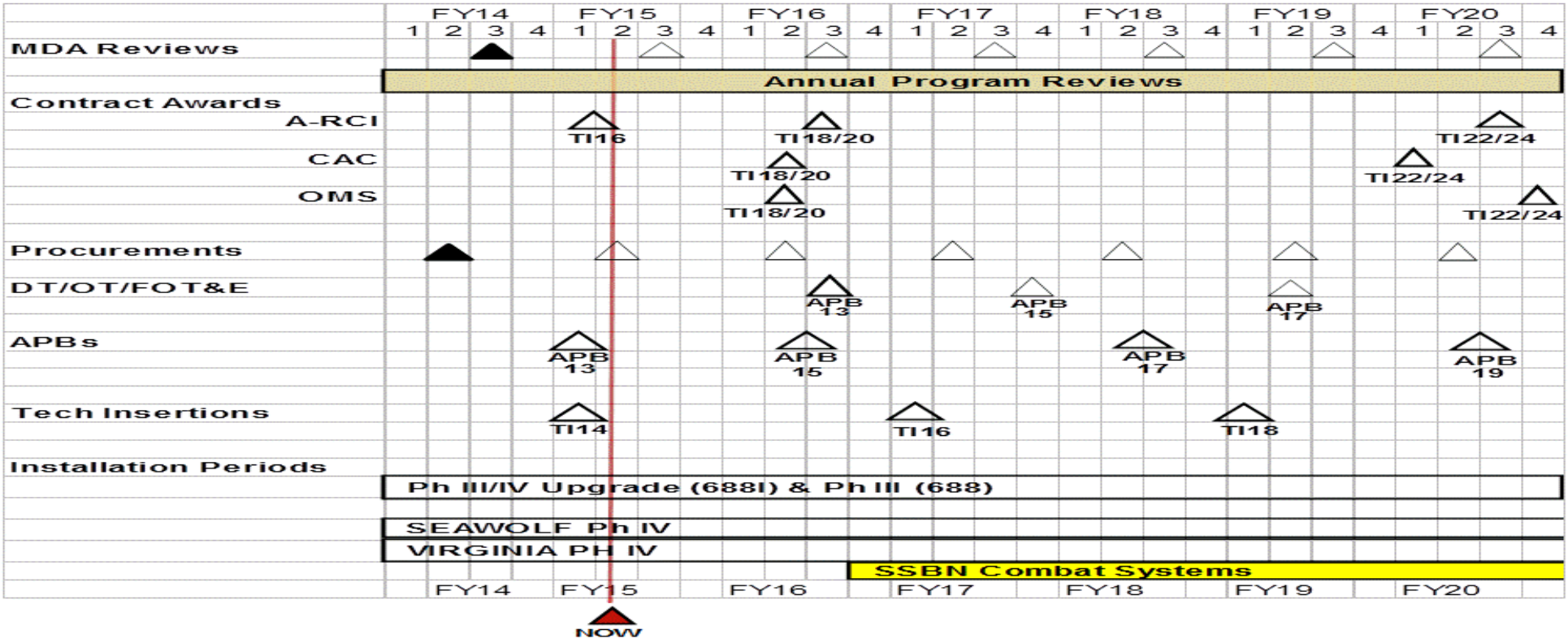
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support Services	C/FFP	Alion, BAH, URS Technical Services : Washington, DC	11.663	0.814	Dec 2013	0.762	Dec 2014	0.716	Dec 2015	-		0.716	Continuing	Continuing	Continuing
Travel	WR	NAVSEA : Washington, DC	2.034	0.104	Dec 2013	0.102	Dec 2014	0.100	Dec 2015	-		0.100	Continuing	Continuing	Continuing
		Subtotal	13.697	0.918		0.864		0.816		-		0.816	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	800.018	54.008		41.903		68.891		-		68.891	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0219 / *Sub Sonar Improvement (ENG)*

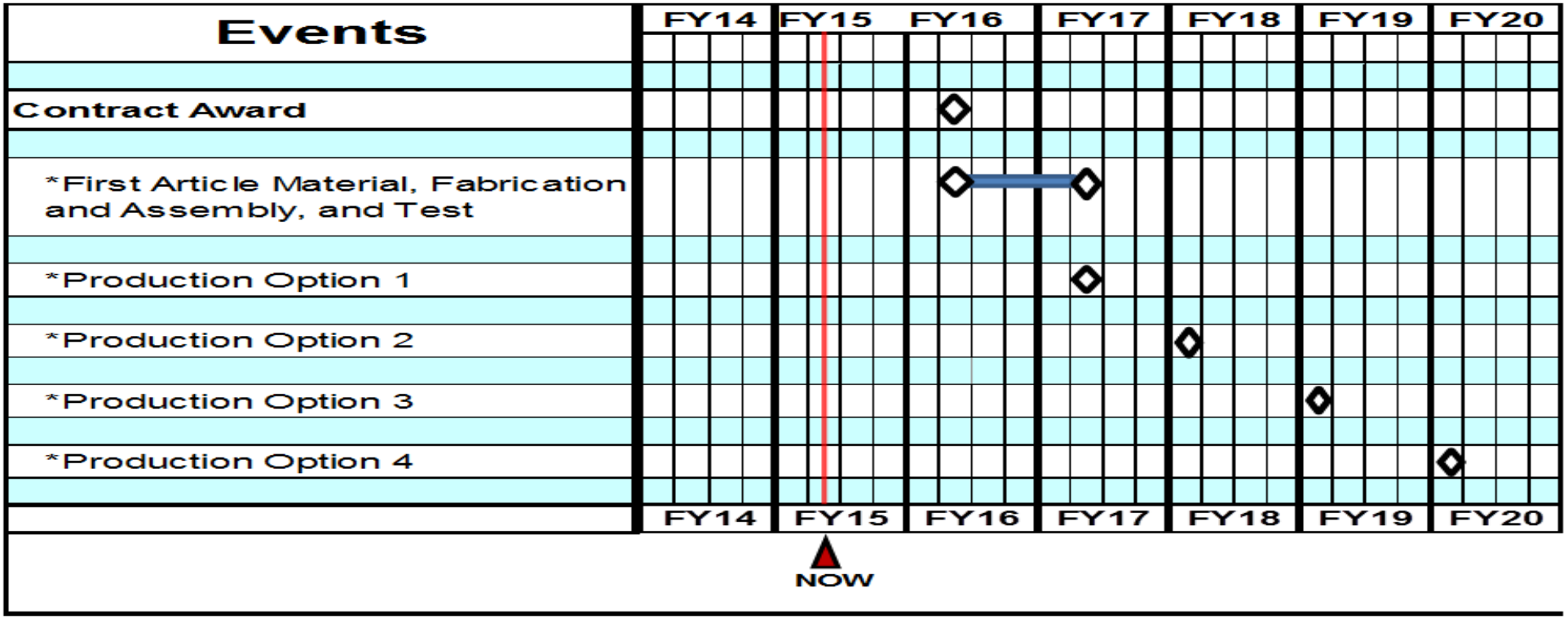
A-RCI Planning Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0219 / *Sub Sonar Improvement (ENG)*

TB-29X Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0219 / *Sub Sonar Improvement (ENG)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0219				
ACOUSTICS	1	2014	4	2020
---Acquisition Milestones	3	2014	3	2020
---Annual Program Review	1	2014	4	2020
---Contract Awards	1	2015	4	2020
---Procurements	2	2014	2	2020
---DT/OT/FOT&E Tests	3	2016	2	2019
---APB Deliveries	1	2015	3	2020
---Tech Insertions	1	2015	1	2019
---Installation Periods	1	2014	4	2020
TB-29X Development	1	2016	4	2020
---First Article Procurement & Assembly	2	2016	2	2017
---Production Options	2	2017	1	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604503N / *SSN-688 & Trident Modernization*	Project (Number/Name) 0742 / *Sub Integrated Ant System*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0742: *Sub Integrated Ant System*	255.308	14.424	12.779	25.459	-	25.459	24.836	13.321	13.333	13.627	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Submarine Integrated Antenna System project (0742) provides for the development and testing of submarine antennas designed to meet emerging submarine requirements of: (a) Increased frequency coverage and data rate capabilities of submarine antennas and their interface to the External Communications System, (b) Increased submarine antenna performance and data rate while the submarine is operating at speed and depth, (c) Antenna compatibility with new waveforms and transceiver equipment, (d) Increased stealth capability of existing and future antennas and (e) Improved antenna design to reduce Total Ownership Cost. This project funds research and development for submarine antennas including (1) Pre-Planned Product Improvement (P3I) efforts to existing antennas including Outboard Electronics (OE)-538/BRC Multi-Function Antenna, (2) OE-562 Submarine, High Data Rate (SubHDR) system development of components for reliability improvements, (3) Development of new systems including Advanced High Data Rate (AdvHDR) Low Probability of Intercept/Low Probability of Detection (LPI/LPD), (4) Continue support of Submarine Communications Buoy (SCB) Project Arrangement with United Kingdom (UK), and (5) Towed Buoy Antenna (AN/BRR-6/6B) system development of components for reliability improvements. The efforts listed above will provide Ship Submersible Nuclear (SSN), Ship Submersible Ballistic Nuclear (SSBN) and Ship Submersible Guided Missile Nuclear (SSGN) platforms with improved communications capabilities to support future Joint, Allied, and Naval operations.

JUSTIFICATION FOR BUDGET ACTIVITY:
This project is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.
Notes/Comments:
FY16 Antenna Transition Engineering (XENG): Continue development of future undersea communication capabilities in support of the 4th Generation Undersea Communication Architecture. Commence and complete High Altitude Electromagnetic Pulse (HEMP) testing.
FY16 OE-538: Continue preparation for Developmental Test (DT)/Operational Test (OT) in support of Full Rate Production (FRP). Commence applicable Integrated Logistics Support (ILS) documentation to support FRP decision. Commence development/update of required FRP acquisition documents. Commence and complete High Altitude Electromagnetic Pulse (HEMP) testing.
FY16 SubHDR: Continue development of Reliability Maintainability, and Availability (RMA) components identified by research and analysis to maintain Operational Availability (Ao) throughout the life of the system. Commence and complete High Altitude Electromagnetic Pulse (HEMP) testing.
FY16 AdvHDR: Commence LPI/LPD Initial Capabilities Document (ICD) development. Commence Optical Communications Project Agreement with United Kingdom. Commence preparations for LPI/LPD Materiel Development Decision.
FY16 SCB: Complete Final Report.
FY16 Towed Buoy Antenna (AN/BRR-6/6B): Continue component development, system integration, and testing for reliability improvements.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0742 / *Sub Integrated Ant System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Antenna Transition Engineering	3.427	3.557	4.209	-	4.209
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Continued to provide emerging requirements and Satellite Communications (SATCOM) database/link analysis for other development programs in support of current & future undersea communication architectures. - Continued Pre-Planned Product Improvement (P3I) investigation and development efforts towards legacy antenna systems. - Continued concept engineering, new technology evaluations, and assessments in support of current and future undersea antenna applications, to include Hull, Mechanical and Electrical (HM&E) interfaces. - Continued to investigate multiple usage antennas, including antennas that can be used for undersea communications and other functions. - Commenced development of undersea communications future capabilities in support of the 4th Generation Undersea Communication Architecture.					
FY 2015 Plans: - Continue to provide emerging requirements and SATCOM database/link analysis for other development programs in support of current & future undersea communication architectures. - Continue P3I investigation and development efforts towards legacy antenna systems. - Continue concept engineering, new technology evaluations, and assessments in support of current and future undersea antenna applications, to include HM&E interfaces. - Continue to investigate multiple usage antennas, including antennas that can be used for communications and other functions. - Continue development of undersea communication future capabilities in support of the 4th Generation Undersea Communication Architecture.					
FY 2016 Base Plans: - Continue to provide emerging requirements and SATCOM database/link analysis for other development programs in support of current & future undersea communication architectures. - Continue P3I investigation and development efforts towards legacy antenna systems. - Continue concept engineering, new technology evaluations, and assessments in support of current and future undersea antenna applications, to include HM&E interfaces. - Continue to investigate multiple usage antennas, including antennas that can be used for communications and other functions.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0742 / *Sub Integrated Ant System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Continue development of future undersea communication capabilities in support of the 4th Generation Undersea Communication Architecture. - Commence and complete High Altitude Electromagnetic Pulse (HEMP) testing. ***FY 2016 OCO Plans:*** N/A					
Title: Outboard Electronics (OE)-538	4.448	3.476	3.079	-	3.079
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Completed Capability Production Document (CPD) and continued applicable Integrated Logistics Support (ILS) documentation to support Low-Rate Initial Production (LRIP) decision. - Continued Increment 2 system design, manufacture and testing of Engineering Design Model (EDM). - Continued development/update of required Milestone C acquisition documents. - Continued Developmental Test (DT) in support of LRIP. - Continued oversight for the development/integration of Global Positioning System (GPS) Anti-Jam (AJ) into OE-538 Increment 2.					
FY 2015 Plans: - Complete Increment 2 system design, manufacture and testing of EDM. - Complete applicable ILS documentation to support LRIP decision. - Complete development/update of required Milestone C acquisition documents. - Complete DT in support of LRIP. - Continue oversight for the development/integration of Global Positioning System (GPS) Anti-Jam (AJ) into OE-538 Increment 2. - Commence preparation for DT/Operational Test (OT) in support of Full Rate Production (FRP). - Commence and complete OE-538A Underwater Explosion (UNDEX) test.					
FY 2016 Base Plans: - Continue preparation for DT/OT in support of FRP. - Continue oversight for the development/integration of Global Positioning System (GPS) Anti-Jam (AJ) into OE-538 Increment 2. - Commence applicable ILS documentation to support FRP decision. - Commence development/update of required FRP acquisition documents.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0742 / *Sub Integrated Ant System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Commence and complete High Altitude Electromagnetic Pulse (HEMP) testing. ***FY 2016 OCO Plans:*** N/A					
Title: Submarine High Data Rate (SubHDR) Pre-Planned Product Improvement (P3I)	-	3.364	10.487	-	10.487
Articles:	-	-	-	-	-
FY 2014 Accomplishments: -N/A ***FY 2015 Plans:*** - Complete Underwater Explosion (UNDEX) development and testing, and receive delivery of two functioning UNDEX prototype kits. - Continue development of Reliability Maintainability, and Availability (RMA) components identified by research and analysis to maintain Operational Availability (Ao) throughout the life of the system. ***FY 2016 Base Plans:*** - Continue development of Reliability Maintainability, and Availability (RMA) components identified by research and analysis to maintain Ao throughout the life of the system. - Commence the Mast Motion Sensor (MMS) development. - Commence the Traveling Wave Tube, Multivolt Power Supply, Q Band Upconverter, High Volt Power Supply, and Inverter development. - Commence and complete High Altitude Electromagnetic Pulse (HEMP) testing. ***FY 2016 OCO Plans:*** N/A					
Title: Advanced High Data Rate (AdvHDR)	0.438	-	3.538	-	3.538
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Completed technology maturation. ***FY 2015 Plans:*** - N/A ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0742 / *Sub Integrated Ant System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Commence Low Probability of Intercept/Low Probability of Detection (LPI/LPD) Initial Capabilities Document (ICD) development. - Commence Optical Communications Project Arrangement with United Kingdom. - Commence preparations for LPI/LPD Materiel Development Decision. ***FY 2016 OCO Plans:*** N/A					
Title: Submarine Communications Buoy (SCB) ***Articles:*** ***Description:*** A project arrangement between the United States and the United Kingdom. ***FY 2014 Accomplishments:*** - Continued support for SCB Project Arrangement with United Kingdom. - Continued component design specification development for candidate SCB components. - Continued development of demonstration plan for SCB components. - Continued performance evaluation of the candidate SCB components. ***FY 2015 Plans:*** - Complete support for SCB Project Arrangement with United Kingdom. - Complete component design specification development of candidate SCB components. - Complete development of demonstration plan for SCB components. - Complete performance evaluation of the candidate SCB components. - Commence Final Report. ***FY 2016 Base Plans:*** - Complete Final Report. ***FY 2016 OCO Plans:*** N/A	2.746 -	1.790 -	0.240 -	- -	0.240 -
Title: Towed Buoy Antenna (AN/BRR-6/6B) ***Articles:*** ***FY 2014 Accomplishments:*** - Completed component development, system integration, and testing for reliability improvements of buoy cabling/connectors and rotary joint.	3.365 -	0.592 -	3.906 -	- -	3.906 -

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Continued support for BRR-6 Program providing program, contract, logistics, and system engineering management. - Continued component design specification/modification for reliability improvements of tow cable strength/ throughput, antenna/amplifier, and servo valve isolation. - Continued component development, system integration, and testing for reliability improvements of tow cable strength/throughput, antenna/amplifier, and servo valve isolation. - Completed component design specification/modification for reliability improvements of buoy cabling/connectors and rotary joint.					
FY 2015 Plans: - Complete component design specification/modification for reliability improvements of tow cable strength/ throughput and servo valve isolation. - Complete component development, system integration, and testing for reliability improvements of tow cable strength/throughput and servo valve isolation. - Continue limited support for BRR-6 Program providing program, contract, logistics, and system engineering management. - Continue limited component design specification/modification for reliability improvements of antenna/amplifier. - Continue limited component development, system integration, and testing for reliability improvements of antenna/amplifier. - Commence failure analysis report on tow cables for reliability improvements. - Commence and complete key item failure analysis report for reliability improvements.					
FY 2016 Base Plans: - Complete failure analysis on tow cables for reliability improvements. - Continue support for BRR-6 Program providing program, contract, logistics, and system engineering management. - Continue component design specification/modification for reliability improvements of antenna/amplifier. - Continue component development, system integration, and testing for reliability improvements of antenna/ amplifier. - Commence component design specification/modification for reliability improvements of buoy shape improvements and combine Radio Frequency (RF) and Depth Cans effort.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0742 / *Sub Integrated Ant System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Commence component development, system integration, and testing for reliability improvements of buoy shape improvement and combine RF and Depth Cans efforts. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	14.424	12.779	25.459	-	25.459

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 313000: *Submarine Communications*	64.376	64.954	60.945	-	60.945	67.507	61.859	67.274	73.051	Continuing	Continuing

Remarks

D. Acquisition Strategy

Program Milestones (MS):
Outboard Electronics (OE)-538: 4th Quarter (QTR) FY15 Milestone C (MS C); 3rd QTR FY17 Full Rate Production (FRP) Decision Review.

Test and Evaluation (T&E) Milestones:
OE-538: 1st QTR FY17 DT for FRP; 2nd QTR FY17 Operational Test (OT) for FRP.

E. Performance Metrics

FY16 OE-538: High Altitude Electromagnetic Pulse (HEMP) test report.
FY16 SubHDR: HEMP test report.
FY16 BRR-6 Reliability Improvements: Complete development of reliability improvements for failure analysis on tow cables.
FY16 SCB: Complete Final Report.
FY16 XENG: HEMP test report.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604503N / *SSN-688 & Trident Modernization*	Project (Number/Name) 0742 / *Sub Integrated Ant System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Digital Interface Dev (Submarine High Data Rate - SubHDR)	C/CPAF	Raytheon : Marlboro, MA	3.545	-		-		-		-		-	-	3.545	3.545
Digital Dev (SubHDR)	C/CPAF	Raytheon : Marlboro, MA	8.182	-		-		-		-		-	-	8.182	8.182
Hardware Dev (SubHDR)	WR	NUWC : Newport, RI	2.888	-		-		-		-		-	-	2.888	2.888
Hardware Dev (SubHDR SHF/FOT)	C/CPAF	Raytheon : Marlboro, MA	14.632	-		-		-		-		-	-	14.632	14.632
Hardware Dev (Antenna Trans Eng)	C/CPAF	Sippican : Marion, MA	2.207	-		-		-		-		-	-	2.207	2.207
Hardware Dev (Communications at Speed and Depth - CSD)	C/CPAF	Apogen : San Diego, CA	2.800	-		-		-		-		-	-	2.800	2.800
Systems/Hardware Dev (CSD)	C/CPAF	Lockheed Martin/ Sippican : Marion, MA	36.623	-		-		-		-		-	-	36.623	36.623
Systems/Hardware Dev (Submarine Communications Buoy - SCB)	WR	NSWC : Philadelphia	4.216	1.579	Nov 2013	1.583	Nov 2014	0.150	Nov 2015	-		0.150	Continuing	Continuing	Continuing
Hardware Dev (Outboard Electronics (OE)-538)	C/CPAF	Lockeed Martin Sippican/Granite State MFG : MA and NH	19.393	0.879	Mar 2014	0.328	Mar 2015	-		-		-	Continuing	Continuing	Continuing
Systems Engineering (OE-538)	WR	NUWC : Newport, RI	7.446	0.713	Nov 2013	0.769	Nov 2014	0.978	Nov 2015	-		0.978	Continuing	Continuing	Continuing
Systems Engineering (SubHDR)	WR	NUWC : Newport, RI	16.561	-		0.428	Nov 2014	0.481	Nov 2015	-		0.481	Continuing	Continuing	Continuing
Systems Engineering (Advanced High Data Rate - AdvHDR)	WR	SSC Pacific : San Diego, CA	7.702	0.360	Dec 2013	-		1.875	Nov 2015	-		1.875	Continuing	Continuing	Continuing
Systems Engineering (Antenna Trans Eng)	WR	NUWC : Newport, RI	34.887	1.335	Nov 2013	1.656	Nov 2014	1.670	Nov 2015	-		1.670	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering (CSD)	Various	Various : Various	4.628	-		-		-		-		-	-	4.628	4.628
Systems Engineering (CSD)	WR	SSC PAC : San Diego, CA	3.048	-		-		-		-		-	-	3.048	3.048
Systems Engineering (SCB)	C/CPFF	FSI : San Diego, CA	0.650	0.359	Nov 2013	0.207	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Systems Engineering (CSD)	WR	NUWC : Newport, RI	18.521	-		-		-		-		-	-	18.521	18.521
UNDEX Kit Development (SubHDR)	C/CPFF	Raytheon : Marlboro, MA	5.475	-		0.257	Feb 2015	-		-		-	Continuing	Continuing	Continuing
Technology Maturation/ Demonstrations Dev (AdvHDR)	C/CPAF	NUWC : Newport, RI	9.112	-		-		-		-		-	-	9.112	9.112
Research and Analysis Reliability Dev (SubHDR)	WR	NUWC : Newport, RI	4.927	-		0.114	Nov 2014	1.300	Nov 2015	-		1.300	Continuing	Continuing	Continuing
Systems Engineering (AdvHDR)	WR	NUWC : Newport, RI	4.346	-		-		1.271	Nov 2015	-		1.271	Continuing	Continuing	Continuing
Systems Engineering (BRR-6)	C/CPFF	FSI : San Diego, CA	0.000	0.172	Nov 2013	0.100	Nov 2014	0.175	Nov 2015	-		0.175	Continuing	Continuing	Continuing
Hardware Dev (Antenna Trans Eng)	WR	NUWC : Newport, RI	0.185	-		-		-		-		-	-	0.185	0.185
Systems Engineering (Antenna Trans Eng)	WR	NSWC : Philadelphia, PA	1.932	0.080	Jan 2014	-		0.100	Nov 2015	-		0.100	Continuing	Continuing	Continuing
Hardware (Antenna Trans Eng)	WR	NSWC : Philadelphia, PA	0.590	-		-		-		-		-	-	0.590	0.590
Systems Engineering/ Hardware Dev (BRR-6)	WR	NUWC : Newport, RI	0.000	1.417	Nov 2013	0.092	Nov 2014	0.850	Nov 2015	-		0.850	Continuing	Continuing	Continuing
Hardware Dev (OE-538)	WR	NUWC : Newport, RI	1.412	0.686	Nov 2013	0.683	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Systems Engineering/ Hardware Dev (BRR-6)	WR	NSWC : Philadelphia, PA	0.000	1.522	Nov 2013	0.400	Nov 2014	2.656	Nov 2015	-		2.656	Continuing	Continuing	Continuing
Research and Analysis Reliability Dev (SubHDR)	C/CPAF	BTP Systems : Ludlow, MA	1.734	-		-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Future Capabilites (Trans Eng)	WR	SSC Pacific : San Diego, CA	0.590	1.125	Nov 2013	0.845	Nov 2014	1.383	Nov 2015	-		1.383	Continuing	Continuing	Continuing
Systems Engineering (OE-538)	C/CPFF	FSI : San Diego, CA	0.973	0.430	Nov 2013	0.410	Nov 2014	0.411	Nov 2015	-		0.411	Continuing	Continuing	Continuing
Research and Analysis Reliability Dev (SubHDR)	C/CPIF	TBD : TBD	0.000	-		2.061	Feb 2015	6.938	Feb 2016	-		6.938	Continuing	Continuing	Continuing
Software Dev (OE-538)	WR	NUWC : Newport, RI	0.096	0.130	Oct 2013	0.252	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Systems Engineering (Antenna Trans Eng)	WR	MITRE : McLean, VA	0.000	0.398	Dec 2013	0.400	Dec 2014	0.500	Dec 2015	-		0.500	Continuing	Continuing	Continuing
Systems Engineering (Antenna Trans Eng)	WR	NPS : Monterey, CA	0.000	0.120	Jul 2014	0.106	Apr 2015	0.106	Apr 2016	-		0.106	Continuing	Continuing	Continuing
		Subtotal	219.301	11.305		10.691		20.844		-		20.844	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support (AdvHDR)	C/CPFF	Cambridge Intl : Arlington, VA	1.134	-		-		-		-		-	-	1.134	1.134
Integrated Logistics Support (Antenna Trans Eng)	C/CPFF	TCI : Fairfax, VA	0.050	-		-		-		-		-	-	0.050	0.050
Integrated Logistics Support OE-538)	C/CPFF	Cambridge Intl : Arlington, VA	0.285	-		-		-		-		-	-	0.285	0.285
Integrated Logistics Support (CSD)	C/CPFF	TCI : Fairfax, VA	0.283	-		-		-		-		-	-	0.283	0.283
Cost Estimating (SCB)	C/CPFF	BAH : San Diego, CA	0.075	-		-		-		-		-	-	0.075	0.075
Acquisition Documentation (Various)	C/CPFF	Various : Various	1.132	-		-		-		-		-	-	1.132	1.132
Cost Estimating (BRR-6)	C/CPFF	TASC : San Diego, CA	0.000	0.059	Nov 2013	-		0.050	Nov 2015	-		0.050	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated logistics Support (BRR-6)	WR	NUWC : Newport, RI	0.000	0.047	Nov 2013	-		0.050	Nov 2015	-		0.050	Continuing	Continuing	Continuing
Integrated logistics Support (BRR-6)	C/CPFF	CSA : San Diego, CA	0.000	0.050	Nov 2013	-		0.050	Nov 2015	-		0.050	Continuing	Continuing	Continuing
Integrated logistics Support (OE-538)	C/CPFF	CSA : San Diego, CA	0.000	0.092	Nov 2013	0.105	Nov 2014	0.210	Nov 2015	-		0.210	Continuing	Continuing	Continuing
Integrated Logistics Support (AdvHDR)	C/CPFF	CSA : San Diego, CA	0.000	-		-		0.075	Feb 2016	-		0.075	Continuing	Continuing	Continuing
Cost Estimating (OE-538)	C/CPFF	BAH : San Diego, CA	0.375	-		-		-		-		-	-	0.375	0.375
Cost Estimating (AdvHDR)	C/CPFF	TASC : San Diego, CA	0.000	-		-		0.075	Feb 2016	-		0.075	Continuing	Continuing	Continuing
Cost Estimating (OE-538)	C/CPFF	TASC : San Diego, CA	0.100	0.125	Nov 2013	0.181	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Integrated Logistics Support (OE-538)	C/CPFF	TCI : Fairfax, VA	3.296	-		-		-		-		-	-	3.296	3.296
Integrated Logistics Support (SubHDR)	C/CPFF	CSA : San Diego, CA	0.000	-		-		0.157	Feb 2016	-		0.157	Continuing	Continuing	Continuing
Security Engineering (Antenna Trans Eng)	C/CPFF	Merdan : San Diego, CA	0.000	0.275	Nov 2013	0.275	Nov 2014	0.300	Nov 2015	-		0.300	Continuing	Continuing	Continuing
		Subtotal	6.730	0.648		0.561		0.967		-		0.967	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation (CSD)	WR	COTF : Norfolk, VA	0.637	-		-		-		-		-	-	0.637	0.637
Test & Evaluation (OE-538)	WR	COTF : Norfolk, VA	0.836	0.163	Nov 2013	0.024	Nov 2014	0.180	Nov 2015	-		0.180	Continuing	Continuing	Continuing
Test & Evaluation (SubHDR)	WR	NUWC : Newport, RI	1.143	-		0.152	Nov 2014	1.135	Nov 2015	-		1.135	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental/ Operational T&E (AdvHDR)	WR	COTF : Norfolk, VA	0.105	-		-		-		-		-	-	0.105	0.105
Developmental/ Operational T&E (AdvHDR)	WR	NUWC : Newport, RI	0.890	0.078	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Developmental/ Operational T&E (OE-538)	WR	NUWC : Newport, RI	4.655	1.037	Nov 2013	0.613	Nov 2014	1.200	Nov 2015	-		1.200	Continuing	Continuing	Continuing
Test & Evaluation (CSD)	WR	SSC PAC : San Diego, CA	2.497	-		-		-		-		-	-	2.497	2.497
Test & Evaluation (SCB)	WR	NUWC : Newport, RI	0.239	0.711	Nov 2013	-		0.090	Nov 2015	-		0.090	Continuing	Continuing	Continuing
		Subtotal	11.002	1.989		0.789		2.605		-		2.605	-	-	-

Management Services ($ in Millions)

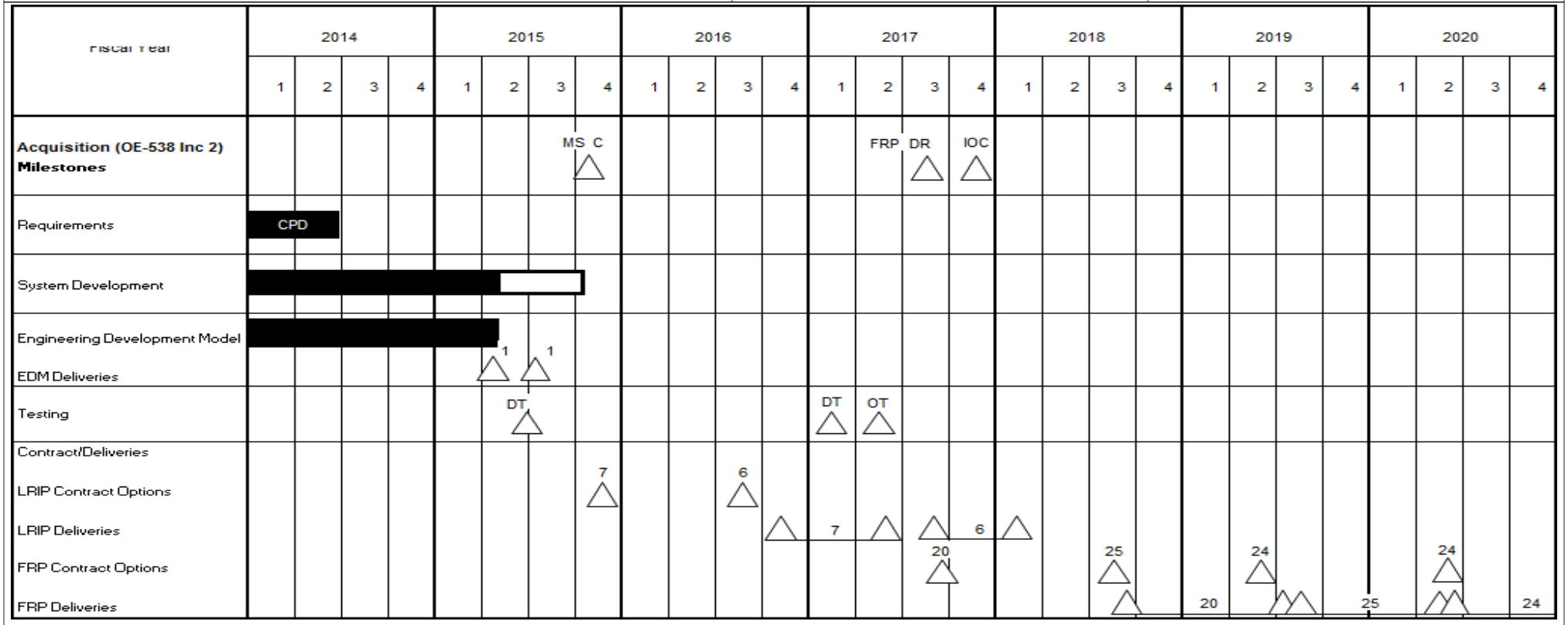
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support (SubHDR)	C/CPFF	CSA : San Diego, CA	2.994	-		0.352	Dec 2014	0.476	Feb 2016	-		0.476	Continuing	Continuing	Continuing
Program Management Support (AdvHDR)	C/CPFF	CSA : San Diego, CA	7.563	-		-		0.242	Feb 2016	-		0.242	Continuing	Continuing	Continuing
Program Management Support (Antenna Trans Eng)	C/CPFF	CSA : San Diego, CA	3.511	0.095	Nov 2013	0.275	Nov 2014	0.150	Nov 2015	-		0.150	Continuing	Continuing	Continuing
Program Management Support (SCB)	C/CPFF	CSA : San Diego, CA	0.276	0.097	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Program Management Support (OE-538)	C/CPFF	CSA : San Diego, CA	3.931	0.193	Nov 2013	0.111	Nov 2014	0.100	Nov 2015	-		0.100	Continuing	Continuing	Continuing
Program Management Support (BRR-6)	C/CPFF	CSA : San Diego, CA	0.000	0.097	Nov 2013	-		0.075	Nov 2015	-		0.075	Continuing	Continuing	Continuing
		Subtotal	18.275	0.482		0.738		1.043		-		1.043	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	255.308	14.424		12.779		25.459		-		25.459	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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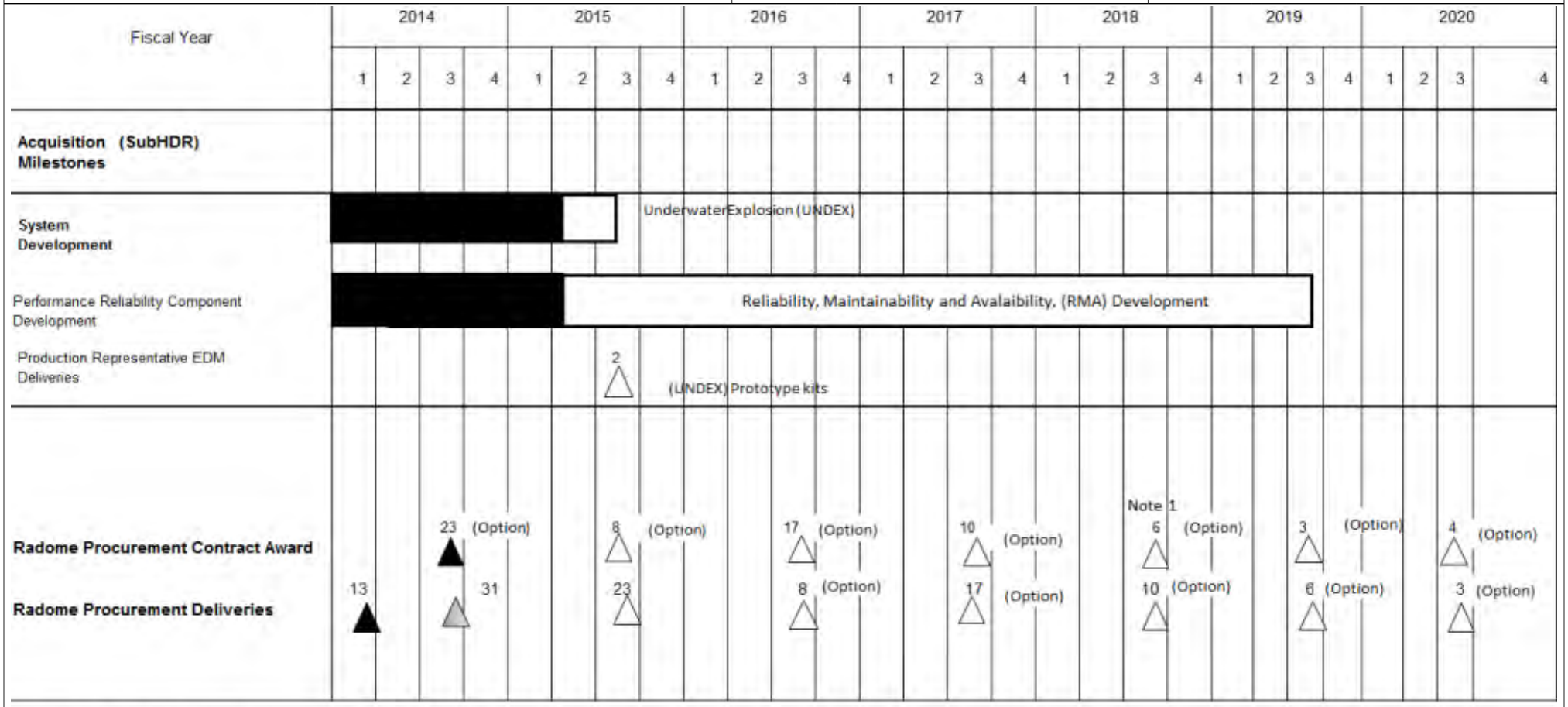


Note: Production of OE-538 Increment 2 starting in FY19 and out will include Global Positioning System (GPS) Anti-Jam (AJ) capability funded by PMW/A 170 Sea NAVWAR Program.

Acronyms

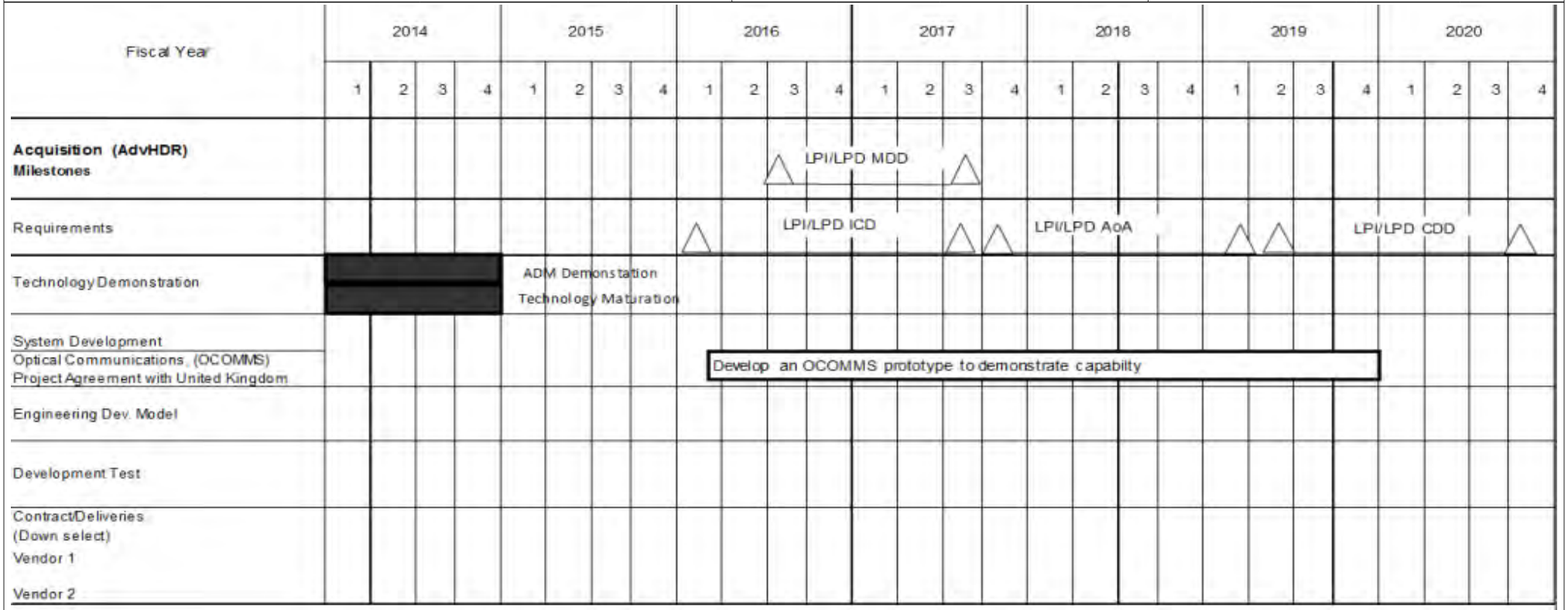
CPD: Capability Production Document	LRIP: Low Rate Initial Production
DT: Developmental Test	MS C: Milestone C
FRP: Full Rate Production	OT: Operational Test
IOC: Initial Operatinal Capability	

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0742 / *Sub Integrated Ant System*



Note 1: The final 13 radomes will require a new contract.

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0742 / *Sub Integrated Ant System*



Acronyms:
ADM - Advanced Development Model
AoA Analysis Of Alternatives
CDD Capabilities Design Document
ICD Initial Capabilities Document
LPI/LPD Low Probability of Intercept/Low Probability of Detection
MDD Materiel Development Decision

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0742 / *Sub Integrated Ant System*

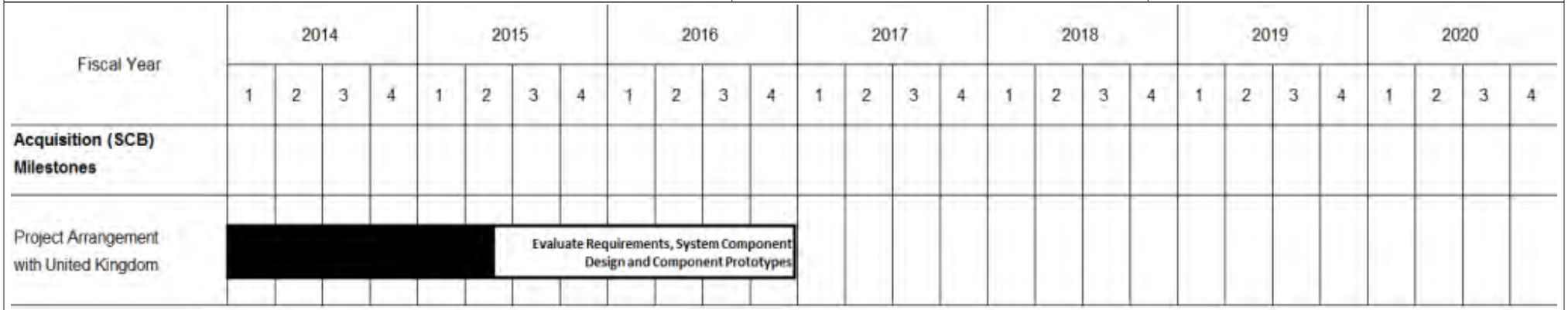


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0742 / *Sub Integrated Ant System*

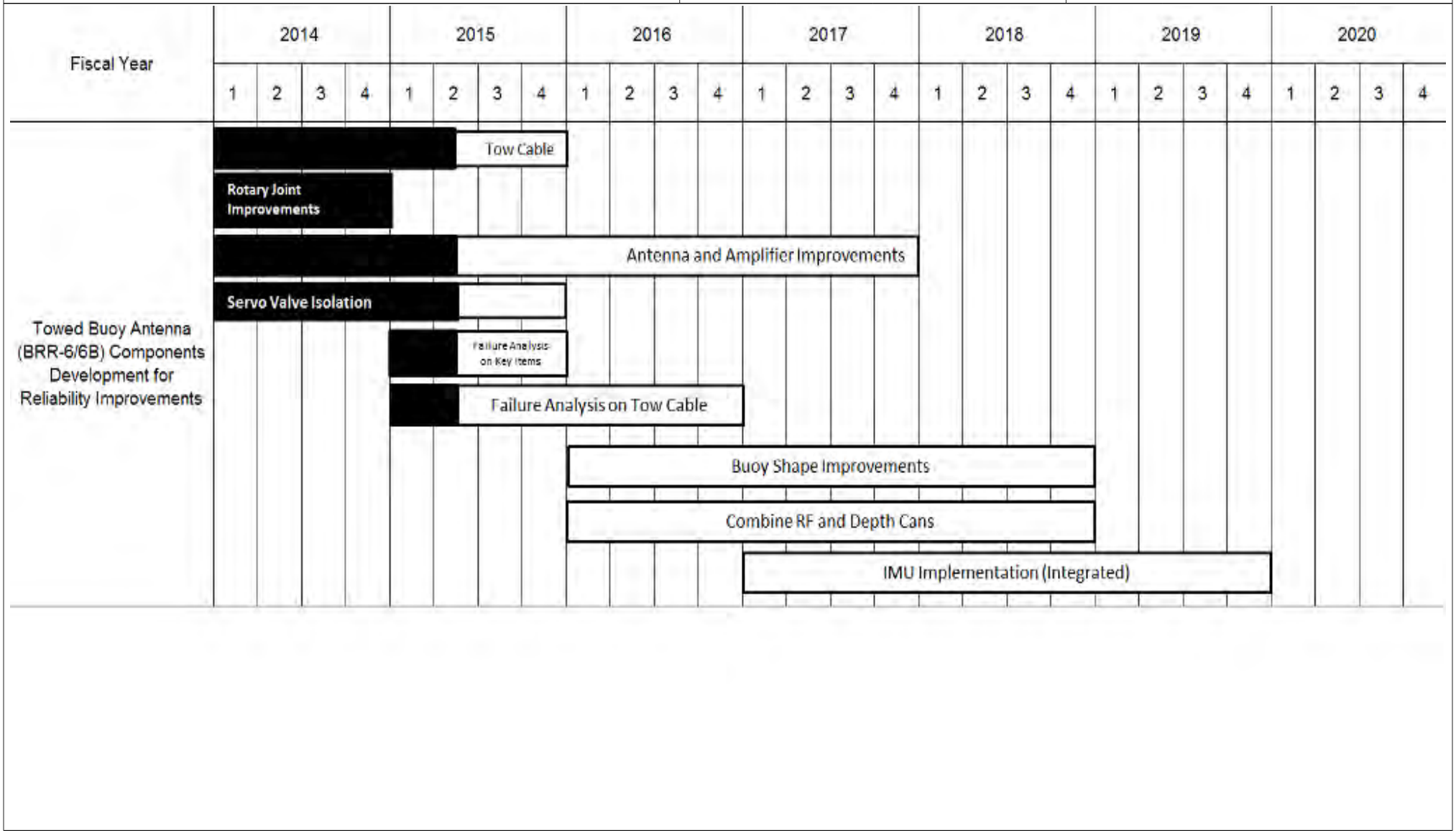


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0742 / *Sub Integrated Ant System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0742				
Outboard Electronics (OE)-538 Milestone C (MS C) Decision	4	2015	4	2015
OE-538 Full Rate Production Decision Review (FRP DR)	3	2017	3	2017
OE-538 Initial Operational Capability (IOC) without Global Position System (GPS) Anti-Jam (AJ)	4	2017	4	2017
OE-538 Capability Production Document (CPD)	1	2014	2	2014
OE-538 System Development	1	2014	4	2015
OE-538 Engineering Development Model (EDM) Development	1	2014	2	2015
OE-538 1st EDM Delivery	2	2015	2	2015
OE-538 2nd EDM Delivery	3	2015	3	2015
OE-538 Developmental Test (DT) for Milestone C (MS C)	2	2015	2	2015
OE-538 DT for Full Rate Production (FRP)	1	2017	1	2017
OE-538 Operational Test (OT)	2	2017	2	2017
OE-538 Low-Rate Initial Production (LRIP) Contract Option Year 1	4	2015	4	2015
OE-538 LRIP Deliveries Year 1	4	2016	2	2017
OE-538 LRIP Contract Option Year 2	3	2016	3	2016
OE-538 LRIP Deliveries Year 2	3	2017	1	2018
OE-538 Full Rate Production (FRP) Contract Options Year 1	3	2017	3	2017
OE-538 FRP Deliveries Year 1	3	2018	3	2019
OE-538 FRP Contract Option Year 2	3	2018	3	2018
OE-538 FRP Deliveries Year 2	3	2019	3	2020
OE-538 FRP Contract Option Year 3	2	2019	2	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
OE-538 FRP Deliveries Year 3	2	2020	4	2020
OE-538 FRP Contract Option Year 4	2	2020	2	2020
Submarine High Data Rate (SubHDR) Under Water Explosion (UNDEX) Development	1	2014	3	2015
SubHDR Performance Reliability Component Development/Test	1	2014	3	2019
SubHDR Production Representative UNDEX Engineering Development Model (EDM) Deliveries	3	2015	3	2015
SubHDR Radome Procurement Contract Awards	3	2014	3	2020
SubHDR Radome Production Deliveries	1	2014	3	2020
AdvHDR Materiel Development Decision (MDD) LPI/LPD	3	2016	3	2017
AdvHDR Initial Capabilities Document (ICD) for LPI/LPD	1	2016	3	2017
AdvHDR Analysis of Alternative (AoA) for LPI/LPD	4	2017	1	2019
AdvHDR Capabilities Development Document (CDD) for LPI/LPD	2	2019	4	2020
AdvHDR Optical Communcations Project Agreement with United Kingdom	1	2016	4	2019
AdvHDR Demonstration (DEMO)	1	2014	4	2014
AdvHDR Technology Maturation	1	2014	4	2014
SCB Project arrangement with United Kingdom (UK)	1	2014	4	2016
Towed Buoy Antenna (BRR-6/6B) Tow Cable Improvements	1	2014	4	2015
BRR-6/6B Rotary Joint Improvement	1	2014	4	2014
BRR-6/6B Antenna and Amplifier Improvements	1	2014	4	2017
BRR-6/6B Servo Valve Isolation	1	2014	4	2015
BRR-6/6B Failure Analysis on Key Items	1	2015	4	2015
BRR-6/6B Failure Analysis on Tow Cable	1	2015	4	2016
BRR-6/6B Buoy shape Improvements	1	2016	4	2018
BRR-6/6B Combine RF and Depth Cans	1	2016	4	2018
BRR-6/6B IMU Implementation (Integrated)	1	2017	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604503N / *SSN-688 & Trident Modernization*	Project (Number/Name) 0775 / *Submarine Supt Equip Prog*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0775: *Submarine Supt Equip Prog*	7.225	1.314	8.064	6.204	-	6.204	8.837	9.149	9.319	9.986	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Submarine Support Equipment Program (SSEP) is responsible for the development and improvement of Submarine Electronic Warfare (EW) systems in support of effective operations in the following mission areas: Joint Littoral Warfare; Joint Intelligence Surveillance Reconnaissance (ISR), Indications and Warnings; Electronic Warfare; Information Operations including Cyber; and Special Operations Force (SOF) support. The rapid proliferation of complex radar, communications and navigation equipment available to potential adversaries creates an increasingly dense and sophisticated electromagnetic environment. Sustained and significant improvements to submarine EW systems are required to maintain tactical ship safety and operation effectiveness. As such EW was raised to a submarine primary mission area in FY2012 by Commander Submarine Forces, and EW is listed as the number one modernization requirement by the Submarine Tactical Requirements Group (STRG). OPNAV letter dated 17 June 12, SER N97/12U144401 further codified this need by directing development of a digital Next Generation EW system as an evolution of the AN/BLQ-10 EW program. SSEP efforts in support of these needs include: integration of technology developed and transitioned from the Advanced Submarine Support Equipment Program (ASSEP) into tactical EW systems, interface and capability integration with Submarine Warfare Federated Tactical System Modernization efforts and development of the Next Generation EW BLQ-10 system.

RDTE Funding line supports the entire AN/BLQ-10 EW procurement program. Increases in RDTE budget starting in FY15 supports development of EW Next Generation Architecture.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Submarine Support Equipment Program	1.314	8.064	6.204	-	6.204
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Updated AN/BLQ-10 software baseline changes for Submarine Warfare Federated Tactical System (SWFTS) and Non-Propulsion Electronics System (NPES), Software Problem Report (SPR) Resolution and Software Enhancement. Completed testing of TI-14 Processor Upgrades, Remote Log-in, Rapid Reprogramming of Threat Libraries and Electronic Support (ES) Server Correlator (component of Next Generation Architecture). Commenced integration and testing of TI-APB 13. Developed EW Tactical Improvement Set (ETIS) system specifications for TI-16 Back fit Human Machine Interface (HMI) and TI-16 EW server back fit.					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0775 / *Submarine Supt Equip Prog*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Update AN/BLQ-10 software baseline changes for SWFTS and NPES, SPR Resolution and Software Enhancement. Development of TI-16 Processor Upgrades, remote display and vulnerability rules of thumb. Commence development of Next Generation Architecture (NGA) Increment 1 and ETIS. Develop EW server, displays and control of digital Electronic Intelligence (ELINT) and digital Communications Intelligence (COMINT) subsystems. Advanced technology demonstrations for feasibility of systems capable of meeting later increments of AN/BLQ-10(B) for performance and digital data delivery. ***FY 2016 Base Plans:*** Update AN/BLQ-10 software baseline changes for SWFTS and NPES, SPR Resolution and Software Enhancement. Complete testing of TI-16 Processor Upgrades and ETIS improvements. Develop TI-18 NRE updates of HMI package to incorporate Digital Onboard Trainer and usage of I&Q data; Digital Apertures, Embedded Built in Test (BIT), and New Ultra Wideband High-speed Digital Receiver (UWHD). Commence development of TI-20/INC 2 for High Speed Network, SIRFSUP capabilities, Multifunctional Modular Mast (MMM) payload Next Generation EW System. Develop Communications Digital Aperture Correlation and Emitter improvements. Advanced technology demonstrations for feasibility of systems capable of meeting later increments of AN/BLQ-10(B) for performance and digital data delivery. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.314	8.064	6.204	-	6.204

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/256000: *Submarine Supt Equip Prog*	44.464	36.938	79.954	-	79.954	71.028	60.090	77.373	85.594	Continuing	Continuing
• SCN/201300: *VIRGINIA Class Submarine*	55.412	56.512	57.650	-	57.650	58.821	60.015	61.215	62.562	Continuing	Continuing
• RDT&E/0604558N: *VIRGINIA Class Design Development*	5.000	1.500	1.500	-	1.500	1.500	1.500	1.526	1.557	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0775 / *Submarine Supt Equip Prog*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDT&E/0603562N: *Advanced Submarine Support Equipment (ASSEP)*	3.807	3.343	4.103	-	4.103	4.052	4.161	4.415	4.733	Continuing	Continuing

Remarks

D. Acquisition Strategy

AN/BLQ-10 (V) EW System - Procurements are executed/managed in accordance with Acquisition Plan (Rev 9) for AN/BLQ-10(V) EW System dtd 06/06/13 and the Single Acquisition Management Plan dtd 06/12/14.

E. Performance Metrics

The RDD program goal is to respond to urgent operational needs within 30 days and provide for rapid development and fielding of prototype solutions within 270 days.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/BLQ-10 EW Product Development	C/CPFF	Various Contractors : Not Specified	3.127	0.135	Mar 2014	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering & Test Support	WR	NUWC : Newport, RI	4.098	-	Oct 2013	-	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Hardware and Software Development	WR	NUWC : Newport, RI	0.000	-		6.993	Oct 2014	4.068	Oct 2015	-		4.068	Continuing	Continuing	Continuing
		Subtotal	7.225	0.135		6.993		4.068		-		4.068	-	-	-

Remarks

Increase in FY15 Hardware Development supports efforts for AN/BLQ-10(B) EW Next Generation Architecture

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	WR	COTF : Norfolk, VA	0.000	-		0.254	Oct 2014	0.260	Oct 2015	-		0.260	-	0.514	-
Systems Engineering & Test Support	WR	NUWC : Newport, RI	0.000	1.179	Oct 2013	0.817	Oct 2014	1.876	Oct 2015	-		1.876	-	3.872	-
		Subtotal	0.000	1.179		1.071		2.136		-		2.136	-	4.386	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7.225	1.314		8.064		6.204		-		6.204	-	-	-

Remarks

Development Integration and Test (DI&T) for NGA Increment I/ETIS extends into FY17 to complete testing for Increment I hardware tied to VIRGINIA new construction schedule.

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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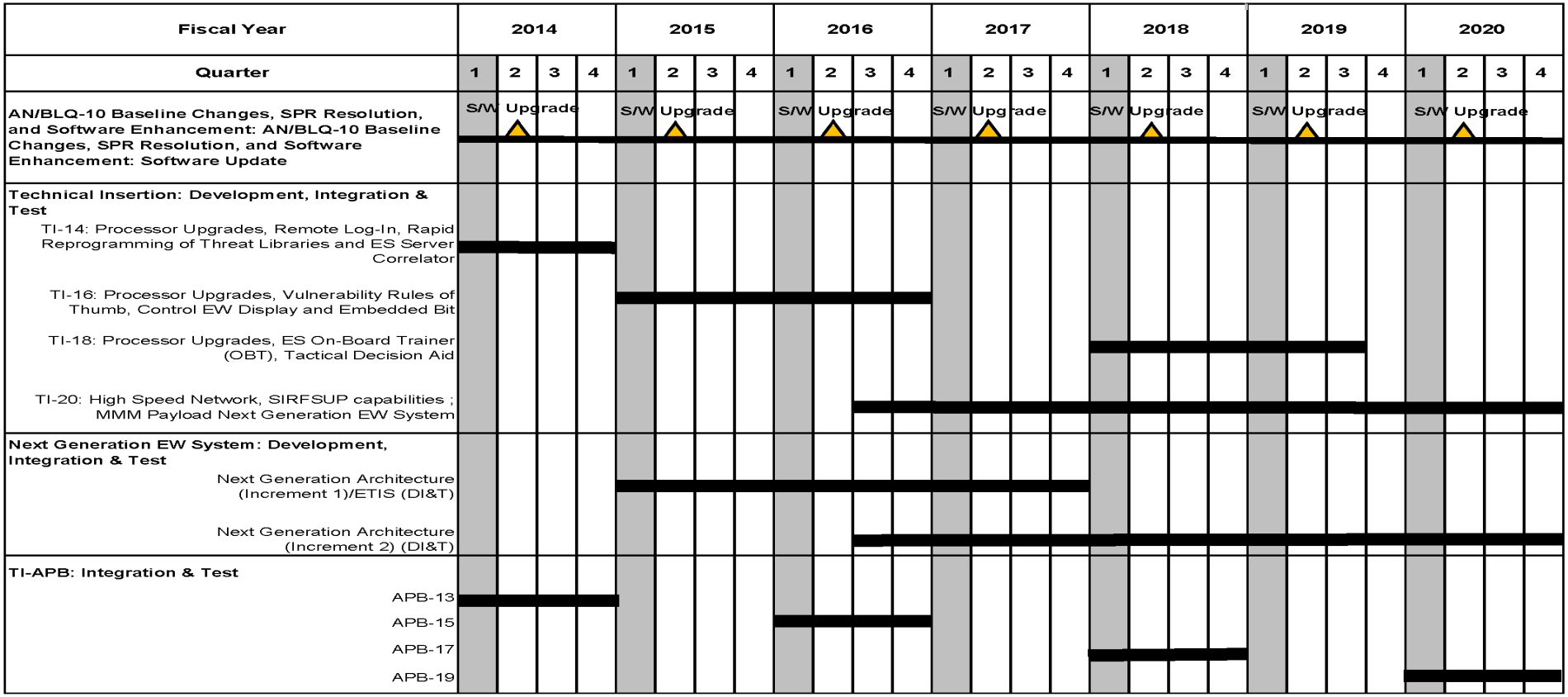


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 0775 / *Submarine Supt Equip Prog*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0775				
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY14	2	2014	2	2014
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY15	2	2015	2	2015
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY16	2	2016	2	2016
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY17	2	2017	2	2017
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY18	2	2018	2	2018
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY19	2	2019	2	2019
AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement: Software Update FY20	2	2020	2	2020
TI-14: Processor Upgrades, Remote Log-in, Rapid Reprom. of Threat Libraries, ES Server Correlator	1	2014	4	2014
TI-16: Processor Upgrades, Vulnerability Rules of Thumb, Control EW display and Embedded bit	1	2015	4	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
TI-18: Processor Upgrades, ES On-Board Trainer (OBT), Tactical Decision Aid	1	2018	3	2019
TI-20: High Speed Network, SURSUP capabilities, MMM Payload Next Generation EW System	3	2016	4	2020
Next Generation EW System: Development, Integration & Test (DI&T): Next Generation Architecture (Increment 1)/ETIS (DI&T)	1	2015	4	2017
Next Generation EW System: Development, Integration & Test (DI&T): Next Generation Architecture (Increment 2) (DI&T)	3	2016	4	2020
TI-APB: Integration & Test: APB-13	1	2014	4	2014
TI-APB: Integration & Test: APB-15	1	2016	4	2016
TI-APB: Integration & Test: APB-17	1	2018	4	2018
TI-APB: Integration & Test: APB-19	1	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604503N / *SSN-688 & Trident Modernization*				Project (Number/Name) 1411 / *Sub Tact Comm System*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
1411: *Sub Tact Comm System*	186.242	13.614	8.805	9.354	-	9.354	10.668	10.691	10.678	10.896	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Submarine Tactical Communications System project (1411) provides submarines with communications systems designed to: (a) enhance assured information transfer via automated and integrated network management; (b) support assured Command & Control, (c) provide submarine Internet Protocol (IP) connectivity; (d) be interoperable with Nuclear Command, Control, and Communications (NC3), joint United States, and allied/coalition military networks; (e) meet NC3 strategic messaging requirements; and (f) improve reliability, maintainability, and availability. This is accomplished by providing the submarine with a properly integrated mix of fully interoperable Navy standard and Commercial Off-the-Shelf (COTS) communication equipment covering a wide range of frequencies and modes. The Common Submarine Radio Room (CSRR) transforms LOS ANGELES, OHIO (SSBN and SSGN) and SEAWOLF Class radio rooms from suites of class-specific, closed system equipment to a common (not identical) design which incorporates Open System Architecture communications equipment. CSRR leverages and continues the development of VIRGINIA Class External Communications System (ECS) design and ECS Control and Management software, applies a system-of-systems approach to design and implementation of Joint Maritime Communication System, and integrates COTS and Government Off-the-Shelf components with emerging technologies into a single centrally managed radio room architecture for all classes of submarines. The project utilizes land-based integration test facilities to integrate Command, Control, Communications, Computers, and Intelligence (C4I) programs of record components into the open architecture prior to fleet implementation on all submarine platforms. This project funds the development of a replacement simulation/stimulation suite to support training requirements. The project includes system engineering efforts associated with demonstration of new technology allowing submarines to connect to the global information grid, participate in strike group and joint operations, and support NC3 commitments. CSRR supports the Navy Strategy for achieving Information Dominance by providing the submarine resilient, robust communications capabilities for NC3, Joint United States and allied/coalition military operations. The new technology will ensure the submarine's continued ability to participate in network-centric warfare and exploit its inherent stealth capabilities in support of the Navy, Joint, and allied/coalition fight to achieve total battlespace information dominance.

JUSTIFICATION FOR BUDGET ACTIVITY:
This program is funded under ENGINEERING and MANUFACTURING DEVELOPMENT because it encompasses development and demonstration of new end-items prior to fielding approval decision.

Funding in FY16 is to continue CSRR Increment 1 Version 4 systems engineering development for OHIO Class ballistic missile (SSBN) submarines, VIRGINIA, LOS ANGELES and SEAWOLF Class attack (SSN) submarines, OHIO Class guided missile (SSGN) submarines, and ensure Supply Chain Risk Management (SCRM) compliance. Continue development of platform specific builds for Control & Management software incorporating Increment 1 Version 4 capabilities. Continue development of the Multi-purpose Reconfigurable Training System (MRTS) software for Increment 1 Version 4 capabilities. Update acquisition documentation to reflect changes in Increment 1 Version 4 through Version 6.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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Acquisition Decision Memorandum signed by Assistant Secretary of Navy for Research, Development & Acquisition dated 15 July 2008 approved consolidating Increments 1 and 2 to a single Increment 1 with multiple block upgrades (Versions).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Common Submarine Radio Room (CSRR)	13.614	8.805	9.354	-	9.354
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Completed CSRR systems engineering development for modernization of Increment 1 Version 3 for SSBN and SEAWOLF Class submarines. - Completed development of platform specific builds of Increment 1 Version 3 Control and Management software for SEAWOLF and SSBN Class capabilities. - Completed implementation of Increment 1 Version 3 security upgrades to meet Cyber Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms. - Completed required Increment 1 Version 3 SSBN Emergency Action Message (EAM) certification testing and data analysis and Targeting Change Message (TCM) testing and successfully received certifications. - Completed engineering design to correct Increment 1 Version 3 cable management plan design deficiencies identified on Increment 1 Version 3 platforms in the Departure From Specification (DFS) documentation. - Completed Verification of Correction of Deficiencies (VCD) testing defined in the Increment 1 Version 3 OT report. - Continued development of platform specific builds of Control & Management software Increment 1 Version 3 capabilities for VIRGINIA, LOS ANGELES, SEAWOLF, SSGN and SSBN incorporating End of Life (EOL) issues due to equipment obsolescence. - Commenced Federal Information System Management Act (FISMA) statutory requirement for Cyber Security compliance and correction of Increment 1 Version 1 - Version 3 cyber security deficiencies. - Commenced Supply Chain Risk Management (SCRM) assessment as part of Program Protection Plan revision. - Commenced Multi-purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 3 CSRR baseline for SSBN Class operator trainer. - Commenced Increment 1 Version 3 Operational Test (OT) test deferrals and Special Operations Forces (SOF) testing. - Commenced implementation of Increment 1 Version 4 security upgrades to meet Cyber Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Commenced Multi-Purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 4 CSRR baseline for LOS ANGELES and SSBN Class operator trainer and VIRGINIA Class maintenance trainer. - Commenced CSRR Increment 1 Version 4 system engineering development and modernization for the LOS ANGELES, SSBN and VIRGINIA Class submarines. - Commenced development of platform specific builds of Increment 1 Version 4 Control and Management software for LOS ANGELES, SSBN and VIRGINIA capabilities.					
FY 2015 Plans: - Complete Increment 1 Version 3 OT test deferrals and Special Operations Forces (SOF) testing. - Complete development of platform specific builds of Control & Management software Increment 1 Version 3 capabilities for VIRGINIA, LOS ANGELES, SEAWOLF, SSGN and SSBN Class submarines incorporating End of Life (EOL) issues due to equipment obsolescence. - Complete Multi-purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 3 CSRR baseline for SSBN Class operator trainer. - Continue Federal Information System Management Act (FISMA) statutory requirement for Cyber Security compliance and correction of Increment 1 Version 1 - Version 3 Cyber Security deficiencies. - Continue Supply Chain Risk Management (SCRM) assessment as part of Program Protection Plan (PPP) revision. - Continue CSRR Increment 1 Version 4 system engineering development and modernization for the LOS ANGELES, SSBN and VIRGINIA Class submarines. - Continue development of platform specific builds of Increment 1 Version 4 Control and Management software for LOS ANGELES, SSBN and VIRGINIA Class capabilities. - Continue implementation of Increment 1 Version 4 security upgrades and meet Cyber Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms. - Continue Multi-Purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 4 CSRR baseline for LOS ANGELES, SSBN, and SSGN Class operator trainer and VIRGINIA Class maintenance trainer. - Commence CSRR Increment 1 Version 4 system engineering development and modernization for the SSGN and SEAWOLF Class submarines. - Commence development of platform specific builds of Increment 1 Version 4 Control and Management software for SSGN and SEAWOLF Class capabilities.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 1411 / *Sub Tact Comm System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Commence Federal Information System Management Act (FISMA) statutory requirement for Cyber Security compliance and correction of Increment 1 Version 4 cyber security deficiencies. - Commence updating the CSRR Acquisition Plan, Acquisition Strategy, System Engineering Plan, and Program Protection Plan to reflect changes for Increment 1 Version 4 through Version 6. ***FY 2016 Base Plans:*** - Continue Federal Information System Management Act (FISMA) statutory requirement for Cyber Security compliance and correction of Increment 1 Version 1 - Version 4 Cyber Security deficiencies. - Continue SCRM assessment as part of PPP revision. - Continue CSRR Increment 1 Version 4 system engineering development and modernization for the LOS ANGELES, SSBN, VIRGINIA, SSGN, and SEAWOLF Class submarines. - Continue development of platform specific builds of Increment 1 Version 4 Control and Management software for LOS ANGELES, SSBN, VIRGINIA, SSGN and SEAWOLF Class capabilities. - Continue implementation of Increment 1 Version 4 security upgrades and meet Cyber Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms. - Continue Multi-Purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 4 CSRR baseline for LOS ANGELES, SSBN, and SSGN Class operator trainer and VIRGINIA Class maintenance trainer. - Continue updating the CSRR Acquisition Plan, Acquisition Strategy, System Engineering Plan, and Program Protection Plan to reflect changes for Increment 1 Version 4 through Version 6. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	13.614	8.805	9.354	-	9.354

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 313000: *Submarine Communications*	64.376	64.954	60.945	-	60.945	67.507	61.859	67.274	73.051	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 1411 / *Sub Tact Comm System*

D. Acquisition Strategy

Program Milestones: Increment 1 Version 4 Preliminary Design Review (PDR) 4Q FY15, Critical Design Review (CDR) 3Q FY16, Developmental Test (DT) 2Q FY18, Operational Test (OT) 3Q FY18, and Fielding Decision 4Q FY18. Increment 1 Version 5 PDR 4Q FY18, CDR 3Q FY19.

E. Performance Metrics

FY16 CSRR reduces the overall cost for implementation of Command, Control, Communications Computers, and Intelligence (C4I) Programs of Record components into the submarine external communications system by implementing block upgrades and reducing the integration/installation costs. The amount of RDT&E funding is dependent on the number of baselines being integrated and tested in any given year.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604503N / *SSN-688 & Trident Modernization*	Project (Number/Name) 1411 / *Sub Tact Comm System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	WR	SSC PAC : San Diego, CA	2.776	-		-		-		-		-	-	2.776	2.776
Hardware Development	WR	SSC LANT : Charleston, SC	0.431	-		-		-		-		-	-	0.431	0.431
Multi-Crypto System (MCS) Development	C/CPFF	Motorola : Scottsdale, Arizona	10.214	-		-		-		-		-	-	10.214	10.214
Software Development	WR	SSC PAC : San Diego, CA	2.068	-		-		-		-		-	-	2.068	2.068
Software Development	WR	NUWC : Newport, RI	5.852	-		-		-		-		-	-	5.852	5.852
Multi-Purpose Reconfigurable Training System (MRTS) Development	WR	NAVAIR : Orlando, FL	16.006	-		-		-		-		-	-	16.006	16.006
Multi-Purpose Reconfigurable Training System (MRTS) Development	WR	SSC LANT : Charleston, SC	0.325	1.201	Nov 2013	1.397	Nov 2014	1.295	Nov 2015	-		1.295	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC : Newport, RI	47.244	-		-		-		-		-	-	47.244	47.244
Systems Eng/Design Version 4	WR	NUWC : Newport, RI	0.000	6.015	Nov 2013	3.745	Nov 2014	3.823	Nov 2015	-		3.823	Continuing	Continuing	Continuing
Site Platform Integration/ Certification	WR	NUWC : Newport, RI	12.699	0.118	Nov 2013	0.122	Nov 2014	0.130	Nov 2015	-		0.130	Continuing	Continuing	Continuing
Broadcast Control Authority/Operational Control (BCA/OPCON) architecture	WR	NUWC : Newport, RI	3.683	-		-		-		-		-	-	3.683	3.683
Software Development (CSRR)	C/CPAF	Lockheed Martin : Eagan, MN/San Diego, CA	35.881	-		-		-		-		-	-	35.881	36.306
Software Development (CSRR)	C/CPIF	Lockheed Martin : San Diego, CA	0.716	3.744	Dec 2013	2.133	Jan 2015	2.118	Nov 2015	-		2.118	Continuing	Continuing	Continuing
		Subtotal	137.895	11.078		7.397		7.366		-		7.366	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604503N / *SSN-688 & Trident Modernization*	Project (Number/Name) 1411 / *Sub Tact Comm System*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	WR	NUWC : Newport, RI	3.401	0.226	Nov 2013	0.062	Nov 2014	0.192	Nov 2015	-		0.192	Continuing	Continuing	Continuing
Software Engineering	WR	SSC PAC : San Diego, CA	3.208	0.273	Mar 2014	0.173	Jan 2015	0.185	Nov 2015	-		0.185	Continuing	Continuing	Continuing
Information Security/ Information Assurance (INFOSEC/IA) Certification/Supply Chain Risk Management (SCRM) Assessment	Various	SSC PAC/SSC LANT/NUWC/ MITRE : San Diego, CA/Charleston, SC/ Newport, RI/San Diego	20.166	1.591	Nov 2013	1.104	Nov 2014	1.536	Nov 2015	-		1.536	Continuing	Continuing	Continuing
		Subtotal	26.775	2.090		1.339		1.913		-		1.913	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental/ Operational Test and Evaluation (T&E)	WR	COTF, JITC : Various	11.020	0.265	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	11.020	0.265		-		-		-		-	-	-	-

Management Services ($ in Millions)

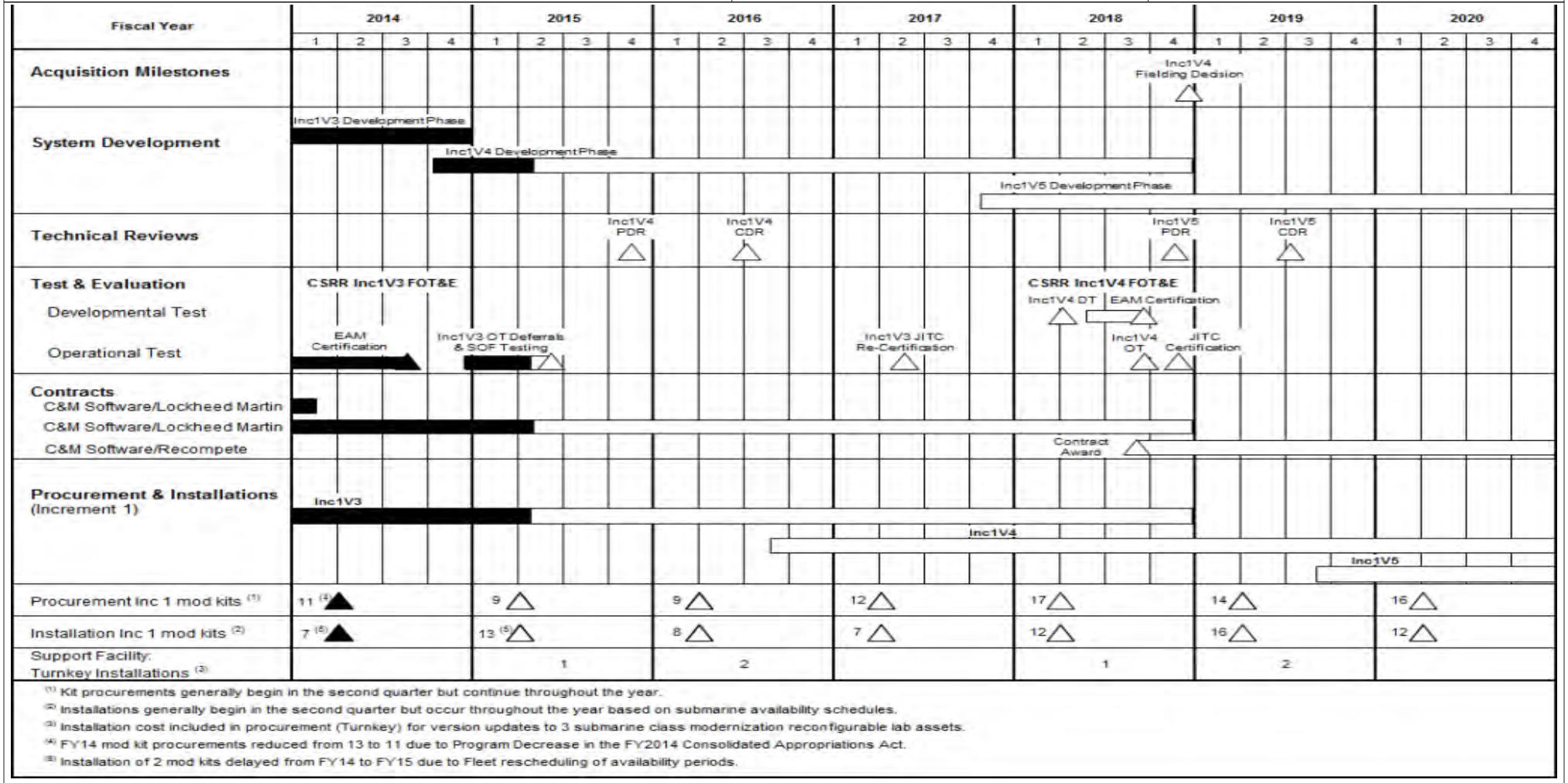
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	CSA/FSI : San Diego, CA	10.552	0.181	Nov 2013	0.069	Jan 2015	0.075	Nov 2015	-		0.075	Continuing	Continuing	Continuing
		Subtotal	10.552	0.181		0.069		0.075		-		0.075	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604503N / *SSN-688 & Trident Modernization*	Project (Number/Name) 1411 / *Sub Tact Comm System*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	186.242	13.614		8.805		9.354		-		9.354	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 1411 / *Sub Tact Comm System*



(1) Kit procurements generally begin in the second quarter but continue throughout the year.
(2) Installations generally begin in the second quarter but occur throughout the year based on submarine availability schedules.
(3) Installation cost included in procurement (Turnkey) for version updates to 3 submarine class modernization reconfigurable lab assets.
(4) FY14 mod kit procurements reduced from 13 to 11 due to Program Decrease in the FY2014 Consolidated Appropriations Act.
(5) Installation of 2 mod kits delayed from FY14 to FY15 due to Fleet rescheduling of availability periods.

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604503N / *SSN-688 & Trident Modernization*	**Project (Number/Name)** 1411 / *Sub Tact Comm System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1411				
Fielding Decision (Increment 1 Version 4)	4	2018	4	2018
Technical Reviews (Increment 1 Version 4 Preliminary Design Review (PDR))	4	2015	4	2015
Technical Reviews (Increment 1 Version 4 Critical Design Review (CDR))	3	2016	3	2016
Technical Reviews (Increment 1 Version 5 Preliminary Design Review (PDR))	4	2018	4	2018
Technical Reviews (Increment 1 Version 5 Critical Design Review (CDR))	3	2019	3	2019
System Development (Increment 1 Version 3)	1	2014	4	2014
System Development (Increment 1 Version 4)	4	2014	4	2018
System Development (Increment 1 Version 5)	4	2017	4	2020
Contracts (Software---Lockheed Martin)	1	2014	1	2014
Contracts (Software---Lockheed Martin)	1	2014	4	2018
Contracts (Software-Follow-on)	3	2018	4	2020
Emergency Action Message (EAM) Certification (Increment 1 Version 3)	1	2014	3	2014
Emergency Action Message (EAM) Certification (Increment 1 Version 4)	2	2018	3	2018
Increment 1 Version 3 Operational Test (OT) deferrals & Special Operations Forces (SOF) testing	4	2014	2	2015
Increment 1 Version 3 Joint Interoperability Test Command (JITC) Re-Certification	2	2017	2	2017
Increment 1 Version 4 Joint Interoperability Test Command (JITC) Re-Certification	4	2018	4	2018
Developmental Test (DT) (Increment 1 Version 4)	2	2018	2	2018
Operational Test (OT) (Increment 1 Version 4)	3	2018	3	2018
Procurement (Increment 1 Modernization Kits)	1	2014	4	2020
Installation (Increment 1 Modernization Kits)	1	2014	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604504N *I Air Control*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	63.928	9.664	29.037	57.928	-	57.928	53.368	65.570	52.446	53.648	Continuing	Continuing
0718: *MATCALS*	1.229	2.330	4.103	1.412	-	1.412	1.215	1.017	0.638	0.650	Continuing	Continuing
0993: *Carrier ATC*	61.229	6.361	12.818	40.559	-	40.559	33.270	33.783	29.715	30.451	Continuing	Continuing
1657: *ATC Improvement*	1.470	0.973	0.404	0.399	-	0.399	0.402	0.410	0.419	0.428	Continuing	Continuing
3372: *ATC Systems*	0.000	-	11.712	15.558	-	15.558	18.481	30.360	21.674	22.119	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides for the development, integration, and testing of Automated Air Traffic Control (ATC) hardware and software required to provide improved flight safety and more reliable all-weather ATC and landing system capabilities at Naval Air Stations (NASs) and Marine Corps Air Stations (MCASs) and Fleet Area Control and Surveillance Facilities (FACSFAC) worldwide. Funded programs are required to upgrade or replace aging ATC and landing system equipment on aircraft, aircraft carriers, amphibious ships, NASs, MCASs and Navy/Marine Corps tactical/expeditionary airfields and remote landing sites.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	10.754	29.037	69.486	-	69.486
Current President's Budget	9.664	29.037	57.928	-	57.928
Total Adjustments	-1.090	-	-11.558	-	-11.558
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.014	-			
• SBIR/STTR Transfer	-0.076	-			
• Program Adjustments	-	-	-10.995	-	-10.995
• Rate/Misc Adjustments	-	-	-0.563	-	-0.563

Change Summary Explanation

The FY 2016 funding request was reduced by $0.995 million to account for the availability of prior year execution balances

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604504N *I Air Control*

Technical: Not applicable.
Schedule: The G/ATOR Program has been rebaselined due to Service priorities.
Cost: Project 0718 (MATCALS) FY 2016 program was reduced to properly phase program requirements in accordance with expenditures. The G/ATOR Program has been rebaselined due to Service priorities. Project 0993 (Carrier ATC) The FY 2016 funding request was reduced by $10.0 million in the SPN-50 contract award based on cost estimates received from local industry. This reduction does not affect the planned contract award or the program's ability to meet objectives.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604504N / *Air Control*	Project (Number/Name) 0718 / *MATCALS*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0718: *MATCALS*	1.229	2.330	4.103	1.412	-	1.412	1.215	1.017	0.638	0.650	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program provides for continued development, integration, and testing of hardware and software to meet requirements for all-weather operations and improved flight safety of Air Traffic Control (ATC) and Landing Systems at Marine Corps expeditionary airfields. An Acquisition Decision Memorandum from Jan 2005 approved the use of the U.S. Army AN/TPN-31 Air Traffic Navigation, Integration, and Coordination System (ATNAVICS) to fulfill the Air Surveillance and Precision Approach Radar and Control System (ASPARCS) requirement for Jul 2006. The ATNAVICS will replace the legacy ATC Precision Approach Radar (PAR), Airport Surveillance Radar (ASR), and Command and Control Subsystem with a High Mobility Multipurpose Wheeled Vehicle based PAR, ASR and Command and Control Subsystem. The MROC Decision Memorandum 11-2005 of Dec 2004 outlines the evolutionary improvements required by Headquarters Marine Corps (HQMC). This program works with the Marine ATC Working Group identifying the requirements to implement the P3I and evolutionary product improvements as required for G/ATOR, ATNAVICS, Expeditionary ATC Towers, and Navigational Aids that support Marine Air Traffic Control Detachments (MATCD).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: ASPARCS Improvements	2.230	3.608	0.617	-	0.617
Articles:	-	-	-	-	-
Description: Investigate and resolve obsolescence issues. Perform studies and analyses to implement P3I and other evolutionary improvements. Develop criteria for existing ASPARCS software to achieve Defense Information Infrastructure-Common Operating Environment Level 5 compliance, Information Assurance, Radar Range Extension and Mapping functionality, and enhanced simulation and training into the existing ASPARCS software. Perform Mode 5/S integration, operational functionality study and analyses with AN/TPN-31(V)7 ATNAVICS System.					
FY 2014 Accomplishments: Extend the Tactical Air Navigation Modernization Part 1 ECP to include transportability testing which will reduce operational footprint and increase supportability and transportability. Start a Part 1 ECP for the AN/TSQ-216 Remote Landing Site Tower to replace obsolete generator. Perform developmental work on the AN/TSQ-120C Tower and produce a Plan of Action and Milestones outlining options for the mobilization of the Tower-Down Shelter. Start a Part 1 ECP to integrate the Mode 5 capability into the AN/TPN-31(V) ATNAVICS. Start a Part 1 ECP for the TSQ-120C to investigate and resolve obsolescence issues and to improve expeditionary mobility.					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 0718 / *MATCALS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Develop Expeditionary Air Traffic Control (ATC) Tower capability improvements via the ECP process as assessed by the Decision Analysis Support (DAS) study conducted by NAVAIR 4.10. A Data Information Part 1 ECP will be performed to address mobility, alternate power source, and locate communication (radar, visual, weather, links, Non-Classified Internet Protocol Router & Secret Internet Protocol Router) enhancing products that will provide greater situational awareness for the air traffic controller in an expeditionary environment. Perform Mode 5/S integration, operational functionality study and analyses with AN/TPN-31(V)7 ATNAVICS System. ***FY 2016 Base Plans:*** Complete the ATC Tower capability improvement Part 1 ECP that recommend which areas; mobility, alternate power source, and identify additional communication (radar, visual, weather, links, Non-Classified Internet Protocol Router & Secret Internet Protocol Router) products that can be upgraded via a Part 2 ECP and provide greater situational awareness for air traffic controllers utilizing these systems. ***FY 2016 OCO Plans:*** N/A					
Title: Ground/Air Task Oriented Radar System (G/ATOR) Block 4	0.100	0.495	0.795	-	0.795
Articles:	-	-	-	-	-
Description: G/ATOR is multi-role, ground-based, expeditionary radar that replaces five legacy radar systems for the Marine Air Ground Task Force. It satisfies the Marine Air Command and Control System and the Ground Counter Fire/ Counter Battery capabilities. The G/ATOR replaces the AN/TPS-63 and complements the AN/ TPS-59 long range radar and will provide mobile, multi-functional, three-dimensional surveillance of air breathing targets, detection of cruise missiles and Unmanned Arial Systems (UAS), and the cueing of air defense weapons. The G/ATOR contributes to the extension of Sea Shield/Sea Strike by surveillance and detection of enemy air threats not seen by Navy sensors in the littorals by participating in a cooperative engagement network of sensors and shooters; G/ATOR enables Integrated Fire Control (IFC) and provides engage/fire on remote capability. G/ATOR surveillance coverage with IFC will provide unprecedented reach, volume and precision in the execution of Operational Maneuver From The Sea allowing Naval forces to project and sustain power deep inland. G/ATOR Block 4, scheduled for an Initial Operating Capability in 2QFY19, will add military air traffic control functionality, development of Mode 5/S capability, Federal Aviation Administration (FAA) flight certification requirements, and the ability to integrate with AN/TPN-31(V) Air Traffic Navigation, Integration, and Coordination System (ATNAVICS) for Precision Approach Radar. This increment of G/ATOR replaces the Marine Corps' AN/					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 0718 / *MATCALS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
TPS-73 radar and the Airport Surveillance Radar portion of the ATNAVICS also known as Air Surveillance and Precision Approach Radar Control System (ASPARCS). ***FY 2014 Accomplishments:*** Begins development of the Mode 5/S capability and integration of Command & Control functionality with AN/TPN-31(V) ATNAVICS. ***FY 2015 Plans:*** Begin efforts to achieve Federal Aviation Administration (FAA) flight certification for G/ATOR. Commence Command & Control (C2) and AN/TPN-31(V)7 integration requirements. Continue Mode 5/S development for G/ATOR. ***FY 2016 Base Plans:*** Complete the hardware/software development to achieve FAA flight certification for G/ATOR. Complete the hardware/software requirements for the integration of AN/TPN-31(V) ATNAVICS and G/ATOR. Complete the Mode 5/S development for G/ATOR. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	2.330	4.103	1.412	-	1.412

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2815: *MATCALS*	8.953	16.999	10.011	-	10.011	8.546	5.926	6.074	6.203	Continuing	Continuing
• RDTEN/0204460M: *G/ATOR*	74.432	99.082	80.129	-	80.129	84.424	36.109	10.192	6.254	Continuing	Continuing
• PMC/4650: *RADAR SYSTEMS*	102.522	17.295	35.118	-	35.118	25.183	19.602	23.535	24.042	Continuing	Continuing

Remarks

D. Acquisition Strategy

An Acquisition Decision Memorandum was signed in Jan 2005 approving the procurement of the Army AN/TPN-31 Air Traffic Navigation, Integration, and Coordination System (ATNAVICS) to fulfill the Air Surveillance and Precision Approach Radar and Control System (ASPARCS) requirement for July 2006. The MROC Decision Memorandum 11-2005 of December 2004 outlined the evolutionary improvements required by Headquarters Marine Corps (HQMC). This program has joined with the Army to implement Pre-Planned Product Improvements (P3I) and evolutionary product improvements. G/ATOR Block IV, scheduled for an Initial Operating Capability in 2019, will add military air traffic control Federal Aviation Administration flight certification requirements, and the ability to integrate with AN/TPN-31 (ATNAVICS) for

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 0718 / *MATCALS*

Precision Approach Radar. The Marine Air Traffic Control (ATC) Working Group identified requirements to address obsolescence issues with ATC Expeditionary Towers. These requirements were validated by APX-25 and a Decision Analysis Study was conducted by NAVAIR 4.10. Funding will address development of expeditionary ATC Tower capability improvements via the Engineering Change Proposal (ECP) process.

E. Performance Metrics

The MATCALS RDTEN funding will be utilized to continue development of evolutionary improvements envisioned by HQMC for the MATCALS Family of Systems.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604504N / *Air Control*	Project (Number/Name) 0718 / *MATCALS*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HDW Develop - ASPARCS Mode 5/S	WR	NAWCAD : Patuxent River, MD	0.000	-		0.489	Dec 2014	-		-		-	-	0.489	-
Primary HDW Develop - ASPARCS	WR	SPAWARSYSCEN : San Diego, CA	0.000	-		2.295	Dec 2014	-		-		-	-	2.295	-
		Subtotal	0.000	-		2.784		-		-		-	-	2.784	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development - G/ ATOR	WR	NSWC : Dahlgren, VA	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
Software Development - ASPARCS	WR	NAWCAD : Patuxent River, MD	1.229	2.090	Dec 2013	0.624	Dec 2014	0.617	Dec 2015	-		0.617	Continuing	Continuing	Continuing
Software Development - Mode 5/S Dev - G/ATOR	SS/CPIF	Telephonics : Huntington Station, NY	0.000	-		0.495	Jun 2015	0.595	Jun 2016	-		0.595	-	1.090	1.090
		Subtotal	1.229	2.090		1.119		1.212		-		1.212	-	-	-

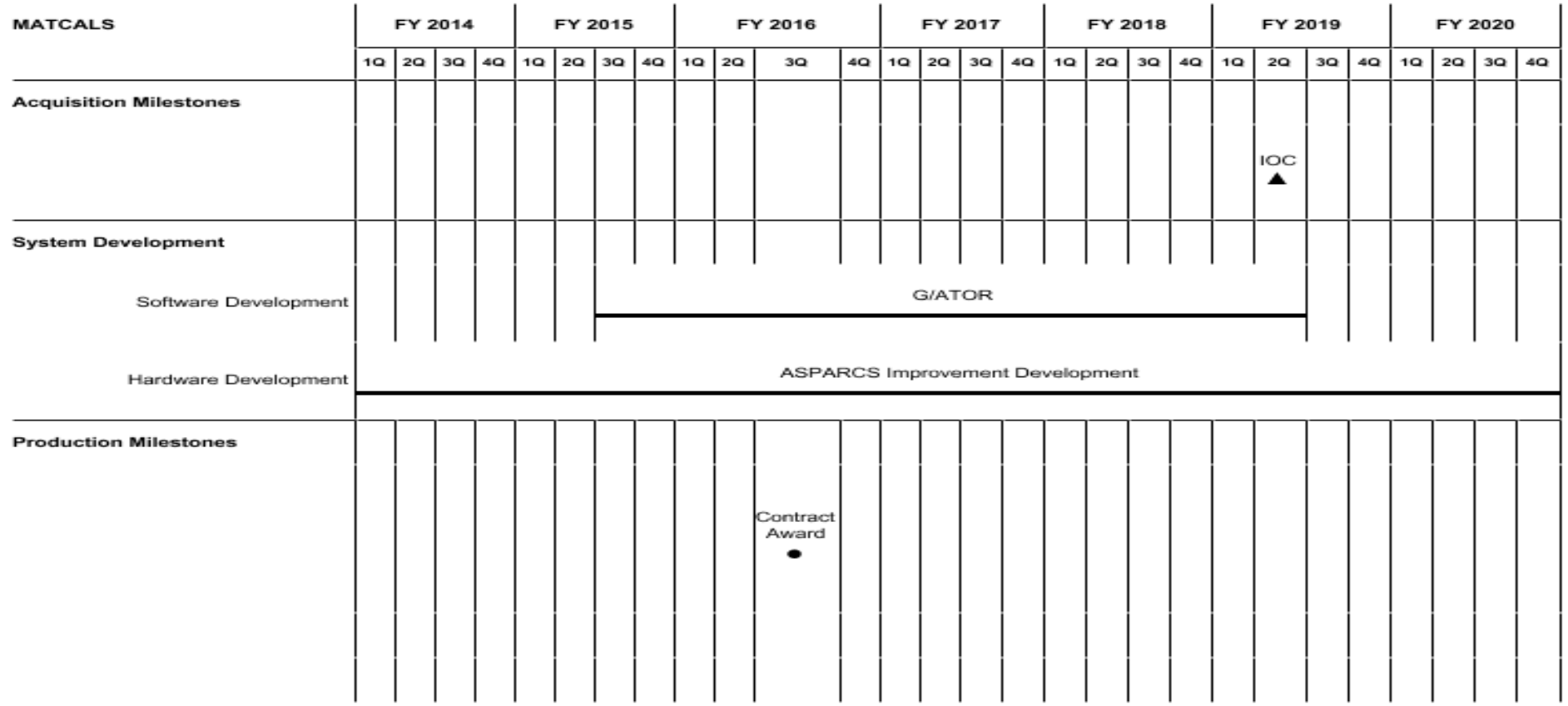
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWCAD : Patuxent River, MD	0.000	0.240	Dec 2013	0.200	Dec 2014	0.200	Dec 2015	-		0.200	Continuing	Continuing	Continuing
		Subtotal	0.000	0.240		0.200		0.200		-		0.200	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.229	2.330		4.103		1.412		-		1.412	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 0718 / *MATCALS*



2016PB - 0604504N - 0718

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 0718 / *MATCALS*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MATCALS				
Acquisition Milestones: G/ATOR Block 4	2	2019	2	2019
System Development: Software Development: G/ATOR	3	2015	2	2019
System Development: Hardware Development: ASPARCS Improvements	1	2014	4	2020
Production Milestones: G/ATOR Block 4	3	2016	3	2016

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604504N / *Air Control*	Project (Number/Name) 0993 / *Carrier ATC*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0993: *Carrier ATC*	61.229	6.361	12.818	40.559	-	40.559	33.270	33.783	29.715	30.451	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Shipboard Air Traffic Control (SATC) systems, interfacing with versions of the AN/TPX-42A(V) Direct Altitude and Identity Readout (DAIR), allow shipboard Air Traffic Controllers to identify, marshal, and direct aircraft within a 50 Nautical Mile (NM) radius of the ship. In recent years, the top 25 percent of the AN/SPN-43C frequency band has been reallocated to the Fixed Wireless Access Community prohibiting Air Traffic Control (ATC) Air Search Radar (ASR) operation within 50NM of the coast. Because the Navy requires an air traffic control surveillance radar, this project unit will include engineering efforts to identify requirements and develop the AN/SPN-50(V)1 as an AN/SPN-43C replacement system. In addition, bridging ECPs will be required to sustain the AN/SPN-43C capability until the AN/SPN-50(V)1 is completely fielded. Finally, the AN/TPX-42A(V) Direct Altitude and Identity Readout (DAIR) underwent several phased upgrades that have resulted in three field changes. System improvements include replacing militarized front-end equipment in the track processor with open architecture COTS technology, converting the operational program software to more commonly used and flexible "C" language, providing the "hooks" for potential interface with Mode 5 Identification Friend or Foe, and integrating a flat panel monitor into the controller work station. The development of an ATC common console will reduce operational costs, improve reliability, and provide compatible interfaces and commonality for all ATC workstations. The addition of an embedded trainer within AN/TPX-42A(V) will improve controller training and increase flight safety.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: AN/SPN-50	-	-	35.622	-	35.622
Articles:	-	-	-	-	-
Description: This project funds the development of the AN/SPN-43C replacement program (AN/SPN-50), which was previously funded under AN/SPN-43C and is being broken out for administrative reasons. This system enables Air Traffic Controllers to assure the safe and expeditious movement of air traffic. This capability is an enabler in maintaining launch/recovery cycle times/sortie rates. #3 CVN NARG, #1 ATC NARG priorities.					
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Base Plans: Complete Source Selection for AN/SPN-50, award contract.					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 0993 / *Carrier ATC*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: AN/SPN-43C	4.619	10.932	1.675	-	1.675
Articles:	-	-	-	-	-
Description: This project funds the development of the AN/SPN-43C replacement program and the development of sustainment Engineering Change Proposals (ECP) for the existing system. The sustainment effort will ensure the capabilities provided by the AN/SPN-43C remain available to CVN, LHA and LHD type ships until the replacement system is fielded. ***FY 2014 Accomplishments:*** Prepare documentation for AN/SPN-43 replacement program (AN/SPN-50(V)1) MS B decision. Prepare for source selection. Continued sustainment ECPs for AN/SPN-43C. ***FY 2015 Plans:*** Release RFP and initiate source selection for AN/SPN-50(V)1 contract award. Continue sustainment ECPs for the AN/SPN-43C. ***FY 2016 Base Plans:*** Continue sustainment ECPs for AN/SPN-43C. ***FY 2016 OCO Plans:*** N/A					
Title: AN/TPX-42	1.742	1.886	3.262	-	3.262
Articles:	-	-	-	-	-
Description: This project funds the ongoing modernization of the AN/TPX-42 system through engineering changes and technology refresh. Specific engineering changes are: Development of a Multi Function Console (MFC) which will consolidate and replace the AN/SPN-46/35 as well as AN/TPX-42 displays with a single multifunction air traffic control display configuration; Replacement of the AN/TPX-42 proprietary Radar Data Processor with an open architecture design and replacement of the system's obsolete voice recorder. It is expected that the MFC will lead to a nomenclature change for this system. ***FY 2014 Accomplishments:*** Complete part 1 AN/TPX-42A(V) embedded trainer ECP, develop the part 2 ECP and conduct critical design review for AN/TPX-42A(V) embedded trainer. ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 0993 / *Carrier ATC*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Complete Multi Function Console Part 1 ECP and develop the Part 2 ECP. ***FY 2016 Base Plans:*** Complete Voice Recorder Part 1 Engineering Change Proposal (ECP) and develop the Part 2 ECP. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	6.361	12.818	40.559	-	40.559

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2831: *Shipboard Air Traffic Control*	8.675	9.366	9.346	-	9.346	9.177	9.225	9.434	9.630	Continuing	Continuing
• OPN/2832: *Automatic Carrier Landing Systems*	20.758	21.357	21.281	-	21.281	26.551	36.998	40.879	41.735	Continuing	Continuing

Remarks

D. Acquisition Strategy

AN/SPN-46 Computer Group replacement subprojects are part of the AN/SPN-46 Life Cycle Extension (LCE) project, which is an Engineering Change Proposal (ECP). Initial contract was awarded in November 2003 for the Radar Control Group, and the contract for the Computer Group was awarded in December 2005. AN/TPX-42 Voice/Video recorder replacement, JPALS Interface, Shipboard trainer, and Air Traffic Control (ATC) Console are all anticipated ECPs, with improvements being incorporated into the production of AN/TPX-42 upgrade kits. AN/SPN-43 replacement program will be an ACAT IVT program.

All other projects are non-ACAT upgrades to existing systems. An evolutionary acquisition approach is being used to introduce these technology advancements that either satisfy user requirements, such as all weather operation, or address supportability and cost of ownership problems.

E. Performance Metrics

Configuration Control Board for AN/TPX-42A(V) will occur in fourth quarter FY2015.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604504N / *Air Control*	Project (Number/Name) 0993 / *Carrier ATC*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HDW Develop-SPN-46	WR	NAWCAD : PAX River, MD	11.546	-		-		-		-		-	-	11.546	-
Primary HDW Develop-SPN-46	SS/CPIF	SNC : Sierra, NV	6.356	-		-		-		-		-	-	6.356	6.356
Primary HDW Develop-TPX-42	WR	NAWCAD : PAX River, MD	4.347	0.300	Dec 2013	0.400	Dec 2014	0.374	Dec 2015	-		0.374	Continuing	Continuing	Continuing
Primary HDW Develop - SPN-43	WR	NAWCAD : PAX River, MD	1.608	1.137	Dec 2013	0.500	Dec 2014	0.474	Dec 2015	-		0.474	Continuing	Continuing	Continuing
Primary HDW Develop - SPN-50(V)1	TBD	TBD : TBD	0.000	-		-		26.770	Jun 2016	-		26.770	203.230	230.000	230.000
		Subtotal	23.857	1.437		0.900		27.618		-		27.618	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development-SPN-46	WR	NAWCAD : PAX River, MD	13.120	-		-		-		-		-	-	13.120	-
Software Development-TPX-42	WR	NAWCAD : PAX River, MD	13.406	1.215	Dec 2013	1.400	Dec 2014	1.734	Dec 2015	-		1.734	Continuing	Continuing	Continuing
Integrated Logistics Support- TPX-42	WR	NAWCAD : PAX River, MD	1.409	0.100	Dec 2013	0.110	Dec 2014	0.120	Dec 2015	-		0.120	Continuing	Continuing	Continuing
Integrated Logistics Support - SPN-43	WR	NAWCAD : PAX River, MD	0.115	0.200	Dec 2013	0.306	Dec 2014	0.310	Dec 2015	-		0.310	Continuing	Continuing	Continuing
Integrated Logistics Support-SPN-50(V)1	WR	NAWCAD : PAX River, MD	0.305	-		0.500	Dec 2014	0.700	Dec 2015	-		0.700	-	1.505	-
Studies & Analysis-SPN-50(V)1	WR	NAWCAD : PAX River, MD	0.802	0.140	Dec 2013	2.500	Dec 2014	0.800	Dec 2015	-		0.800	-	4.242	-
Studies & Analysis-SPN-46	WR	NAWCAD : PAX River, MD	0.273	-		-		-		-		-	-	0.273	-
Software Development - SPN-50(V)1	WR	NAWCAD : PAX River, MD	0.000	1.218	Dec 2013	2.087	Dec 2014	3.841	Dec 2015	-		3.841	-	7.146	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604504N / *Air Control*	Project (Number/Name) 0993 / *Carrier ATC*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Analysis-SPN-43	WR	NAWCAD : PAX River, MD	1.919	0.010	Dec 2013	0.060	Dec 2014	0.020	Dec 2015	-		0.020	Continuing	Continuing	Continuing
Studies & Analysis-TPX-42	WR	NAWCAD : PAX River, MD	0.300	0.054	Dec 2013	0.500	Dec 2014	0.100	Dec 2015	-		0.100	Continuing	Continuing	Continuing
Systems Engineering-SPN-50(V)1	WR	NAWCAD : PAX River, MD	0.000	1.000	Dec 2013	1.900	Dec 2014	2.911	Dec 2015	-		2.911	-	5.811	-
		Subtotal	31.649	3.937		9.363		10.536		-		10.536	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation- SPN-46	WR	NAWCAD : PAX River, MD	1.645	-		-		-		-		-	-	1.645	-
Developmental Test & Evaluation- TPX-42	WR	NAWCAD : PAX River, MD	1.608	0.237	Dec 2013	0.400	Dec 2014	0.500	Dec 2015	-		0.500	Continuing	Continuing	Continuing
Development Test & Evaluation - SPN-43	WR	NAWCAD : PAX River, MD	0.000	0.200	Dec 2013	0.700	Dec 2014	0.600	Dec 2015	-		0.600	-	1.500	-
OperationalTest & Evaluation- TPX-42	WR	OPTEVOR : Norfolk, VA	0.062	-		-		-		-		-	-	0.062	-
Operational Test & Evaluation-SPN-50(V)1	WR	OPTEVOR : Norfolk, VA	0.000	-		0.500	Dec 2014	0.600	Dec 2015	-		0.600	-	1.100	-
		Subtotal	3.315	0.437		1.600		1.700		-		1.700	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	American Electronics, Inc. : California, MD	1.995	0.200	Dec 2013	0.300	Dec 2014	0.300	Dec 2015	-		0.300	1.500	4.295	4.295

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 0993 / *Carrier ATC*

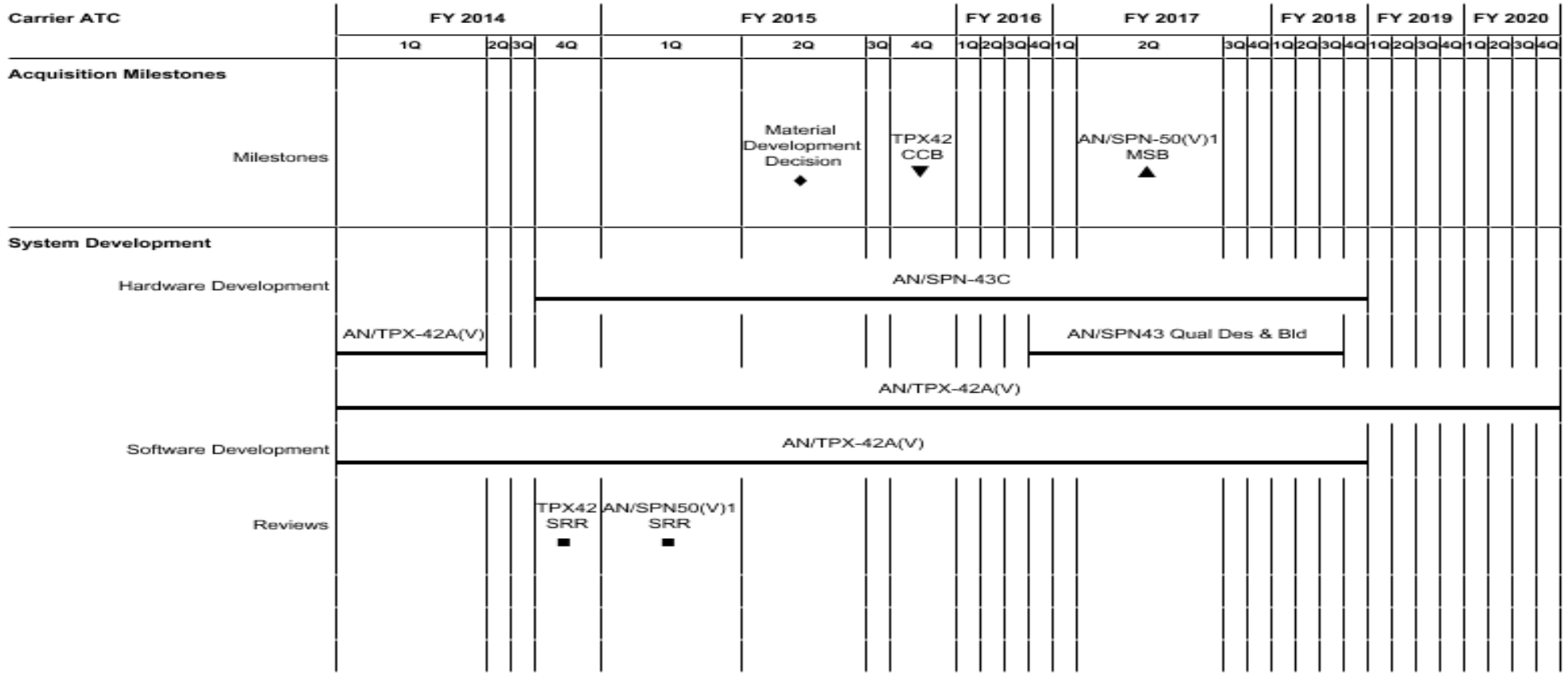
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	NAWCAD : PAX River, MD	0.278	0.300	Dec 2013	0.600	Dec 2014	0.350	Dec 2015	-		0.350	Continuing	Continuing	Continuing
Travel	WR	NAVAIRHQ : PAX River, MD	0.135	0.050	Oct 2013	0.055	Oct 2014	0.055	Oct 2015	-		0.055	-	0.295	-
		Subtotal	2.408	0.550		0.955		0.705		-		0.705	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	61.229	6.361		12.818		40.559		-		40.559	-	-	-

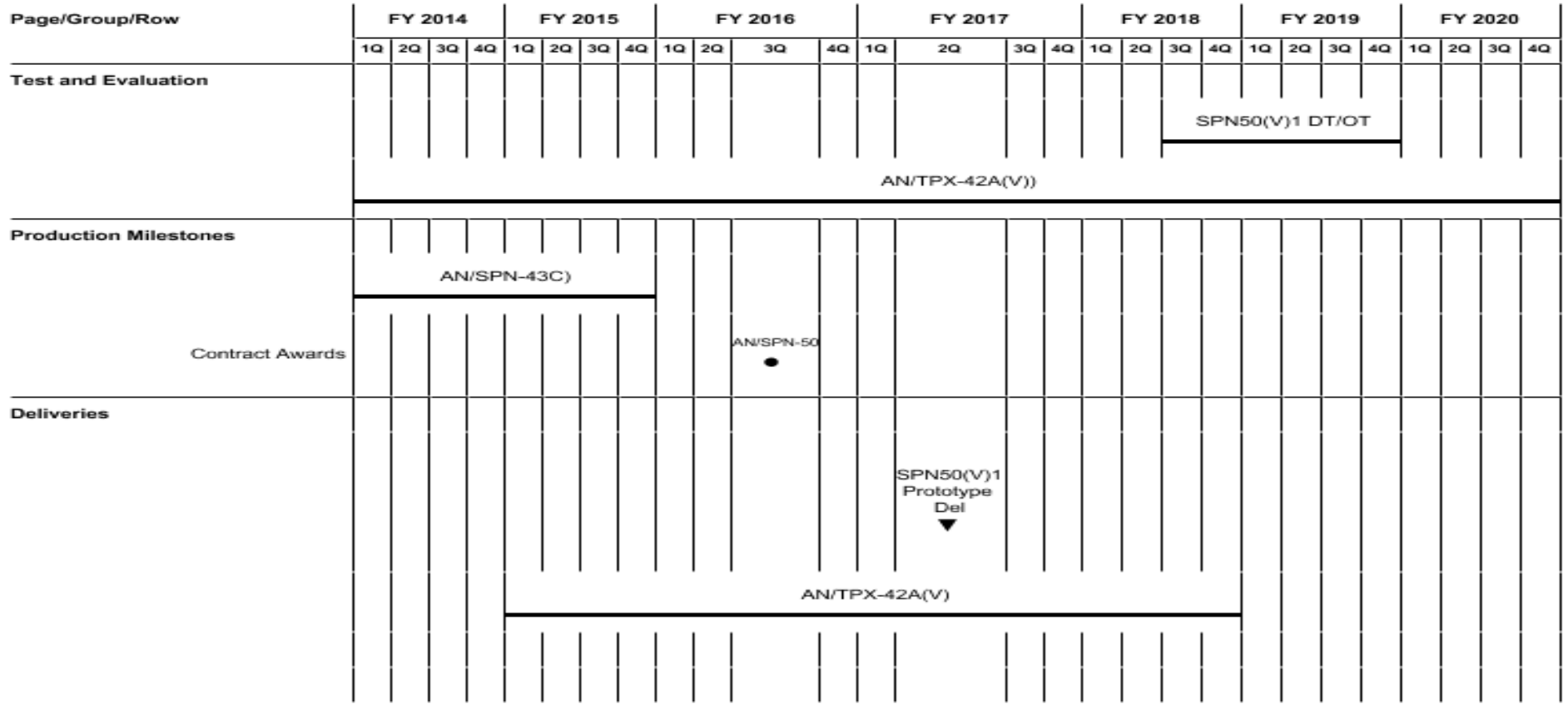
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 0993 / *Carrier ATC*



2016PB - 0604504N - 0993

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 0993 / *Carrier ATC*



2016PB - 0604504N - 0993

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 0993 / *Carrier ATC*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Carrier ATC				
Acquisition Milestones: Milestones: Configuration Control Board (AN/TPX42A(V))	4	2015	4	2015
Acquisition Milestones: Milestones: Material Development Decision	2	2015	2	2015
Acquisition Milestones: Milestones: AN/SPN-50(V)1 Milestone B	2	2017	2	2017
System Development: Hardware Development: AN/SPN-43C	4	2014	4	2018
System Development: Hardware Development: Quality Design and Build (AN/SPN43C)	4	2016	3	2018
System Development: Hardware Development: Critical Design Review (CDR) TPX42A(V)	1	2014	1	2014
System Development: Hardware Development: AN/TPX-42A(V)	1	2014	4	2020
System Development: Software Development: AN/TPX-42A(V)	1	2014	4	2018
System Development: Reviews: System Requirement Review (SRR) (AN/SPN-50)	1	2015	1	2015
System Development: Reviews: System Requirement Review (SRR) (AN/TPX42(V))	4	2014	4	2014
Page/Group/Row				
Test and Evaluation: Developmental Testing/Operational Testing (AN/SPN-50)	3	2018	4	2019
Test and Evaluation: Developmental Testing (AN/TPX-42A(V))	1	2014	4	2020
Production Milestones: Developmental Testing (AN/SPN-43C)	1	2014	4	2015
Production Milestones: Contract Awards: AN/SPN-50 EDM Contract Award	3	2016	3	2016
Deliveries: Prototype Delivery (AN/SPN50)	2	2017	2	2017
Deliveries: System Deliveries (TPX-42A(V))	1	2015	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604504N / *Air Control*	Project (Number/Name) 1657 / *ATC Improvement*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1657: *ATC Improvement*	1.470	0.973	0.404	0.399	-	0.399	0.402	0.410	0.419	0.428	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program provides for engineering development, integration, adaptation, and testing of new and/or modernized Air Traffic Control (ATC) systems, air navigational aids, landing systems, and ATC communication systems for Naval and Marine Corps Air Stations (NAS/MCAS) and Fleet ATC Systems. These systems are critical to Naval Aviation and provide for safe, efficient air operations. Additionally, the Federal Aviation Administration (FAA) is affecting major modernization of the National Airspace System (NAS). The Navy must maintain compatibility with FAA-developed ATC systems in order to ensure seamless interoperability within the NAS. NAS modernization initiatives in Project 1657 include the Visual Information Display System (VIDS) and follow-on Pre-Planned Product Improvements, with additional RDT&E efforts required for modified commercial-off-the-shelf ATC systems and equipment for modernization and recapitalization of these systems at our NAS, MCAS & Fleet Area Control & Surveillance Facilities (FACSFACs) worldwide. Landing Systems initiatives include re-engineering and technology insertion efforts for the Precision Approach Radar, Tactical Air Navigation System, and other landing systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NAS MOD VIDS	0.773	0.202	0.199	-	0.199
Articles:	-	-	-	-	-
Description: Continue engineering development of pre-planned product improvements for the VIDS and initiate efforts to incorporate VIDS into the FACSFACs. Research display alternatives for Navy ATC systems, and evaluate alternatives for future communication and radar systems.					
FY 2014 Accomplishments: Continue engineering development of Pre-Planned Product Improvements for VIDS to incorporate multiple weather source inputs. Continue Standard Terminal Automation Replacement System and VIDS engineering development for technology insertion. Continue engineering efforts to maintain interoperability with the FAA next generation air traffic control system. The program also continued development of the Naval Air Traffic Control and Air Space Management Strategic Plan to further develop the aforementioned engineering efforts in support of the strategic planning roadmap development which will provide insight to meet Naval Air Traffic Control requirements and maintain interoperability with the FAA's next generation air traffic control systems through 2030.					
FY 2015 Plans: Continue engineering development of Pre-Planned Product Improvements for VIDS to incorporate multiple weather source inputs. Continue Standard Terminal Automation Replacement System and VIDS engineering					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 1657 / *ATC Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
development for technology insertion. Continue engineering efforts to maintain interoperability with the Federal Aviation Administration's (FAA) next generation air traffic control system. ***FY 2016 Base Plans:*** Continue engineering development of Pre-Planned Product Improvements for Visual Information Display System (VIDS) to incorporate multiple weather source inputs. Continue Standard Terminal Automation Replacement System and VIDS engineering development for technology insertion. Continue engineering efforts to maintain interoperability with the FAA next generation air traffic control system. ***FY 2016 OCO Plans:*** N/A					
Title: Fleet ATC Systems	0.200	0.202	0.200	-	0.200
Articles:	-	-	-	-	-
Description: Research efforts to determine the best technical approach to integrate various data link and communication system upgrades into Navy/Marine Corps ATC Systems including but not limited to the Digital Airport Surveillance Radar (DASR) into the Fleet Area Control and Surveillance Facilities (FACSFAC) Fleet Area Control Tracking System (FACTS) 3200 system. Evaluate alternatives for future processor/display, sensor and communication systems. ***FY 2014 Accomplishments:*** Continue engineering development for Navy Scheduling (NAVSKED)/FACTS Technology Refresh and engineering efforts to maintain interoperability with the FAA's next generation air traffic control system. ***FY 2015 Plans:*** Continue engineering development for NAVSKED/FACTS Technology Refresh and engineering efforts to maintain interoperability with the FAA's next generation air traffic control system. ***FY 2016 Base Plans:*** Continue engineering development for NAVSKED/FACTS Technology Refresh and engineering efforts to maintain interoperability with the FAA's next generation air traffic control system. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.973	0.404	0.399	-	0.399

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 1657 / *ATC Improvement*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2840: *National Air Space System Modernization*	16.870	26.639	25.621	-	25.621	27.718	30.117	30.553	31.195	Continuing	Continuing
• OPN/2845: *Fleet Air Traffic Control Systems*	8.909	9.214	8.249	-	8.249	8.381	8.510	8.618	8.799	Continuing	Continuing

Remarks

D. Acquisition Strategy

All projects are non-ACAT upgrades to existing systems. An evolutionary acquisition approach is being used to introduce technology advancements that either satisfy emergent requirements or address supportability and cost of ownership problems.

E. Performance Metrics

The Air Traffic Control (ATC) Improvement program goal is to continue to research, evaluate and develop display and other alternatives for Navy ATC, communication and radar systems.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 1657 / *ATC Improvement*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HDW Develop - VIDS	WR	SPAWAR Systems Command : Charleston, SC	0.369	0.773	Dec 2013	0.202	Dec 2014	0.199	Dec 2015	-		0.199	Continuing	Continuing	Continuing
Primary HDW Develop - Fleet ATC	WR	SPAWAR Systems Center : Charleston, SC	0.344	0.200	Dec 2013	0.202	Dec 2014	0.200	Dec 2015	-		0.200	Continuing	Continuing	Continuing
		Subtotal	0.713	0.973		0.404		0.399		-		0.399	-	-	-

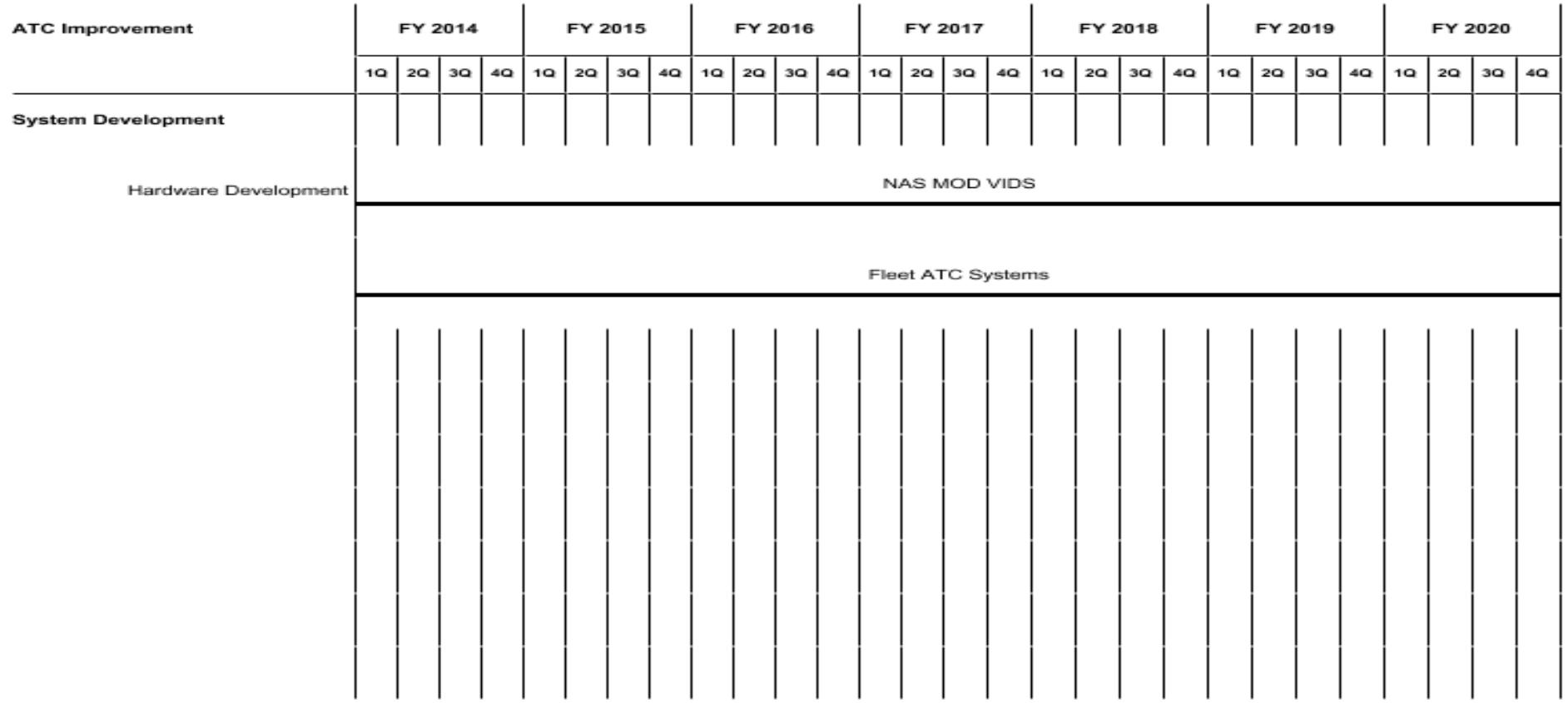
Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	SPAWAR Systems Center : Charleston, SC	0.757	-		-		-		-		-	-	0.757	-
		Subtotal	0.757	-		-		-		-		-	-	0.757	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.470	0.973		0.404		0.399		-		0.399	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 1657 / *ATC Improvement*



2016PB - 0604504N - 1657

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 1657 / *ATC Improvement*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ATC Improvement				
System Development: Hardware Development: NAS MOD VIDS	1	2014	4	2020
System Development: Hardware Development: Fleet ATC Systems	1	2014	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604504N / *Air Control*	Project (Number/Name) 3372 / *ATC Systems*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3372: *ATC Systems*	-	-	11.712	15.558	-	15.558	18.481	30.360	21.674	22.119	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Landing System Upgrade Program (LSUP) consists of life cycle extension (LCE) upgrades to the AN/SPN-35C Precision Approach Radar (PAR), AN/SPN-41B (Instrument Control Landing Systems (ICLS)) and AN/SPN-46 Automatic Carrier Landing Systems (ACLS) systems which support Air Traffic Control (ATC) operations on board CVN, LHA, or LHD-class ships. This effort includes numerous commercial off-the-shelf (COTS) component refresh updates which are urgently needed to sustain the operational viability of these Naval ATC systems in order to support Fleet air operations for at least the next 15 years until the next generation ATC system is fully implemented. This COTS refresh will include analysis and upgrade of key system components that are critical to overall system operation but have become increasingly difficult to maintain over the past few years. Recent adjustments in the direction and scope of Naval ATC systems have necessitated a re-evaluation of the long-term viability and sustainability of the current Fleet ATC equipment.

This COTS Refresh is expected to include analysis and upgrade of the following components: Gearbox Stepper Motors, Logic Controller Assembly, Power Supplies, Roll Encoder Assembly, Micro Electro Mechanical Systems (MEMs) Assembly, Fiber Optic Media Converters, Touchscreen Display Assembly, Communication Assembly, Maintenance Test Drawer Assembly, and Radio Frequency RF Monitor Assembly, and upgrades of the Transmitters and Radomes are expected to ensure accurate and continuous functionality of the AN/SPN-41B system. Additionally, COTS refreshes will be necessary to mitigate obsolescence concerns for power supplies and various circuit card assemblies.

Recent changes to the Navy's Precision Approach and Landing Capability requirements have necessitated Life Cycle Extension upgrades to legacy landing systems, AN/SPN-35, AN/SPN-41 and AN/SPN-46.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: AN/SPN-46 Blk IV Upgrade	-	11.712	15.558	-	15.558
Articles:	-	-	-	-	-
Description: Blk IV consists of antenna pedestal upgrades, addresses transmitter obsolescence issues, and replacement of obsolete circuit cards.					
FY 2014 Accomplishments: N/A					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 3372 / *ATC Systems*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Begin hardware and software development of the AN/SPN-46 Blk IV upgrade. Award development contract for addressing part/circuit card obsolescence. ***FY 2016 Base Plans:*** Continue hardware and software development of the AN/SPN-46 Blk IV upgrade; continue addressing circuit card and other (part) obsolescence issues. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	11.712	15.558	-	15.558

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2832: *ACLS*	20.758	21.357	21.281	-	21.281	26.551	36.998	40.879	41.735	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Resources and Requirements Review Board approved the Department of the Navy (DON) Precision Approach and Landing Capability (PALC) Roadmap per Decision Memorandum (DM) Ser: N8B/13U141053 dtd 03 July 2013. This PALC Roadmap re-scoped Joint Precision Approach and Landing System (JPALS) into a single increment. As a result, a requirement to upgrade current SPNs has emerged. Per Enclosure 1 of the above DM, the Landing Systems Upgrade Program will be comprised of the AN/SPN-46, AN/SPN-35C, and AN/SPN-41B and is anticipated that each SPN upgrade will go through separate Material Development Decisions (MDD) and Milestones.

E. Performance Metrics

MDD in FY14 for upgrade of the AN/SPN-46.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604504N / *Air Control*	Project (Number/Name) 3372 / *ATC Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development - AN/SPN-46 Blk IV Upgrade	WR	NAWCAD : Patuxent River, MD	0.000	-		3.467	Jan 2015	3.401	Nov 2015	-		3.401	Continuing	Continuing	Continuing
Ancillary Hardware Development - AN/SPN-46 Blk IV Upgrade	C/CPFF	Sierra Nevada Corp (SNC) : Reno, NV	0.000	-		7.500	Apr 2015	10.598	Dec 2015	-		10.598	Continuing	Continuing	Continuing
		Subtotal	0.000	-		10.967		13.999		-		13.999	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support (ILS)	WR	NAWCAD : Patuxent River, MD	0.000	-		0.200	Jan 2015	0.800	Nov 2015	-		0.800	Continuing	Continuing	Continuing
Systems Engineering Support	WR	NAWCAD : Patuxent River, MD	0.000	-		0.145	Jan 2015	0.400	Nov 2015	-		0.400	Continuing	Continuing	Continuing
		Subtotal	0.000	-		0.345		1.200		-		1.200	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management (PM) Support	WR	NAWCAD : Patuxent River, MD	0.000	-		0.300	Jan 2015	0.339	Nov 2015	-		0.339	Continuing	Continuing	Continuing
PM Suppt - MSS	C/CPAF	TBD : Patuxent River, MD	0.000	-		0.100	Jan 2015	0.020	Nov 2015	-		0.020	Continuing	Continuing	Continuing
		Subtotal	0.000	-		0.400		0.359		-		0.359	-	-	-

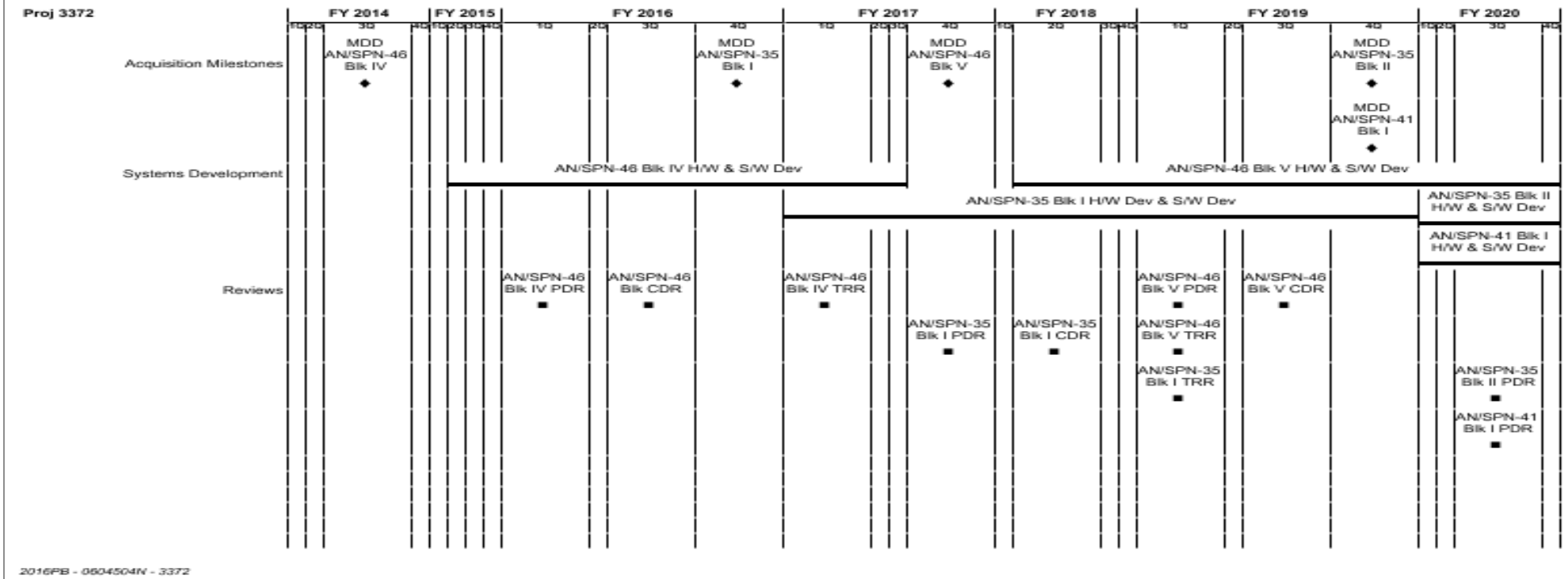
	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		11.712		15.558		-		15.558	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604504N / *Air Control*	Project (Number/Name) 3372 / *ATC Systems*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

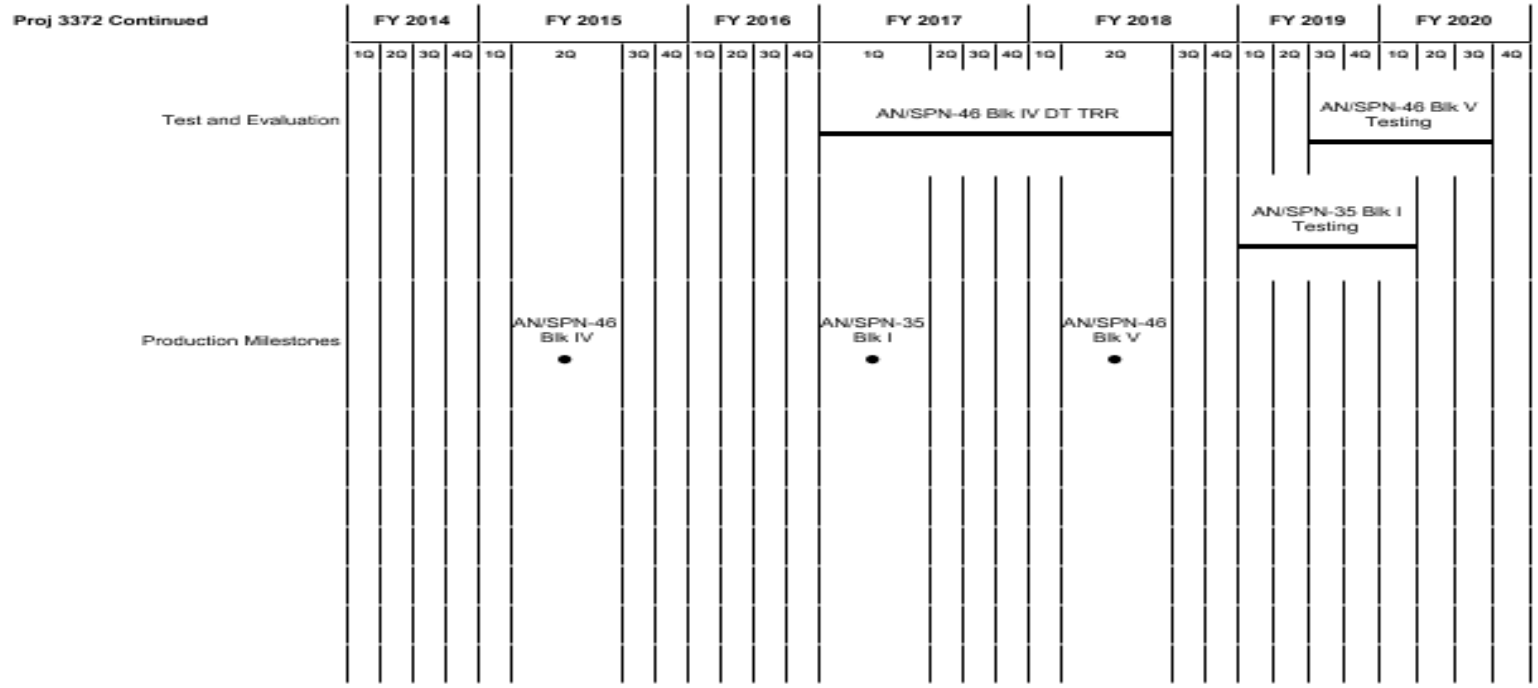
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 3372 / *ATC Systems*



2016PB - 0604504N - 3372

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 3372 / *ATC Systems*



2016PB - 0604504N - 3372

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 3372 / *ATC Systems*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3372				
Acquisition Milestones: MDD AN/SPN-46 Blk IV	3	2014	3	2014
Acquisition Milestones: MDD AN/SPN-46 Blk V	4	2017	4	2017
Acquisition Milestones: MDD AN/SPN-35 Blk I	4	2016	4	2016
Acquisition Milestones: MDD AN/SPN-35 Blk II	4	2019	4	2019
Acquisition Milestones: MDD AN/SPN-41 Blk I	4	2019	4	2019
Systems Development: AN/SPN-46 Blk IV H/W and S/W Dev	2	2015	3	2017
Systems Development: AN/SPN-46 Blk V H/W and S/W Dev	2	2018	4	2020
Systems Development: AN/SPN-35 Blk I H/W and S/W Dev	1	2017	4	2019
Systems Development: AN/SPN-35 Blk II H/W and S/W Dev	1	2020	4	2020
Systems Development: AN/SPN-41 Blk I H/W and S/W Dev	1	2020	4	2020
Reviews: AN/SPN-46 Blk IV PDR	1	2016	1	2016
Reviews: AN/SPN-46 Blk IV CDR	3	2016	3	2016
Reviews: AN/SPN-46 Blk IV TRR	1	2017	1	2017
Reviews: AN/SPN-46 Blk V PDR	1	2019	1	2019
Reviews: AN/SPN-46 Blk V CDR	3	2019	3	2019
Reviews: AN/SPN-46 Blk V TRR	1	2019	1	2019
Reviews: AN/SPN-35 Blk I PDR	4	2017	4	2017
Reviews: AN/SPN-35 Blk I CDR	2	2018	2	2018
Reviews: AN/SPN-35 Blk I TRR	1	2019	1	2019
Reviews: AN/SPN-35 Blk II PDR	3	2020	3	2020
Reviews: AN/SPN-41 Blk I PDR	3	2020	3	2020
Proj 3372 Continued				

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604504N / *Air Control*	**Project (Number/Name)** 3372 / *ATC Systems*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Test and Evaluation: AN/SPN-46 Blk IV Testing	1	2017	2	2018
Test and Evaluation: AN/SPN-46 Blk V Testing	3	2019	3	2020
Test and Evaluation: AN/SPN-35 Blk I Testing	1	2019	1	2020
Production Milestones: Contract Award AN/SPN-46 Blk IV	2	2015	2	2015
Production Milestones: Contract Award AN/SPN-46 BLK V	2	2018	2	2018
Production Milestones: Contract Award AN/SPN-35 Blk I	1	2017	1	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604512N *I Shipboard Aviation Systems*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	464.297	77.046	122.083	120.217	-	120.217	43.973	17.837	10.999	11.279	Continuing	Continuing
2232: *CV/CVN Launch and Recover*	464.297	77.046	122.083	120.217	-	120.217	43.973	17.837	10.999	11.279	Continuing	Continuing

A. Mission Description and Budget Item Justification

CV Launch & Recovery System - This Navy unique project addresses the System Development and Demonstration of all systems required to recover and launch Navy/ Marine Corps Aircraft (Fixed/Rotary Wing and Vertical/Short Take Off and Landing) operating aboard aircraft carriers, amphibious assault ships and air capable ships. This program element includes the following:

(1) Advanced Arresting Gear
(2) Aviation Data Management and Control System
(3) Compact Swaging Machine
(4) Aircraft Launch & Recovery Equipment Modernization
(5) Aircraft Launch and Recovery Equipment Service Life Management program

This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	69.615	122.083	121.226	-	121.226
Current President's Budget	77.046	122.083	120.217	-	120.217
Total Adjustments	7.431	-	-1.009	-	-1.009
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	7.431	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-1.009	-	-1.009

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604512N *I Shipboard Aviation Systems*

Change Summary Explanation

Cost: Added/Realigned $16.7M (which includes a $7.431M BTR) in FY14 to the Advanced Arresting Gear (AAG) accomplishment to properly price the System Development and Demonstration (SDD) effort. Added funding in FY14 to the Aviation Data Management and Control System (ADMACS) Block effort to properly price the completion of the program in FY14.

Schedule:
Advanced Arresting Gear (AAG): Updated RALS Test and Shipboard Test.
Test Readiness Review (TRR): A TRR2 event was held in 1Q FY13 but had technical challenges driven by subcomponent design issues which were identified during integrated system test. Component redesign required retesting and subsequently the TRR2 event was rescheduled to 4Q FY14.
Environmental Qualification Test (EQT): As part of the program rebaseline, the EQT testing was reviewed and some tests were eliminated. Additionally shock testing was deferred to integrated test and evaluation following the System Development and Demonstration (SDD) phase.
Operational Evaluation(OPEVAL): AAG Ship Test OPEVAL is driven by the construction and testing schedule of CVN 78.

Aviation Data Management and Control System (ADMACS): Schedules delays due to issues with Cybersecurity compliance. Cybersecurity requirements, CVN availability schedules, and obsolescence mitigation necessitated a shift in events in order to bring three variations of ADMACS configuration into a single supportable Fleet configuration, as per MDA direction in the rebaseline plan.

Aircraft Launch and Recovery Equipment (ALRE) Modernization and Service Life Management Program (SLMP) events delayed one year due to funding higher priority issues within the ALRE program office.

Technical: Not Applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604512N / *Shipboard Aviation Systems*				Project (Number/Name) 2232 / *CV/CVN Launch and Recover*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
2232: *CV/CVN Launch and Recover*	464.297	77.046	122.083	120.217	-	120.217	43.973	17.837	10.999	11.279	Continuing	Continuing
Quantity of RDT&E Articles	1	-	-	4	-	4	-	-	-	-		

Note

PY article is Jet Car Track Site. FY16 Articles: Due to higher ALRE program priorities, the test articles were shifted one year to the right.

A. Mission Description and Budget Item Justification

This Navy unique project addresses the System Development and Demonstration (SDD) of all systems required to recover and launch Navy/Marine Corps Aircraft (Fixed/Rotary Wing and Vertical/Short Take-Off and Landing) operating aboard aircraft carriers (CVN), amphibious assault ships and air capable ships. This program includes the following systems under Project 2232, including the funding of production representative models for:

(1) Advanced Arresting Gear (AAG): The AAG program will design, develop, test and field an aircraft arrestment system to replace the legacy Mark 7 arresting gear. AAG systems will be installed on all new construction aircraft carriers. AAG will provide the U.S. Navy with improved operational capability, while reducing operating and support costs. The AAG system will recover all existing and projected carrier based tail hook-equipped air vehicles well into the 21st century. The AAG Program's SDD phase test article consists of a land based, single wire configured aircraft arresting system, which includes associated hardware and software needed to conduct system integrated testing by arresting both dead-loads and aircraft.

(2) Aviation Data Management and Control System (ADMACS): ADMACS is an integrated, network-centric, shipboard aviation operations information management system, which will provide data required for aircraft carriers aviation operations planning, execution and readiness assessment. ADMACS communicates aviation and command related data elements across the ADMACS Local Area Network and Integrated Shipboard Network System that electronically displays position and location of aircraft on the flight and hangar decks, status of aircraft, Aircraft Launch and Recovery Equipment, fuel, weapons types and quantity as well as a wide variety of other aviation related and ship information. Shipboard Aviation Information Management System providing CVN Aviation Planning, Execution & Readiness Assessment.

(3) Compact Swaging Machine: Funded by ONR (OSD PE# 060051D8Z) in FY 2009. The current process of pouring zinc sockets to attach the arresting gear purchase cable will be replaced with a new swaged terminal design that will be pressed on by means of a high density, compact swaging machine.

(4) Aircraft Launch & Recovery Equipment (ALRE) Modernization: ALRE Modernization encompasses efforts required to ensure continued functional performance, operational relevance, and cybersecurity accreditation for all product lines across the ALRE program. This includes efforts required to resolve emerging obsolescence issues (both hardware and software), implement fleet driven operational capability upgrades, and comply with Cybersecurity requirements and computer task order requirements for security threat mitigation.
(a)Improved Manually Operated Visual Landing Aid System (IMOVLAS): IMOVLAS will be the manual backup for Improved Fresnel Lens Optical Landing System (IFLOLS), which is the primary carrier Visual Landing Aid. IMOVLAS will be used in high sea states or if IFLOLS is inoperable, and will mirror current IFLOLS

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

configuration in size & display. Two production representative models will be procured in FY 2016; the models will be utilized for environmental and developmental testing.

(5) Aircraft Launch & Recovery Equipment (ALRE) Service Life Management Program (SLMP): The ALRE SLMP for Launcher and Recovery is required to sustain carrier aviation operations of higher energy aircraft launch and recoveries that are increasing loads on the ALRE systems, and that are affecting availability, maintainability and cost. This program will consist of service life assessment and extension initiatives and will establish the design foundation (structural, reliability, and maintainability analyses), permit appropriate assessment, track and focus design changes where most needed. Two SLMP Mark 7 prototypes will be procured in FY 2016.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Advanced Arresting Gear (AAG)	72.368	109.027	108.419	-	108.419
Articles:	-	-	-	-	-
Description: The AAG program is designing, developing, testing and fielding an aircraft arrestment system to replace the legacy Mark 7 arresting gear.					
FY 2014 Accomplishments: Continued AAG Jet Car Track Site (JCTS) Performance Testing via deadload arrestments. Conducted system investigative tests and implemented component upgrades to resolve system design and performance deficiencies. Continued execution of AAG Hardware Environmental Qualification testing. Commenced planning and site preparation of the Runway Arrested Landing Site (RALS) test facility. Continued development of AAG logistics products and system documentation.					
FY 2015 Plans: Continue JCTS performance testing utilizing deadloads. Continue site preparation, equipment integration and non-aircraft commissioning of the AAG system and software at the Runway Arrested Landing Site (RALS) test facility. Continue AAG Hardware Environmental Qualification testing. Conduct CVN-78 pre-commissioning training for maintainers and operators who will participate in AAG Operational Evaluation (OPEVAL). Continue development of AAG logistics products and system documentation.					
FY 2016 Base Plans: Continue JCTS performance testing utilizing deadloads. Conduct performance testing of the AAG hardware and software at the RALS test facility. Continue CVN-78 pre-commissioning training for maintainers and operators who will participate in AAG OPEVAL. Continue development of AAG logistics products and system documentation.					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Aviation Data Management and Control System (ADMACS)	1.575	-	-	-	-
Articles:	-	-	-	-	-
Description: ADMACS provides a real time, fault tolerant (redundant), tactical information management system. ADMACS will integrate the Electromagnetic Aircraft Launch System and Advanced Arresting Gear interfaces into its baseline. ***FY 2014 Accomplishments:*** Software and Hardware development completed. All planning in support of Initial Operational Test and Evaluation in process, with completion dates on schedule. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Compact Swaging Machine (CSM)	0.153	-	-	-	-
Articles:	-	-	-	-	-
Description: Compact Swaging Machine - This program will replace the current process for attaching the terminal on the arresting gear purchase cable with a swaged terminal design that will be pressed on by means of a high density, compact, swaging machine. ***FY 2014 Accomplishments:*** Completed fleet terminal testing, evaluation, and training of CSM. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Aircraft Launch & Recovery Equipment Modernization	0.100	1.766	1.744	-	1.744
Articles:	-	-	2	-	2
Description: Improved Manually Operated Visual Landing Aid System (IMOVLAS) to improve carrier aviation operations. ***FY 2014 Accomplishments:*** IMOVLAS - Performed trade studies. Prepared Preliminary Engineering Change Proposal in preparation for Decision Memorandum. ***FY 2015 Plans:*** IMOVLAS - Begin the design, development and integration of the program, conduct Systems Requirements Review (SRR) and Preliminary Design Review (PDR). ***FY 2016 Base Plans:*** IMOVLAS - Commence System Design and Development of two production representative models. ***FY 2016 OCO Plans:*** N/A					
Title: Aircraft Launch & Recovery Equipment (ALRE) Service Life Management Program (SLMP)	2.850	11.290	10.054	-	10.054
Articles:	-	-	2	-	2
Description: ALRE SLMP analyzes launch and recovery equipment to determine feasible fielded equipment improvements. ***FY 2014 Accomplishments:*** Continue modeling and analysis of the Mark 7 (MK-7) arresting gear and C13-2 Catapult components and subcomponents. ***FY 2015 Plans:*** Continue modeling and analysis of the launch and recovery equipment. Continue design, development and testing of MK-7 components and subcomponents. ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Procurement of MK-7 arresting gear prototypes and commence prototype testing. Continue design, development and testing of MK-7 components and subcomponents. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	77.046	122.083	120.217	-	120.217

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/4213: *Aircraft Launch & Recovery Equipment*	-	21.964	83.643	-	83.643	81.465	75.810	76.313	77.926	Continuing	Continuing
• SCN/2001: *Carrier Replacement Program*	1,505.653	1,882.425	2,633.119	-	2,633.119	2,955.056	3,530.762	2,075.957	873.334	Continuing	Continuing
• OPN/4216: *Aircraft Launch & Recovery Equipment*	58.110	-	-	-	-	-	-	-	-	-	276.910

Remarks

D. Acquisition Strategy

Advanced Arresting Gear (AAG): The Navy competitively awarded two Cost Plus Fixed Fee Technical Development phase contracts to develop the AAG system. Upon completion of the Preliminary Design and Integrated Baseline reviews, the Navy awarded a single Cost Plus Award Fee option to General Atomics for the System Development and Demonstration (SDD) phase to develop and demonstrate a production representative Advanced Arresting Gear (AAG) at the NAVAIR Lakehurst Jet Car Track Site and Runway Arrested Landing Site. In March 2009, the AAG program awarded a SDD contract modification to General Atomics for Transition to Production planning.

Aviation Data Management and Control System (ADMACS): The Navy designed and developed ADMACS using commercially available servers, switches, workstations and database and communications software. One Engineering Development Model and 2 Low Rate Initial Production systems have been procured from a directed 8(a) Alaskan Native Corporation source.

Compact Swaging Machine: The Navy amended an existing Small Business Technology Transfer Phase III contract in order to build and test a prototype high density swaging machine which has been developed under Defense Acquisition Challenge Program funding (OSD PE 060051D8Z).

Aircraft Launch & Recovery Equipment Modernization:
Improved Manually Operated Visual Landing Aid System (IMOVLAS): The Navy will develop IMOVLAS using commercial equipment racks, processors and displays.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

Aircraft Launch & Recovery Equipment Service Life Management Program (SLMP): This program will consist of Service Life Assessment and Extension initiatives and will establish the design foundation (structural, reliability and maintainability analyses), permit appropriate assessment, track and focus design changes where most needed. SLMP will develop a competitive procurement package to build and test the Mark 7 arresting gear prototypes.

E. Performance Metrics

Advanced Arresting Gear (AAG) will complete System Development and Demonstration Integrated testing at Jet Car Track Site and Runway Arrested Landing Site. AAG will demonstrate its key performance parameters and readiness for operational test.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604512N / *Shipboard Aviation Systems*	Project (Number/Name) 2232 / *CV/CVN Launch and Recover*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HW Dev-AAG	C/CPAF	Gen Atomics : San Diego, CA	321.230	54.735	Dec 2013	57.900	Dec 2014	54.900	Dec 2015	-		54.900	14.900	503.665	503.665
Primary HW Dev-AAG	WR	NAWCAD : Lakehurst, NJ	25.452	4.761	Nov 2013	6.218	Nov 2014	14.786	Nov 2015	-		14.786	Continuing	Continuing	Continuing
System Eng-AAG	WR	NAWCAD : Lakehurst, NJ	16.530	3.607	Nov 2013	14.375	Nov 2014	12.079	Nov 2015	-		12.079	Continuing	Continuing	Continuing
Shipboard Integration-AAG	WR	NAWCAD : Lakehurst, NJ	3.472	0.017	Nov 2013	1.215	Nov 2014	0.055	Nov 2015	-		0.055	Continuing	Continuing	Continuing
Primary HW Dev-ADMACS	WR	NAWCAD : Lakehurst, NJ	6.590	0.142	Nov 2013	-		-		-		-	-	6.732	-
System Eng-ADMACS	WR	NAWCAD : Lakehurst, NJ	0.637	0.100	Nov 2013	-		-		-		-	-	0.737	-
Shipboard Integration-ADMACS	WR	NAWCAD : Lakehurst, NJ	0.055	0.333	Nov 2013	-		-		-		-	-	0.388	-
System Eng-CSM	WR	NAWCAD : Lakehurst, NJ	0.624	0.083	Nov 2013	-		-		-		-	-	0.707	-
Primary HW Dev-Modern IMOVLAS	WR	NAWCAD : Lakehurst, NJ	0.066	0.060	Nov 2013	1.173	Nov 2014	1.042	Nov 2015	-		1.042	Continuing	Continuing	Continuing
System Eng-Modern IMOVLAS	WR	NAWCAD : Lakehurst, NJ	0.019	0.030	Nov 2013	0.193	Nov 2014	0.146	Nov 2015	-		0.146	Continuing	Continuing	Continuing
Primary HW Dev-SLMP	WR	NAWCAD : Lakehurst, NJ	5.226	2.850	Nov 2013	5.966	Nov 2014	5.730	Nov 2015	-		5.730	Continuing	Continuing	Continuing
Prior Year Cost No Longer Funded in FYDP	Various	Various : Various	40.630	-		-		-		-		-	-	40.630	-
		Subtotal	420.531	66.718		87.040		88.738		-		88.738	-	-	-

Remarks

Note: $1.05M (10.5%) in Award Fees have been paid out of the $10M Award Fee Pool; the contractor Gen Atomics, San Diego, CA has waived remaining Award Fees.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604512N / *Shipboard Aviation Systems*	Project (Number/Name) 2232 / *CV/CVN Launch and Recover*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ILS-AAG	WR	NAWCAD : Lakehurst, NJ	10.497	1.747	Nov 2013	4.106	Nov 2014	5.399	Nov 2015	-		5.399	Continuing	Continuing	Continuing
ILS-ADMACS	WR	NAWCAD : Lakehurst, NJ	0.584	0.129	Nov 2013	-		-		-		-	-	0.713	-
ILS-CSM	WR	NAWCAD : Lakehurst, NJ	0.291	0.070	Nov 2013	-		-		-		-	-	0.361	-
ILS-Modern IMOVLAS	WR	NAWCAD : Lakehurst, NJ	0.001	-		0.150	Nov 2014	0.150	Nov 2015	-		0.150	Continuing	Continuing	Continuing
Obsolescence Redesign - Modernization	WR	NAWCAD : Lakehurst, NJ	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
ILS-SLMP	WR	NAWCAD : Lakehurst, NJ	0.235	-		0.291	Nov 2014	0.088	Nov 2015	-		0.088	Continuing	Continuing	Continuing
Studies & Analysis-SLMP	WR	NAWCAD : Lakehurst, NJ	3.889	-		5.033	Nov 2014	2.229	Nov 2015	-		2.229	Continuing	Continuing	Continuing
Prior Year Cost No Longer Funded in FYDP	Various	Various : Various	0.501	-		-		-		-		-	-	0.501	-
		Subtotal	15.998	1.946		9.580		7.866		-		7.866	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval-AAG	WR	NAWCAD : Lakehurst, NJ	20.512	7.037	Dec 2013	24.714	Nov 2014	20.700	Nov 2015	-		20.700	Continuing	Continuing	Continuing
Operational T&E-AAG	WR	Various : Various	1.737	0.281	Dec 2013	0.290	Dec 2014	0.290	Dec 2015	-		0.290	Continuing	Continuing	Continuing
Dev Test Lab-ADMACS	WR	NAWCAD : Lakehurst, NJ	0.000	0.471	Nov 2013	-		-		-		-	-	0.471	-
Integrated Testing ADMACS	WR	NAWCAD : Lakehurst, NJ	0.069	0.400	Nov 2013	-		-		-		-	-	0.469	-
Performance Test-CSM	WR	NAWCAD : Lakehurst, NJ	1.992	-		-		-		-		-	-	1.992	-
Integrated Testing-Modern IMOVLAS	WR	NAWCAD : Lakehurst, NJ	0.000	-		0.250	Nov 2014	0.406	Nov 2015	-		0.406	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604512N / *Shipboard Aviation Systems*	Project (Number/Name) 2232 / *CV/CVN Launch and Recover*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Materials/Validation Testing-SLMP	WR	NAWCAD : Lakehurst, NJ	1.194	-		-		2.007	Nov 2015	-		2.007	-	3.201	-
Prior Year Cost No Longer Funded in FYDP	Various	Various : Various	0.777	-		-		-		-		-	-	0.777	-
		Subtotal	26.281	8.189		25.254		23.403		-		23.403	-	-	-

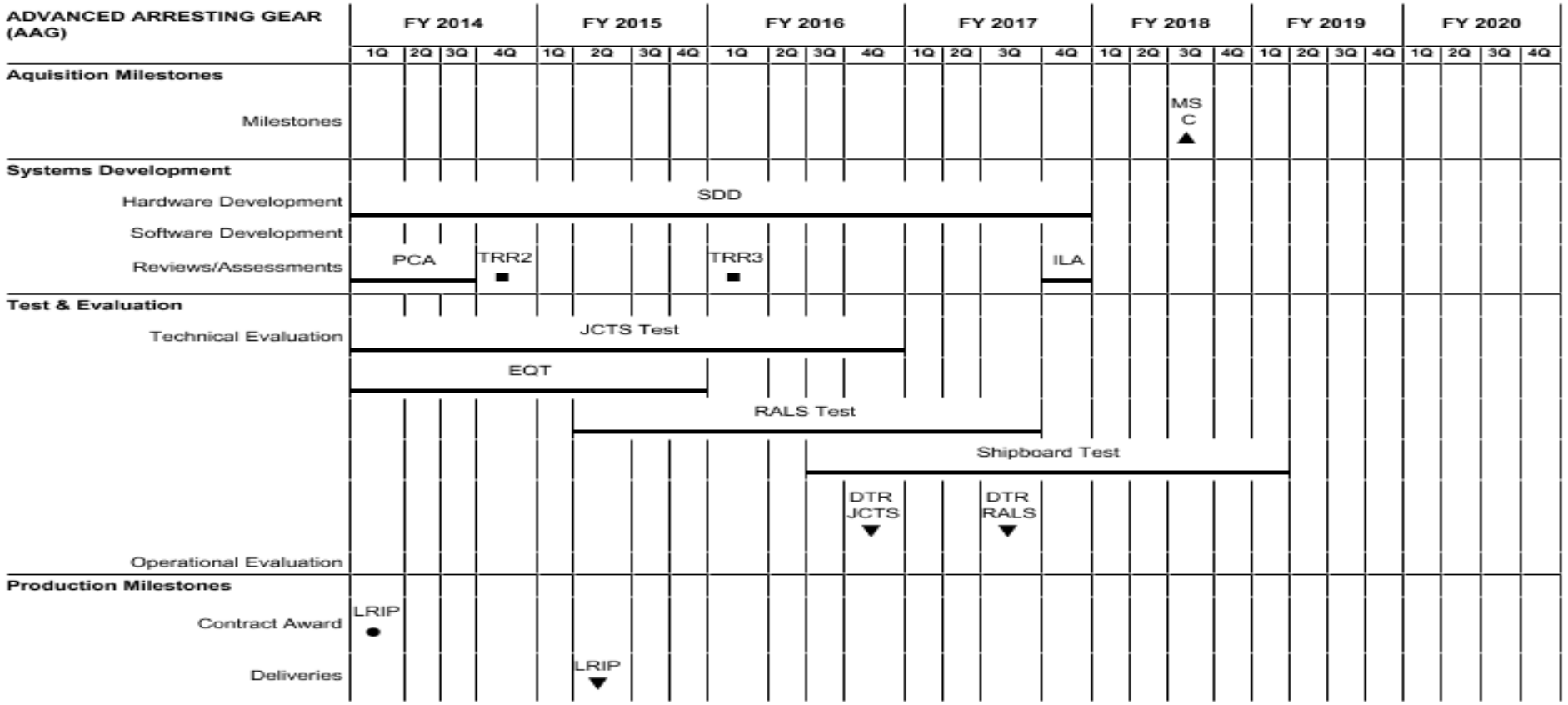
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prgm Mgmt Supt	C/CPFF	L3 Communications : Lexington Park, MD	0.135	-		-		-		-		-	-	0.135	0.135
Prgm Mgmt Supt	C/CPFF	Sierra : California, MD	0.987	0.170	Dec 2013	0.170	Dec 2014	0.170	Dec 2015	-		0.170	0.510	2.007	2.007
Travel	Reqn	NAVAIR : Patuxent River, MD	0.365	0.023	Oct 2013	0.039	Oct 2014	0.040	Oct 2015	-		0.040	Continuing	Continuing	Continuing
		Subtotal	1.487	0.193		0.209		0.210		-		0.210	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	464.297	77.046		122.083		120.217		-		120.217	-	-	-

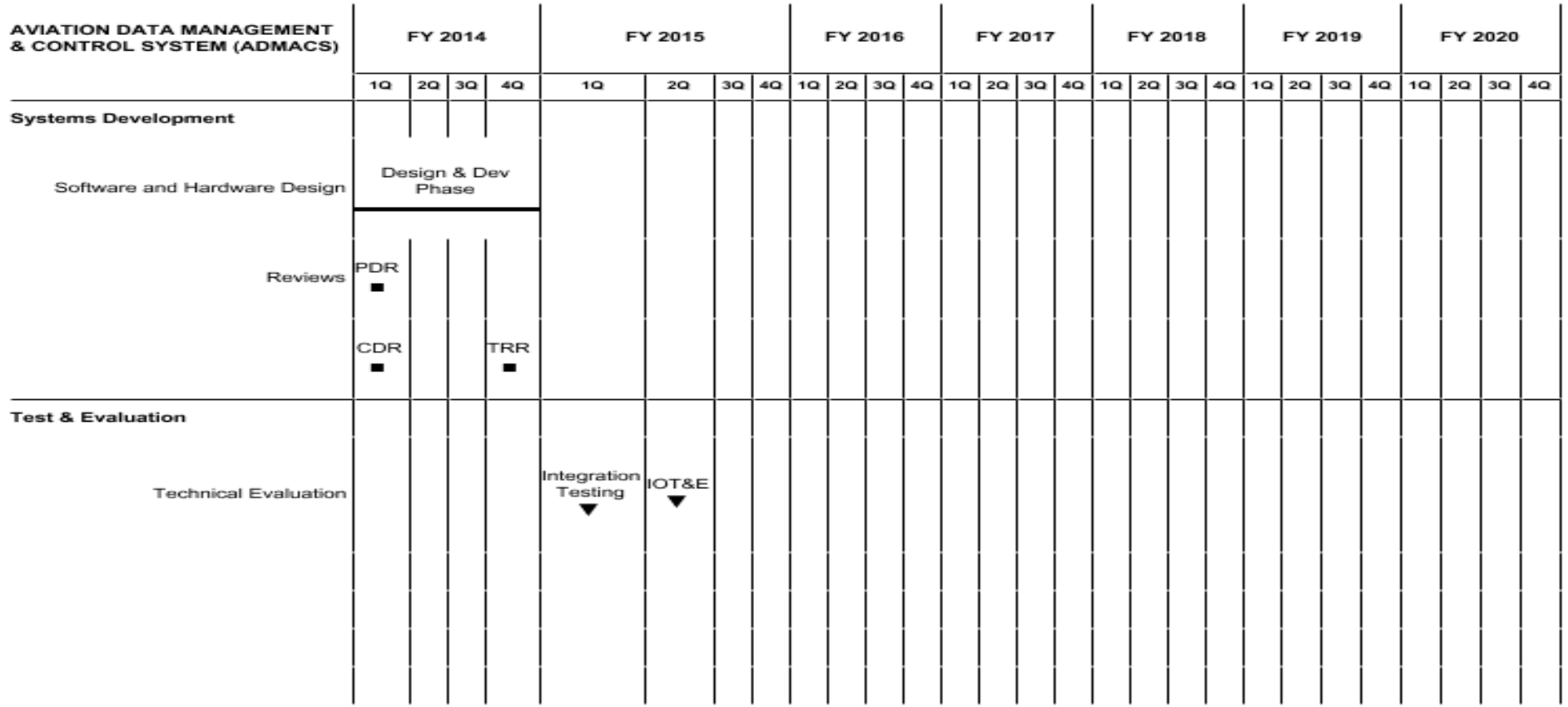
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*



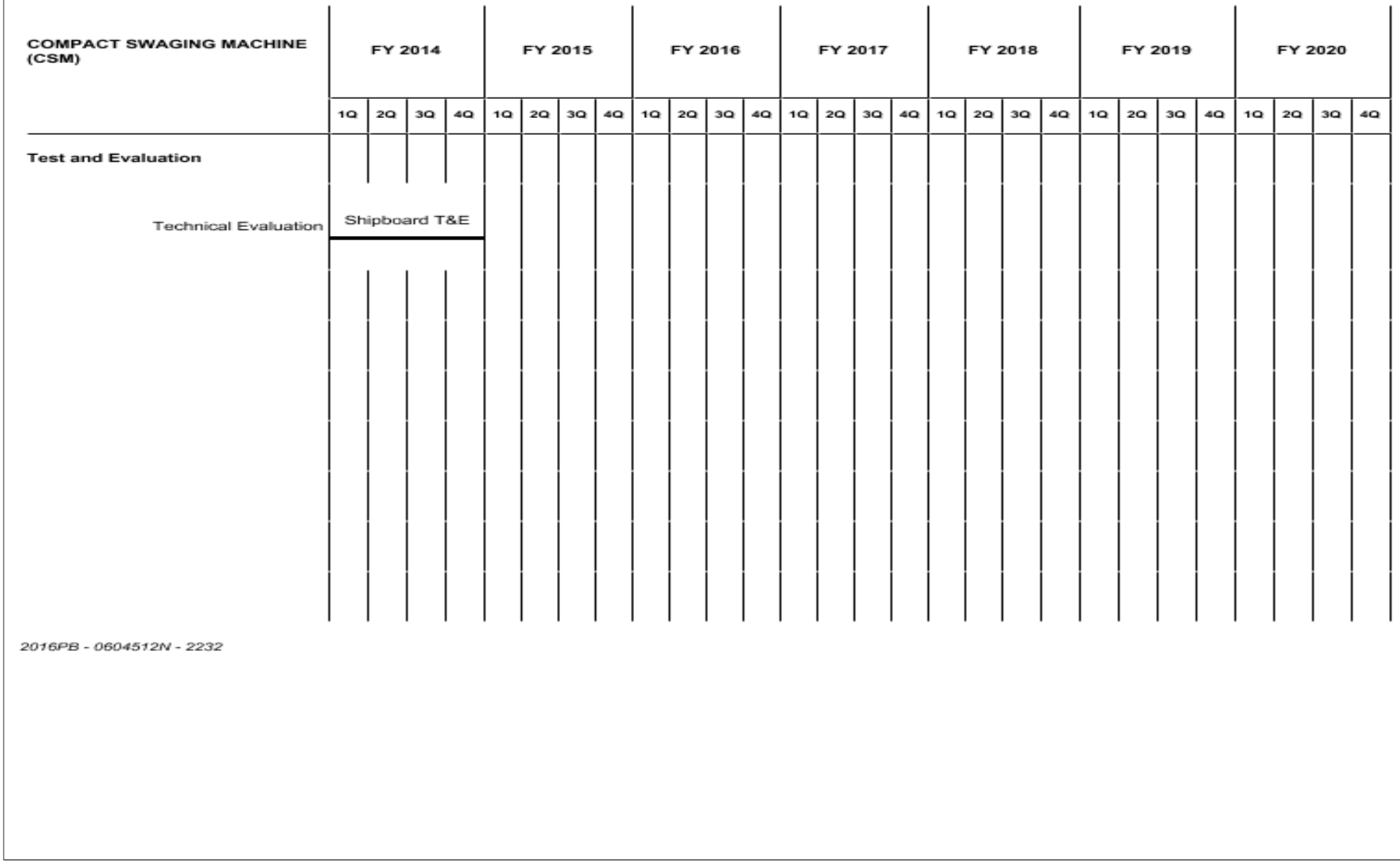
2016PB - 0604512N - 2232

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*



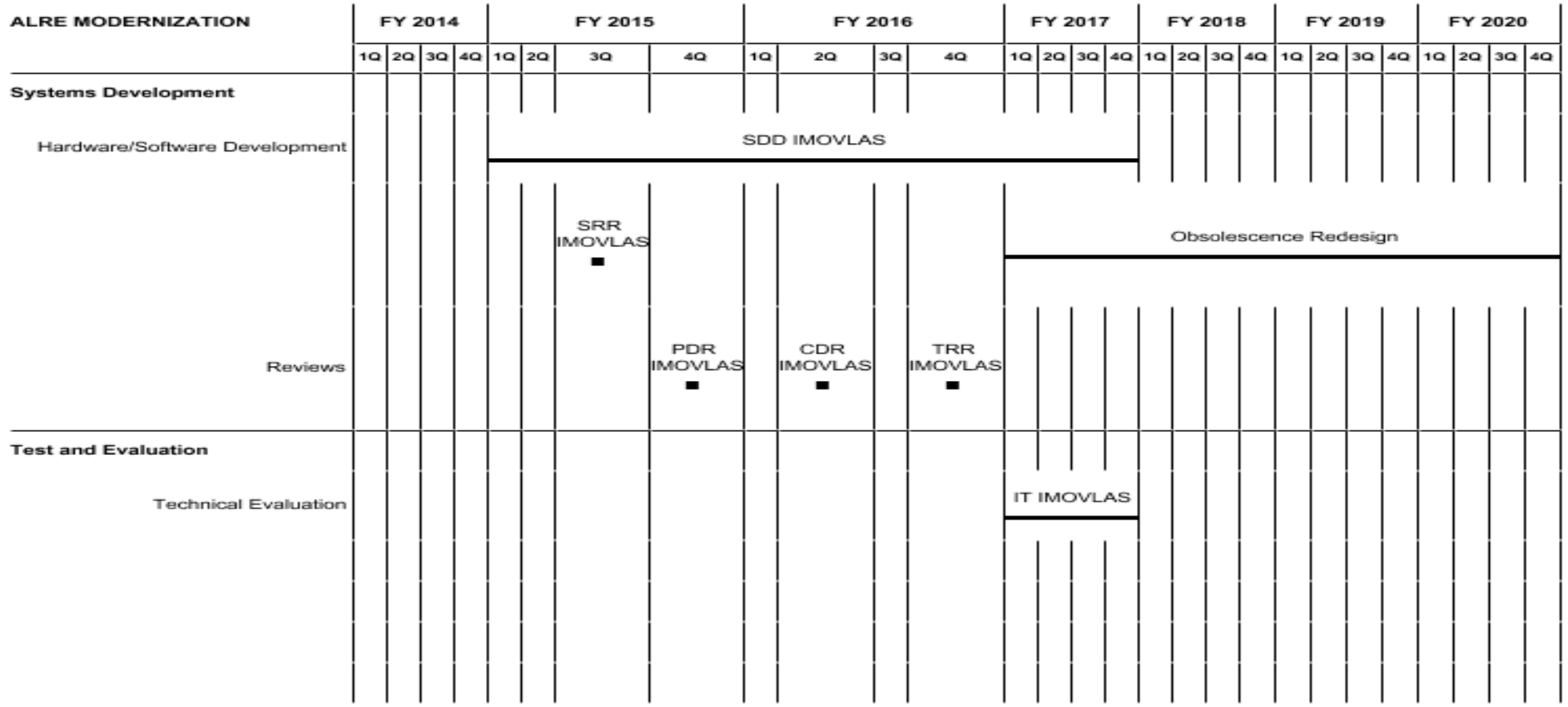
2016PB - 0604512N - 2232

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*



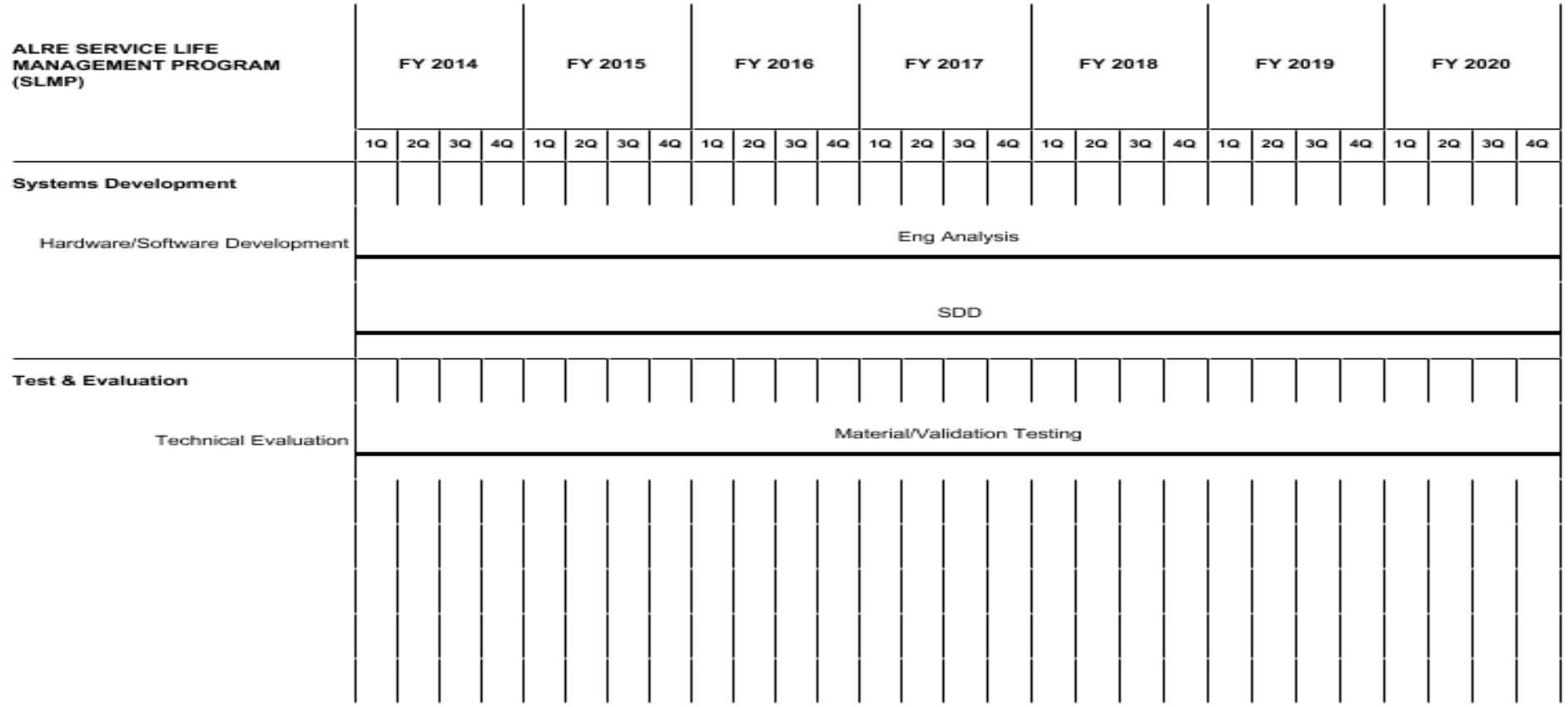
2016PB - 0604512N - 2232

Exhibit R-4, **RDT&E Schedule Profile:** PB 2016 Navy		**Date:** February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*



2016PB - 0604512N - 2232

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*



2016PB - 0604512N - 2232

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
ADVANCED ARRESTING GEAR (AAG)				
Aquisition Milestones: Milestones: Milestone C	3	2018	3	2018
Systems Development: Hardware Development: System Design & Development (SDD Phase)	1	2014	4	2017
Systems Development: Reviews/Assessments: Integrated Logistic Assessment (ILA)	4	2017	4	2017
Systems Development: Reviews/Assessments: Physical Configuration Assessment (PCA)	1	2014	3	2014
Systems Development: Reviews/Assessments: Technical Readiness Review (TRR2) JCTS Performance Deadload	4	2014	4	2014
Systems Development: Reviews/Assessments: Technical Readiness Review (TRR3) RALS	1	2016	1	2016
Test & Evaluation: Technical Evaluation: Jet Car Test Site (JCTS) Test	1	2014	4	2016
Test & Evaluation: Technical Evaluation: Environmental Qualification Test (EQT)	1	2014	4	2015
Test & Evaluation: Technical Evaluation: Runway Arrested Landing Site Test (RALS)	2	2015	3	2017
Test & Evaluation: Technical Evaluation: Shipboard Test / OPEVAL	3	2016	1	2019
Test & Evaluation: Technical Evaluation: JCTS Development Test Report (DTR)	4	2016	4	2016
Test & Evaluation: Technical Evaluation: RALS Development Test Report (DTR)	3	2017	3	2017
Production Milestones: Contract Award: Low Rate Initial Production (LRIP) OPN	1	2014	1	2014
Production Milestones: Deliveries: Low Rate Initial Production (LRIP) OPN	2	2015	2	2015
AVIATION DATA MANAGEMENT & CONTROL SYSTEM (ADMACS)				
Systems Development: Software and Hardware Design: Design and Development Phase	1	2014	4	2014
Systems Development: Reviews: Preliminary Design Review (PDR)	1	2014	1	2014
Systems Development: Reviews: Critical Design Review (CDR)	1	2014	1	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604512N / *Shipboard Aviation Systems*	**Project (Number/Name)** 2232 / *CV/CVN Launch and Recover*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Systems Development: Reviews: Test Readiness Review (TRR)	4	2014	4	2014
Test & Evaluation: Technical Evaluation: Ship Integration Test	1	2015	1	2015
Test & Evaluation: Technical Evaluation: Initial Operational Test and Evaluation (IOT&E)	2	2015	2	2015
COMPACT SWAGING MACHINE (CSM)				
Test and Evaluation: Technical Evaluation: Shipboard Test & Eval	1	2014	4	2014
ALRE MODERNIZATION				
Systems Development: Hardware/Software Development: Design and Development	1	2015	4	2017
Systems Development: Hardware/Software Development: System Readiness Review	3	2015	3	2015
Systems Development: Hardware/Software Development: Obsolescence Redesign Development and Testing	1	2017	4	2020
Systems Development: Reviews: Preliminary Design Review (PDR)	4	2015	4	2015
Systems Development: Reviews: Critical Design Review (CDR)	2	2016	2	2016
Systems Development: Reviews: Test Readiness Review (TRR)	4	2016	4	2016
Test and Evaluation: Technical Evaluation: Integrated Test	1	2017	4	2017
ALRE SERVICE LIFE MANAGEMENT PROGRAM (SLMP)				
Systems Development: Hardware/Software Development: Engineering Analysis	1	2014	4	2020
Systems Development: Hardware/Software Development: System Design and Development	1	2014	4	2020
Test & Evaluation: Technical Evaluation: Material and Validation Testing	1	2014	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604522N *I (U)Air and Missile Defense Radar (AMDR) System*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	-	129.706	241.754	-	241.754	151.870	32.662	28.877	29.868	Continuing	Continuing
3186: *Air and Missile Defense Radar*	0.000	-	129.706	241.754	-	241.754	151.870	32.662	28.877	29.868	Continuing	Continuing

A. Mission Description and Budget Item Justification

Air and Missile Defense Radar (AMDR): (NOTE: FY14 and prior year funding is in PE 0604501N) The AMDR suite is being developed to fulfill Integrated Air and Missile Defense requirements for multiple ship classes. This suite consists of an S-Band radar (AMDR-S), an X-band radar and a Radar Suite Controller (RSC). Funding will develop AMDR-S and RSC, and integrate these components with an available X band radar. AMDR will provide multi-mission capabilities, simultaneously supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as Area and Self Defense against air and surface threats. For the Ballistic Missile Defense (BMD) capability, increased radar sensitivity and bandwidth over current radar systems are needed to detect, track and support engagements of advanced ballistic missile threats at the required ranges, concurrent with Area and Self Defense against Air and Surface threats. For the Area Air Defense and Self Defense capability, increased sensitivity and clutter capability is needed to detect, react to, and engage stressing Very Low Observable/Very Low Flyer (VLO/VLF) threats in the presence of heavy land, sea, and rain clutter. This effort provides for the development of an active phased array radar with the required capabilities to address the evolving threat. The AMDR suite will obtain performance and technology enhancements throughout its service life based upon an approach that includes modularity of hardware and software, a scalable design and Open Architecture (OA) compliance.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	144.706	247.339	-	247.339
Current President's Budget	-	129.706	241.754	-	241.754
Total Adjustments	-	-15.000	-5.585	-	-5.585
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-15.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-3.900	-	-3.900
• Rate/Misc Adjustments	-	-	-1.685	-	-1.685

Change Summary Explanation

The FY 2016 funding was increased by $25.100 million to fully fund the efforts to include AMDR on one of the FY16 DDG Flight III ships.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604522N *I (U)Air and Missile Defense Radar (AMDR) System*

The FY 2016 funding request was reduced by $29.000 million to account for the availability of prior year execution balances. This properly phases funding based on the delayed award, due to protest, of the Engineering and Manufacturing Development (EMD) contract.

R-2A Change: The titles/categories listed below were all included under Systems Engineering in the PB15 budget exhibit. They have been broken out to provide more detail:
- AMDR HARDWARE (RAYTHEON)
- AMDR SOFTWARE (RAYTHEON)
- AMDR DESIGN, SUPPORT, INTEGRATION, TEST AND EVALUATION (RAYTHEON)
- DESIGN, SUPPORT, AND INTEGRATION
- TEST AND EVALUATION OPERATIONS AND ANALYSIS
- TEST AND EVALUATION ASSETS AND FACILITIES

Notes:

1). The AMDR FY13 to FY16 funding profile does not reflect a traditional ramp-up/ramp-down due largely to delays associated with E&MD contract award and the subsequent bid protest. As a result, $157M of FY13 funds were obligated at contract award in Oct 2013 and funding adjustments in FY14 (-$115M) and FY15 (-$15M) have been made to account for the delay and to reflect savings achieved through industry competition.

2). The increased Test and Evaluation costs between FY15 and FY16 are due to the expanded scope of DT-3 testing of the full Engineering Development Model at the Pacific Missile Range Facility in Hawaii in FY16 compared to limited DT-2 testing at the contractor's facility in FY15. In addition, there are a greater number of more complex and expensive targets procured in FY16 to support DT-3 testing compared to targets being procured in FY15. The increased software development costs between FY15 and FY16 are due to the complexity and level of coding performed to support the testing requirements in DT-3.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604522N / *(U)Air and Missile Defense Radar (AMDR) System*	Project (Number/Name) 3186 / *Air and Missile Defense Radar*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3186: *Air and Missile Defense Radar*	-	-	129.706	241.754	-	241.754	151.870	32.662	28.877	29.868	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Air and Missile Defense Radar (AMDR): (NOTE: FY14 and prior year funding is in PE 0604501N) The AMDR suite is being developed to fulfill Integrated Air and Missile Defense requirements for multiple ship classes. This suite consists of an S-Band radar (AMDR-S), an X-band radar and a Radar Suite Controller (RSC). Funding will develop AMDR-S and RSC, and integrate these components with an available X band radar. AMDR will provide multi-mission capabilities, simultaneously supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as Area and Self Defense against air and surface threats. For the Ballistic Missile Defense (BMD) capability, increased radar sensitivity and bandwidth over current radar systems are needed to detect, track and support engagements of advanced ballistic missile threats at the required ranges, concurrent with Area and Self Defense against Air and Surface threats. For the Area Air Defense and Self Defense capability, increased sensitivity and clutter capability is needed to detect, react to, and engage stressing Very Low Observable/Very Low Flyer (VLO/VLF) threats in the presence of heavy land, sea, and rain clutter. This effort provides for the development of an active phased array radar with the required capabilities to address the evolving threat. The AMDR suite will obtain performance and technology enhancements throughout its service life based upon an approach that includes modularity of hardware and software, a scalable design and Open Architecture (OA) compliance.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: AMDR HARDWARE (RAYTHEON)	-	9.599	3.608	-	3.608
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: - Procure Engineering Development Model (EDM) material					
FY 2016 Base Plans: - Complete procurement of EDM material					
FY 2016 OCO Plans: N/A					
Title: AMDR SOFTWARE (RAYTHEON)	-	13.782	32.461	-	32.461
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604522N / *(U)Air and Missile Defense Radar (AMDR) System*	**Project (Number/Name)** 3186 / *Air and Missile Defense Radar*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** - Design, code, test, and integrate software builds to support conduct of DT-2 ***FY 2016 Base Plans:*** - Design, code, test, and integrate software builds to support conduct of DT-3 ***FY 2016 OCO Plans:*** N/A					
Title: AMDR DESIGN, SUPPORT, INTEGRATION, TEST AND EVALUATION (RAYTHEON)	-	41.603	77.791	-	77.791
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** - Support working groups (WGs) to facilitate successful integration of the radar with the ship and combat system - Conduct Hardware Critical Design Review (CDR) - Conduct System CDR - Conduct Test Readiness Review (TRR) and AMDR-S String Testing (DT-2) - Deliver the AMDR-S/RSC simulator ***FY 2016 Base Plans:*** - Support WGs to facilitate successful integration of the radar with the ship and combat system - Deliver EDM to the Pacific Missile Range Facility (PMRF) - Conduct set up, integration and checkout of the EDM at PMRF - Conduct TRR and begin System Integration tests (DT-3) at PMRF ***FY 2016 OCO Plans:*** N/A					
Title: DESIGN, SUPPORT, AND INTEGRATION	-	29.707	23.705	-	23.705
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604522N / *(U)Air and Missile Defense Radar (AMDR) System*	**Project (Number/Name)** 3186 / *Air and Missile Defense Radar*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2015 Plans:*** - Support Hardware and System CDRs - Support delivery of the AMDR-S/RSC simulator - Support contractor Test Readiness Review (TRR) and witness contractor DT-2 testing ***FY 2016 Base Plans:*** - Support delivery of the EDM to PMRF - Conduct the DT-3 TRR and support the DT-3 test activities at PMRF ***FY 2016 OCO Plans:*** N/A					
Title: TEST AND EVALUATION OPERATIONS AND ANALYSIS	-	6.985	14.306	-	14.306
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** - Continue test planning in support of test site requirements - Support contractor TRR and witness contractor DT-2 testing ***FY 2016 Base Plans:*** - Continue test planning in support of test site requirements - Support delivery and integration of the EDM at PMRF - Support DT-3 TRR and conduct System Integration tests (DT-3) at PMRF ***FY 2016 OCO Plans:*** N/A					
Title: TEST AND EVALUATION ASSETS AND FACILITIES	-	24.852	86.125	-	86.125
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604522N / *(U)Air and Missile Defense Radar (AMDR) System*	**Project (Number/Name)** 3186 / *Air and Missile Defense Radar*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Procure two simple separating ballistic missile targets and other test assets to support DT-3 test efforts - Maintain PMRF test site facility - Provide engineering services for required modifications to DT-3 targets ***FY 2016 Base Plans:*** - Procure four complex separating ballistic missile targets and other test assets to support DT-3 test efforts - Maintain PMRF test site facility - Provide engineering services for required modifications to DT-3 targets ***FY 2016 OCO Plans:*** N/A					
Title: PROGRAM MANAGEMENT	-	3.178	3.758	-	3.758
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** - Provide support to Integrated Product Teams (IPTs) and WGs required for program execution of the E&MD contract - Analyze and assess contractor deliverables - Conduct regular Program Management Reviews - Assist in cost, schedule, and performance management, contract administration and oversight, earned value assessment, and risk identification and mitigation - Provide support to the Hardware CDR and System CDR - Provide support to the TRR to facilitate the start of DT-2 testing - Provide support to technical interchange meetings (TIMs) ***FY 2016 Base Plans:*** - Provide support to IPTs and WGs required for program execution of the E&MD contract - Support DT-2 test activities - Analyze and assess contractor deliverables - Conduct regular Program Management Reviews - Assist in cost, schedule, and performance management, contract administration and oversight, earned value assessment, and risk identification and mitigation					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604522N / *(U)Air and Missile Defense Radar (AMDR) System*	**Project (Number/Name)** 3186 / *Air and Missile Defense Radar*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Provide support to the TRR to facilitate the start of DT-3 testing - Provide support to TIMs ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	129.706	241.754	-	241.754

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDT&E/0604501N: *AMDR*	112.658	-	-	-	-	-	-	-	-	-	992.378
• SCN/2122: *DDG 51*	2,085.115	2,925.090	3,149.703	-	3,149.703	3,353.936	3,440.080	3,543.571	3,633.657	Continuing	Continuing

Remarks

D. Acquisition Strategy

AMDR: Plans for the Air and Missile Defense Radar are to leverage research and development investments, integrate sufficiently matured advanced technologies from technology risk reduction efforts, and incorporate Open Architecture approaches to develop a scalable radar design with major improvements in power, sensitivity, resistance to natural and man-made environments over current radar systems for simultaneous multi-mission BMD, Area and Self Defense Anti-Air Warfare (AAW). System design will be accomplished by employing proven technologies and commercial standards to lower schedule risk and develop a product with the lowest life-cycle cost.

Program scope consists of the following phases: a Concept Studies phase; a Technology Development phase, which included competitive prototyping; an E&MD phase, which includes completion of a full Engineering Development Model (EDM) for land-based testing; and transition to production. The detailed scope of this acquisition is defined in the approved Milestone B AMDR Acquisition Strategy (AS).

E. Performance Metrics

- Complete Technology Development (TD) phase System Requirements Review, Test Readiness Review, TD Prototype testing, TD System Functional Review, and TD Preliminary Design Review (PDR)
- Achieve Milestone B decision to proceed into E&MD phase
- Award E&MD contract
- Conduct E&MD Phase Integrated Baseline Review
- Conduct Hardware Delta PDR and System Delta PDR
- Conduct Hardware and System CDRs

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604522N / *(U)Air and Missile Defense Radar (AMDR) System*	**Project (Number/Name)** 3186 / *Air and Missile Defense Radar*

- Complete Engineering Development Model (EDM) testing
- Achieve Milestone C decision to proceed into production and exercise Low Rate Initial Production (LRIP) options

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604522N / *(U)Air and Missile Defense Radar (AMDR) System*	Project (Number/Name) 3186 / *Air and Missile Defense Radar*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering and Manufacturing Development	C/CPIF	Raytheon : Sudbury, MA	0.000	-		64.984	Feb 2015	113.860	Dec 2015	-		113.860	Continuing	Continuing	Continuing
		Subtotal	0.000	-		64.984		113.860		-		113.860	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	MIPR	GTRI : Atlanta, GA	0.000	-		0.805	Feb 2015	0.632	Dec 2015	-		0.632	Continuing	Continuing	Continuing
Systems Engineering	SS/CPFF	JHU/APL : Baltimore, MD	0.000	-		8.199	Feb 2015	6.427	Dec 2015	-		6.427	Continuing	Continuing	Continuing
Systems Engineering	MIPR	MIT : Cambridge, MD	0.000	-		1.443	Mar 2015	1.130	Dec 2015	-		1.130	Continuing	Continuing	Continuing
Systems Engineering	WR	NRL : Washington, DC	0.000	-		1.385	Feb 2015	1.085	Dec 2015	-		1.085	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC/CR : Crane, IN	0.000	-		2.528	Jan 2015	1.982	Nov 2015	-		1.982	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC/DD : Dahlgren, VA	0.000	-		6.609	Jan 2015	5.182	Nov 2015	-		5.182	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC/PHD : Port Hueneme, CA	0.000	-		2.587	Feb 2015	2.028	Nov 2015	-		2.028	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	SPA-PSS : Alexandria, VA	0.000	-		4.371	Feb 2015	4.263	Dec 2015	-		4.263	Continuing	Continuing	Continuing
Systems Engineering	MIPR	ARL : Adelphi, MD	0.000	-		0.474	Feb 2015	0.457	Dec 2015	-		0.457	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC/CD : Carderock, MD	0.000	-		0.394	Jan 2015	0.381	Dec 2015	-		0.381	Continuing	Continuing	Continuing
Systems Engineering	WR	CDSA Dam Neck : Dam Neck, VA	0.000	-		0.623	Mar 2015	-		-		-	0.623	1.246	-
Systems Engineering	WR	NSWC/Corona : Corona, CA	0.000	-		0.285	Jan 2015	0.134	Nov 2015	-		0.134	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604522N / *(U)Air and Missile Defense Radar (AMDR) System*	Project (Number/Name) 3186 / *Air and Missile Defense Radar*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	Allot	DISA : Scott AFB, Illinois	0.000	-		0.004	Nov 2014	0.004	Nov 2015	-		0.004	Continuing	Continuing	Continuing
		Subtotal	0.000	-		29.707		23.705		-		23.705	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	COMOPTEVFOR : Norfolk, VA	0.000	-		0.461	Feb 2015	0.313	Dec 2015	-		0.313	Continuing	Continuing	Continuing
Test and Evaluation	MIPR	GTRI : Atlanta, GA	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
Test and Evaluation	SS/CPFF	JHU/APL : Baltimore, MD	0.000	-		6.089	Feb 2015	2.706	Dec 2015	-		2.706	Continuing	Continuing	Continuing
Test and Evaluation	MIPR	MIT : Cambridge, MD	0.000	-		0.319	Mar 2015	2.560	Dec 2015	-		2.560	Continuing	Continuing	Continuing
Test and Evaluation	WR	NAWC WD : Pt. Mugu, CA	0.000	-		1.168	Dec 2014	0.827	Dec 2015	-		0.827	Continuing	Continuing	Continuing
Test and Evaluation	WR	NRL : Washington, DC	0.000	-		-		1.139	Dec 2015	-		1.139	Continuing	Continuing	Continuing
Test and Evaluation	WR	NSWC/DD : Dahlgren, VA	0.000	-		1.205	Jan 2015	2.376	Nov 2015	-		2.376	Continuing	Continuing	Continuing
Test and Evaluation	WR	NSWC/PHD : Port Hueneme, CA	0.000	-		1.900	Feb 2015	3.678	Nov 2015	-		3.678	Continuing	Continuing	Continuing
Test and Evaluation	WR	PMRF : Kekaha, HI	0.000	-		1.134	Dec 2014	11.334	Dec 2015	-		11.334	Continuing	Continuing	Continuing
Test and Evaluation	C/CPFF	SPA-PSS : Alexandria, VA	0.000	-		1.460	Feb 2015	1.433	Dec 2015	-		1.433	Continuing	Continuing	Continuing
Test and Evaluation	WR	SCSC Wallops : Wallops Island, VA	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
Test and Evaluation	WR	SPAWAR : San Diego, CA	0.000	-		-		0.904	Dec 2015	-		0.904	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604522N / *(U)Air and Missile Defense Radar (AMDR) System*	Project (Number/Name) 3186 / *Air and Missile Defense Radar*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NSWC/PHD WS : Port Hueneme, CA	0.000	-		18.101	Feb 2015	73.161	Dec 2015	-		73.161	Continuing	Continuing	Continuing
		Subtotal	0.000	-		31.837		100.431		-		100.431	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Management Services	C/CPFF	SPA-PSS : Alexandria, VA	0.000	-		2.043	Feb 2015	2.405	Dec 2015	-		2.405	Continuing	Continuing	Continuing
Travel	Allot	PEOIWS2 : Washington, DC	0.000	-		0.117	Feb 2015	0.121	Dec 2015	-		0.121	Continuing	Continuing	Continuing
Support Management Services	WR	NSWC/DD : Dahlgren, VA	0.000	-		1.018	Jan 2015	1.232	Dec 2015	-		1.232	Continuing	Continuing	Continuing
		Subtotal	0.000	-		3.178		3.758		-		3.758	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		129.706		241.754		-		241.754	-	-	-

Remarks

The R-3 cost categories have been expanded from PB15 to show more detail. Specifically, Support and Test and Evaluation categories have been broken out from Product Development.

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604522N / *(U)Air and Missile Defense Radar (AMDR) System*	**Project (Number/Name)** 3186 / *Air and Missile Defense Radar*

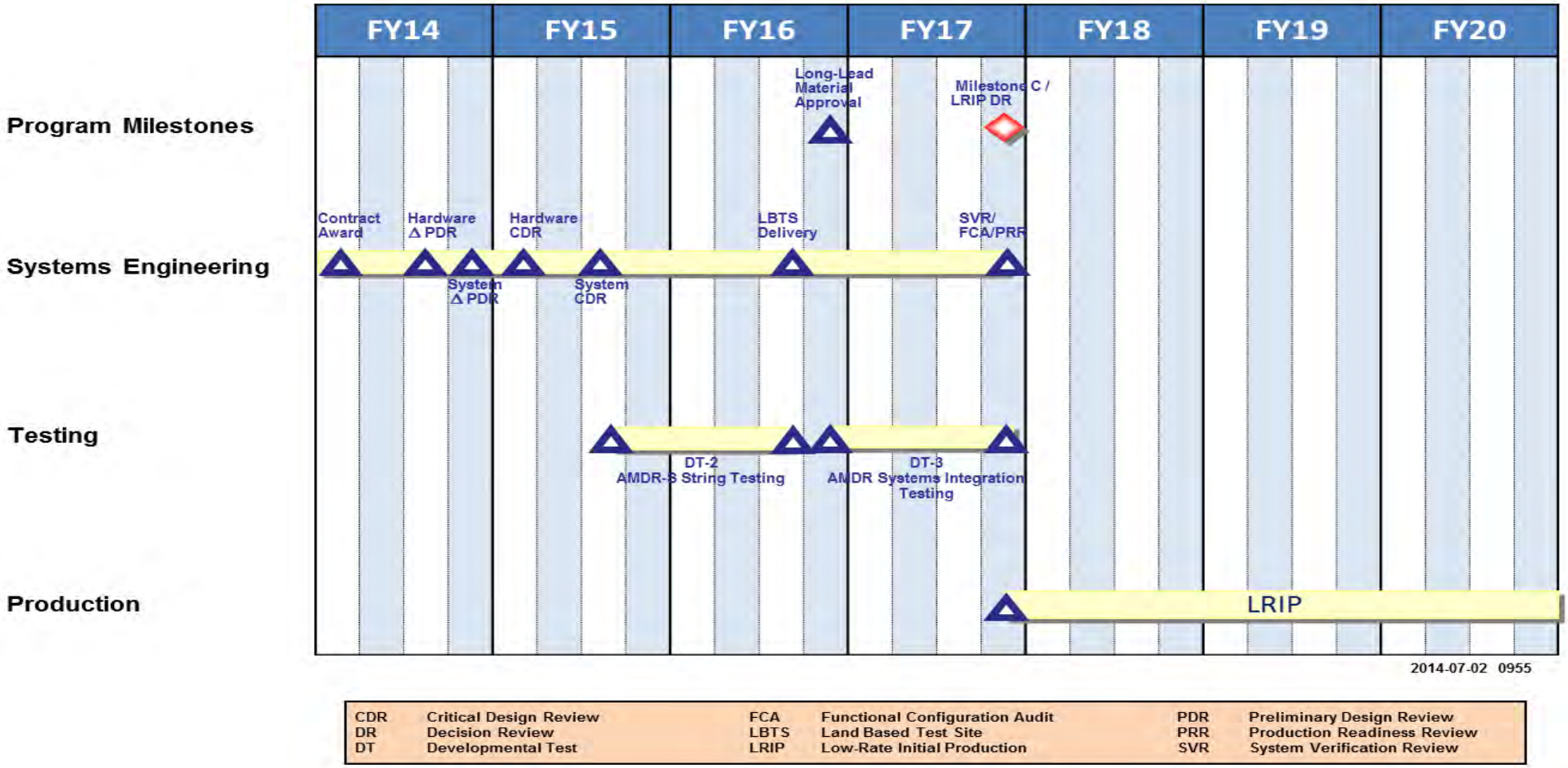


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604522N / *(U)Air and Missile Defense Radar (AMDR) System*	**Project (Number/Name)** 3186 / *Air and Missile Defense Radar*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3186				
Engineering and Manufacturing Development (E&MD) Contract Award	1	2014	1	2014
E&MD Hardware (HW) Delta Preliminary Design Review (PDR)	3	2014	3	2014
E&MD System Delta PDR	4	2014	4	2014
E&MD HW Critical Design Review (CDR)	1	2015	1	2015
E&MD System CDR	3	2015	3	2015
E&MD AMDR-S String Testing (DT-2)	3	2015	3	2016
Engineering Development Model delivered to Land Based Test Site	3	2016	3	2016
LRIP Long Lead Material Approval	4	2016	4	2016
E&MD AMDR System Integration Testing (DT-3)	4	2016	4	2017
System Verification Review/Functional Configuration Audit/Production Readiness Review	4	2017	4	2017
Milestone C/Low Rate Initial Production (LRIP) Decision Review (DR)	4	2017	4	2017
LRIP Production	4	2017	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604558N *I New Design SSN*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	2,243.504	60.843	87.695	122.556	-	122.556	115.333	175.820	90.632	87.429	Continuing	Continuing
1947: *New Design SSN HM&E*	1,419.380	29.003	51.011	83.498	-	83.498	82.407	133.037	52.353	48.359	Continuing	Continuing
1950: *New Design SSN Combat Sys Dev*	797.169	29.067	34.114	31.508	-	31.508	30.320	40.153	35.595	36.330	Continuing	Continuing
3062: *Submarine Multi-Mission Team Trainer*	26.955	2.773	2.570	7.550	-	7.550	2.606	2.630	2.684	2.740	Continuing	Continuing
MDAP/MAIS Code: 516												

A. Mission Description and Budget Item Justification

The U.S. Navy must maintain a submarine fleet that is of sufficient capability and numbers to defend American interests. The VIRGINIA Class Submarine, formerly the New Attack Submarine (New SSN), is being designed to fulfill this need. It will counter the potential threats of the next century in a multi- mission capable submarine that has the ability to provide covert, sustained combat presence in denied waters. The primary goal of the program is to develop an affordable yet capable submarine by evaluating a broad range of system and technology alternatives, and pursuing cost reduction, producibility improvement, and technical risk management. This Program Element (PE) provides the technology, prototype components, and systems engineering needed to design and construct the VIRGINIA Class Submarine and build its Command, Control, Communications, and Intelligence (C3I) System. This PE directly supports the following VIRGINIA Class Submarine missions: (1) covert strike warfare; (2) anti-submarine warfare; (3) covert intelligence collection/surveillance, indication and warning, and electronic warfare; (4) anti-surface ship warfare; (5) special warfare; (6) mine warfare; and (7) battle group support.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	62.446	72.695	92.810	-	92.810
Current President's Budget	60.843	87.695	122.556	-	122.556
Total Adjustments	-1.603	15.000	29.746	-	29.746
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	15.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.029	-			
• SBIR/STTR Transfer	-1.575	-			
• Program Adjustments	-	-	32.300	-	32.300
• Rate/Misc Adjustments	0.001	-	-2.554	-	-2.554

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604558N *I New Design SSN*

Change Summary Explanation

The FY 2016 funding request was reduced by $1.800 million to account for the availability of prior year execution balances.

Note: Beginning in 2015, there is an administrative change that will shift efforts funded from PE 0604558N (New Design SSN) / Project 4500 to PE 0604580N (VIRGINIA Payload Module) / Project 4500. This shift is consistent with Congressional intent identified in the FY14 Appropriations Act Committee Report.
Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604558N / *New Design SSN*	Project (Number/Name) 1947 / *New Design SSN HM&E*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1947: *New Design SSN HM&E*	1,419.380	29.003	51.011	83.498	-	83.498	82.407	133.037	52.353	48.359	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project encompasses all the ship system development efforts for the VIRGINIA Class Submarine and the Technology Insertion Program for reducing cost and upgrading performance of future hulls by virtue of improvements in ship systems. Technology development implementation and logistics for developmental items, and VIRGINIA Class test & evaluation are included. This project is essential for pursuit of high priority Design For Affordability (DFA) and Reduced Total Ownership Cost (RTOC) initiatives while achieving platform requirements and providing mission capability and flexibility. The thrust of these efforts will be to develop and apply multiple advanced system technologies which are integrated into the design of the VIRGINIA Class Submarine. Technologies developed in this program will be considered for applicability to the Ohio Replacement Program (ORP) for commonality opportunities. New technologies are being transitioned from industry and government research and development programs where doing so offers substantial performance improvement and/or affordability payoffs. Transition opportunities include those from the Defense Advanced Research Projects Agency (DARPA) Sensors & Payloads program and Office of Naval Research (ONR) Future Naval Capabilities Program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: New Design SSN HM&E	12.880	19.335	61.179	-	61.179
Articles:	-	-	-	-	-

FY 2014 Accomplishments:

Completed block upgrades of Ship Control algorithms and software for Block III. Completed software development for Advanced Electromagnetic silencing capability for Block III. Continued development of concepts and technologies for Block IV Reduced Total Ownership Cost (RTOC) and integrated into Block IV design/ build contract. Addressed emergent reliability issues associated with HM&E components. Continued HM&E obsolescence redesign for Block IV. Continued transition of products from the Office of Naval Research Manufacturing Technology Program (MANTECH). Initiated development of acoustic performance improvements for full scale demonstration on SSN 790 during Post Shakedown Availability (PSA) and refine design requirements for future Virginia blocks.

FY 2015 Plans:

Continue development of concepts and technologies for Reduced Total Ownership Cost (RTOC) and integration into and Block V technical baseline. Continue to address emergent reliability issues associated with HM&E components. Continue HM&E obsolescence redesign for Block IV and Block V. Continue transition of products from the Office of Naval Research Manufacturing Technology Program (MANTECH). Initiate the transition of products from the Office of Naval Research (ONR) Future Naval Capability (FNC) Program. Continue development of acoustic performance improvements for full scale demonstration and refine design requirements

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 1947 / *New Design SSN HM&E*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
for future blocks with regard to updated threats. Develop full schedule for material procurements for prototypes and installation on SSN790 during a planned availability. ***FY 2016 Base Plans:*** Continue development of concepts and technologies for Reduced Total Ownership Cost (RTOC) and integration into and Block V technical baseline. Continue to address emergent reliability issues associated with HM&E components. Continue HM&E obsolescence redesign for Block IV and Block V. Continue transition of products from the Office of Naval Research Manufacturing Technology Program (MANTECH). Continue the transition of products from the Office of Naval Research (ONR) Future Naval Capability (FNC) Program. Continue development of acoustic performance improvements for full scale demonstration and refine design requirements for future blocks with regard to updated threats. Execute rapid material procurement and fabrication of prototype systems for planned installation on SSN790 during upcoming availability. These include components for a Large Vertical Array and enhanced treatments. Oversee expanded design/build efforts between shipbuilder and qualified vendors for material design acceptance, fabrication and qualification. Integrate quality control solutions into component design/build process. Begin full scale modeling and simulation of acoustic improvements. Transition development efforts for the Integrated Advanced Hybrid (IAH) propulsor for planned full scale demonstration, requiring material qualification prior to deployment. Initiate planning for full scale testing of improvements in-situ during post availability period. ***FY 2016 OCO Plans:*** N/A					
Title: C229-CONGRESSIONAL ADD	-	15.000	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** CONGRESSIONAL ADD The FY15 RDT&E Congressional add for small business technology insertion will be applied to existing small business contracts to continue VA Class combat systems development in the areas of sonar, electronic warfare, weapons systems launch, information assurance, and advanced submarine control systems. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 1947 / *New Design SSN HM&E*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: TEST AND EVALUATION	16.123	16.676	22.319	-	22.319
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continue responding to SSN774 OPEVAL, Arctic, TI-08/APB-09, and DDS FOT&E deficiencies identified by COTF and support OPNAV in adjudication of DOT&E recommendations, as well as prepare for future FOT&E events. Conduct DOTS FOT&E testing, verification and reporting. Finalize detailed plan to test a VIRGINIA Class in a Low Frequency Active (LFA) environment and execute LFA FOT&E testing, analysis and reporting. Finalize detailed developmental test plans/procedures to test the first Block III ships. Plan for conduct of Information Awareness (IA) Vulnerability/Penetration testing FOT&E. Develop a detailed plan and conduct an operational assessment of VIRGINIA Class during CCSM Off-Hull Assembly & Test Site (COATS).					
FY 2015 Plans: Continue responding to SSN774 OPEVAL, Arctic, TI-08/APB-09, and DDS FOT&E deficiencies identified by COTF and support OPNAV in adjudication of DOT&E recommendations. Make preparations to conduct the Block III FDT&E and FOT&E testing consisting of the Accreditation of Modeling & Simulation (M&S) required for post-test analysis and reporting. Plan for FOT&E test events (Strike Warfare, Anti-Submarine Warfare in Open Ocean and Littorals; High Density Contact Mgmt; Surface Warfare TrackEx and TorpEx and IA Vulnerability/Penetration Testing) scheduled to conduct in FY2016.					
FY 2016 Base Plans: Continue responding to SSN774 OPEVAL, Arctic, TI-08/APB-09, and DDS FOT&E deficiencies identified by COTF and support OPNAV in adjudication of DOT&E recommendations. Conduct, perform post-test analysis and report results of Block III FDT&E and FOT&E test events (Strike Warfare, Anti-Submarine Warfare in Open Ocean and Littorals; High Density Contact Mgmt; Surface Warfare TrackEx and TorpEx, and IA Vulnerability/Penetration Testing).					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	29.003	51.011	83.498	-	83.498

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 1947 / *New Design SSN HM&E*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SCN/2013: *VA CL*	6,462.316	5,832.079	5,340.110	-	5,340.110	5,184.120	5,023.887	6,691.774	6,768.232	-	90,040.091
• O&M,N/0204283N: *Sub Ops & Safety*	38.776	33.938	31.355	-	31.355	28.028	29.238	30.175	30.770	Continuing	Continuing
• OPN/0942: *VA CL Support Equipment*	69.341	70.689	35.747	-	35.747	56.262	49.263	49.672	50.743	Continuing	Continuing
• RDT&E/0604580N: *VIRGINIA Payload Module*	57.282	120.602	167.719	-	167.719	100.234	68.989	-	-	-	514.826

Remarks

D. Acquisition Strategy

The VIRGINIA Class Submarine Program has implemented Integrated Product and Process Development (IPPD). The traditional distinct phasing of the design process has been replaced with the continuous concurrent engineering IPPD process. The IPPD approach has facilitated a smoother transition from design to manufacturing and has reduced the number of changes typically encountered during construction of the lead and early follow-on ships. In September 1997, Congress passed a law allowing Electric Boat (EB) and Northrop Grumman Newport News (NGNN), now Huntington Ingalls Industries (HII), to team for production of the first four VIRGINIA Class Submarines. Under the teaming agreement, EB remained the design yard for the VIRGINIA Class Submarine and HII became a part of the IPPD process. The Program Office is managing three Multi-Year Procurement (MYP) contracts. The first and second contracts are for the Block II (FY04-08) and Block III (FY09-13) ships. The third contract is for Block IV (FY14-18) ships awarded April 2014. All Block I & II ships (SSNs 774-783) have been delivered. The lead Block III ship, SSN 784, delivered in August 2014 with the remaining 7 ships awarded and under construction.

E. Performance Metrics

Successful completion of Milestone III Review. Successful completion of Final Operational Test and Evaluation (FOT&E) for Technology Insertion (TI)-08 and Block III.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604558N / *New Design SSN*	Project (Number/Name) 1947 / *New Design SSN HM&E*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Component Development	WR	NSWC : Carderock, MD	234.672	2.750	Nov 2013	3.250	Nov 2014	12.162	Nov 2015	-		12.162	Continuing	Continuing	Continuing
Component Development	WR	NUWC : Newport, RI	108.732	1.250	Nov 2013	1.250	Nov 2014	3.793	Nov 2015	-		3.793	Continuing	Continuing	Continuing
Component Development	WR	NRL : Washington, DC	6.318	0.350	Nov 2013	0.350	Feb 2015	1.282	Nov 2015	-		1.282	Continuing	Continuing	Continuing
Component Development	C/CPFF	Electric Boat : Groton, CT	604.984	6.117	Nov 2013	9.635	Nov 2014	34.223	Nov 2015	-		34.223	Continuing	Continuing	Continuing
Component Development	C/CPFF	Electric Boat : Groton, CT	22.964	-		-		-		-		-	Continuing	Continuing	Continuing
Component Development	C/CPFF	Electric Boat : Groton, CT	39.819	-		-		-		-		-	Continuing	Continuing	Continuing
Component Development	PO	SUPSHIP : Groton, CT	66.390	0.600	Dec 2013	1.200	Jan 2015	2.681	Dec 2015	-		2.681	Continuing	Continuing	Continuing
Component Development	SS/CPFF	Lockheed Martin : Not Specified	16.524	-		-		-		-		-	Continuing	Continuing	Continuing
Component Development	SS/CPFF	Lockheed Martin : Not Specified	2.070	-		-		-		-		-	Continuing	Continuing	Continuing
Component Development	SS/CPFF	Applied Research Laboratory : Penn State University	22.371	0.200	Dec 2013	0.500	Feb 2015	1.117	Dec 2015	-		1.117	Continuing	Continuing	Continuing
Component Development	SS/FP	National Shipbuilding Research Program : Not Specified	3.245	0.200	Mar 2014	0.400	Mar 2015	0.894	Mar 2016	-		0.894	Continuing	Continuing	Continuing
Component Development	Various	Micellaneous : Not Specified	15.761	0.913	Dec 2014	2.250	Feb 2015	5.027	Dec 2015	-		5.027	Continuing	Continuing	Continuing
		Subtotal	1,143.850	12.380		18.835		61.179		-		61.179	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR	TBD	TBD : TBD	0.000	-		15.000	Mar 2015	-		-		-	-	15.000	-
		Subtotal	0.000	-		15.000		-		-		-	-	15.000	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604558N / *New Design SSN*	Project (Number/Name) 1947 / *New Design SSN HM&E*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation - DT&E	WR	NSWC : Carderock, MD	91.311	0.849	Nov 2013	0.488	Nov 2014	0.995	Nov 2015	-		0.995	Continuing	Continuing	Continuing
Test and Evaluation - LFT&E	WR	NSWC : Carderock, MD	1.587	0.730	Nov 2013	0.730	Nov 2014	0.730	Nov 2015	-		0.730	Continuing	Continuing	Continuing
Test and Evaluation - DT&E	WR	NSWC : Dahlgren, VA	0.315	-		-		-		-		-	Continuing	Continuing	Continuing
Test and Evaluation - DT&E	WR	NUWC : Newport, RI	106.099	11.492	Nov 2013	12.594	Nov 2014	15.961	Nov 2015	-		15.961	Continuing	Continuing	Continuing
Test and Evaluation - OT&E	PO	COMOPTEVFOR : Norfolk, VA	14.913	1.000	Nov 2013	0.900	Feb 2015	2.100	Nov 2015	-		2.100	Continuing	Continuing	Continuing
Test and Evaluation - LFT&E	C/CPFF	Electric Boat : Groton, CT	1.415	0.105	Dec 2013	0.225	Feb 2015	0.300	Dec 2015	-		0.300	Continuing	Continuing	Continuing
Test and Evaluation - DT&E	C/CPAF	SEAPORT : Rockville, MD	20.187	0.800	Nov 2013	0.700	Feb 2015	0.700	Nov 2015	-		0.700	Continuing	Continuing	Continuing
Test and Evaluation - DT&E	C/CPFF	Progeny : Manassas, VA	5.230	1.147	Dec 2013	0.999	Feb 2015	1.033	Dec 2015	-		1.033	Continuing	Continuing	Continuing
Test and Evaluation - DT&E	Various	Micellaneous : Not Specified	11.932	-		0.040	Feb 2015	-		-		-	Continuing	Continuing	Continuing
		Subtotal	252.989	16.123		16.676		21.819		-		21.819	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPAF	SEAPORT : Rockville, MD	20.025	0.500	Nov 2013	0.500	Feb 2015	0.500	Nov 2015	-		0.500	Continuing	Continuing	Continuing
Travel	PO	Not Specified : Not Specified	1.919	-		-		-		-		-	Continuing	Continuing	Continuing
DAWDF	Various	Not Specified : Not Specified	0.597	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	22.541	0.500		0.500		0.500		-		0.500	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604558N / *New Design SSN*	Project (Number/Name) 1947 / *New Design SSN HM&E*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,419.380	29.003		51.011		83.498		-		83.498	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 1947 / *New Design SSN HM&E*

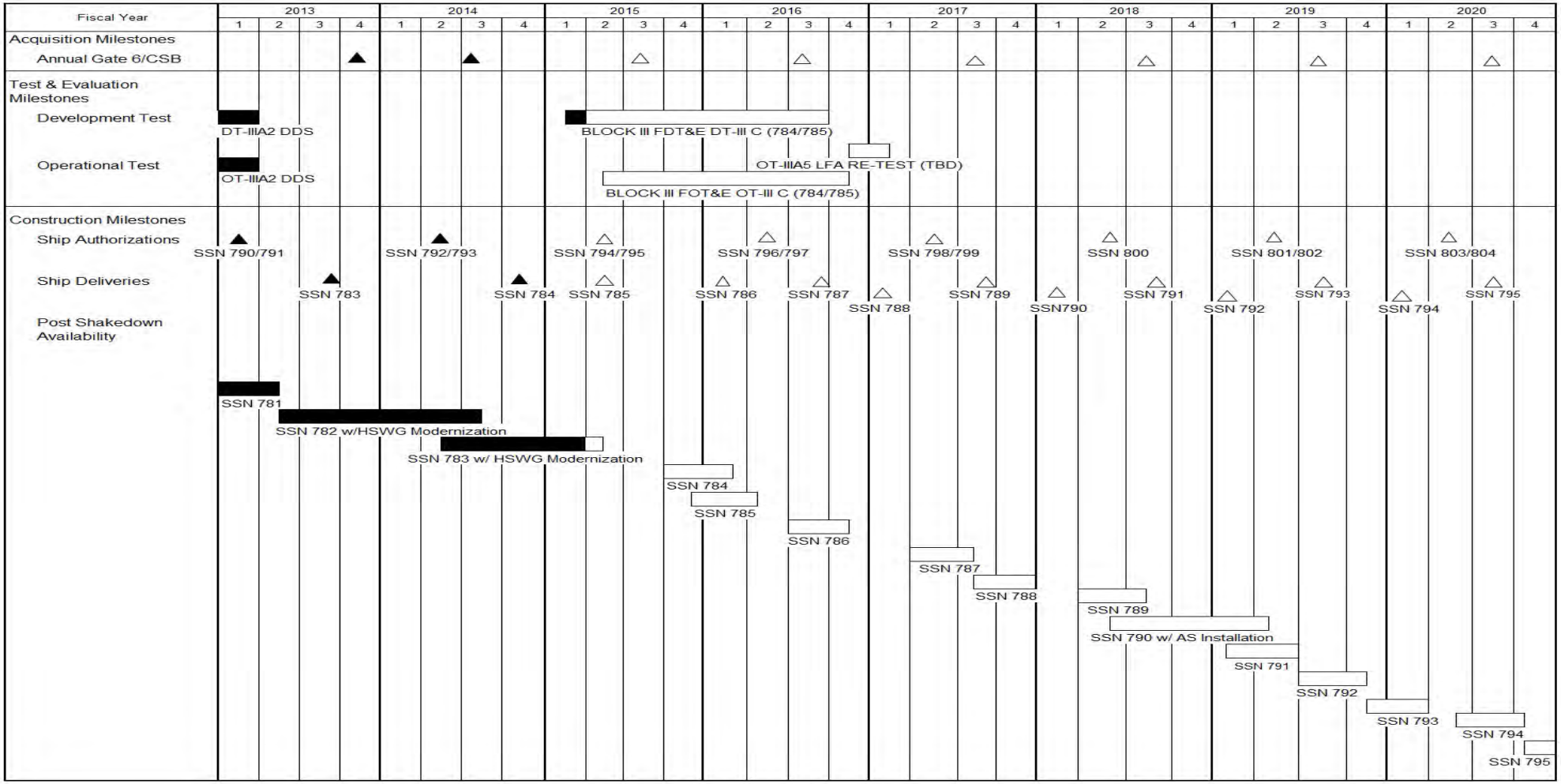


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 1947 / *New Design SSN HM&E*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1947				
Post Shakedown Availability with HSWG Modernization (PSA SSN 782)	1	2014	3	2014
Ship Authorization (792/793)	2	2014	2	2014
Post Shakedown Availability with HSWG Modernization (PSA SSN 783)	2	2014	2	2015
FY14 Annual Gate 6/CSB	3	2014	3	2014
Ship Delivery (SSN 784)	4	2014	4	2014
Block III FOT&E DT-III C	1	2015	3	2016
Ship Authorization (794/795)	2	2015	2	2015
Ship Delivery (SSN 785)	2	2015	2	2015
Block III FOT&E OT-III C	2	2015	4	2016
Post Shakedown Availability (PSA SSN 784)	4	2015	1	2016
FY15 Annual Gate 6/CSB	3	2015	3	2015
Post Shakedown Availability (PSA SSN 785)	4	2015	2	2016
Ship Delivery (SSN 786)	1	2016	1	2016
Ship Authorization (796/797)	2	2016	2	2016
Post Shakedown Availability (SSN 786)	3	2016	4	2016
FY16 Annual Gate 6/CSB	3	2016	3	2016
Ship Delivery (SSN 787)	3	2016	3	2016
LFA Re-Test	4	2016	1	2017
Ship Delivery (SSN 788)	1	2017	1	2017
Ship Authorization (SSNs 798/799)	2	2017	2	2017
Post Shakedown Availability (PSA SSN 787)	2	2017	3	2017
Post Shakedown Availability (PSA SSN 788)	2	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 1947 / *New Design SSN HM&E*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Ship Delivery (SSN 789)	3	2017	3	2017
FY17 Annual Gate 6/CSB	3	2017	3	2017
Ship Delivery (SSN 790)	1	2018	1	2018
Ship Authorization (SSN 800)	2	2018	2	2018
Post Shakedown Availability (PSA SSN 789)	2	2018	3	2018
Post Shakedown Availability with Acoustic Superiority Installation (SSN 790)	2	2018	2	2018
FY18 Annual Gate 6/CSB	3	2018	3	2018
Ship Delivery (SSN 791)	3	2018	3	2018
Ship Delivery (SSN 792)	1	2019	1	2019
Post Shakedown Availability (PSA SSN 791)	1	2019	2	2019
Ship Authorization (SSNs 801/802)	2	2019	2	2019
Post Shakedown Availability (PSA SSN 792)	2	2019	4	2019
FY19 Gate 6/CSB	3	2019	3	2019
Ship Delivery (SSN 793)	3	2019	3	2019
Post Shakedown Availability (PSA SSN 793)	4	2019	1	2020
Ship Delivery (SSN 794)	1	2020	1	2020
Ship Authorization (803/804)	2	2020	2	2020
Post Shakedown Availability (PSA SSN 794)	2	2020	4	2020
FY20 Annual Gate 6/CSB	3	2020	3	2020
Ship Delivery (SSN 795)	3	2020	3	2020
Post Shakedown Availability (PSA SSN 795)	4	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604558N / *New Design SSN*				Project (Number/Name) 1950 / *New Design SSN Combat Sys Dev*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
1950: *New Design SSN Combat Sys Dev*	797.169	29.067	34.114	31.508	-	31.508	30.320	40.153	35.595	36.330	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project encompasses the top level systems development, test and integration into the ship of the VIRGINIA Class Submarine C3I System, which includes multiple subsystems. The scope of the system is expanded from Sonar and Combat Control subsystems to include AN/BLQ-10 Electronic Support Measures, Exterior Communications, Submarine Regional Warfare System, Navigation, Total Ship Monitoring, Imaging, Tactical Acoustic Communications, Radar, Interior Communications, Tactical Support Devices, Fiber Optic Cable Subsystem, and Special Purpose Subsystems, such as Battle Force Team Trainer and others. VIRGINIA Class Submarine specific development efforts include requirements definition, software, hardware development, software/hardware test, prototype production, and electronic integration as well as physical integration into the platform.

The VIRGINIA Class Submarine implementation approach is based on Open System, Commercial-off-the-Shelf (COTS) Non-Developmental Items or subsystems. The program leverages on-going subsystems developments or developing new subsystems where needed to satisfy VIRGINIA Class requirements. The recurring cost of VIRGINIA Class Submarine C3I Systems is being reduced to meet the program's affordability goals. Modifications to many subsystems must be developed to: (1) reduce the shipbuilding and construction recurring costs through the use of COTS components; (2) use proven computer technologies to evolve to an Open System design; (3) enhance capabilities to support expanded operational
requirements, reduced manning, and reduced shipboard component footprint.

To meet the collective future threat, the submarine force must operate as effectively in littoral regions as it traditionally has in open ocean. Close coordination with surface battle groups and airborne units is essential to mission accomplishment. To meet the VIRGINIA Class Submarine mission, the following capabilities are provided by the
VIRGINIA Class Submarine C3I System: (1) passive and active detection of multiple contacts, including early warning threat determination through processing and analysis of sensor data; (2) classification of sensor data for the purpose of identifying contacts; (3) localization (tracking) of contacts through target motion analysis; (4) preset, launch, and control of weapons and countermeasures; (5) improved communication and connectivity with other battle group elements, airborne units, and special operations forces; (6) incorporation of vertical launch system to enhance strike warfare; and (7) more effective covert surveillance through video imaging with onboard digital enhancement capabilities, and improved electronic warfare analysis capabilities.

The F1950 project mission includes an ongoing post VIRGINIA Class TECH/OPEVAL RDT&E effort to continue the development of VIRGINIA Unique Combat System Improvements. The VIRGINIA Class C3I will continue to leverage backfit communities' efforts, but even with common systems that the Navy has developed there will continue to be VIRGINIA Unique capability improvements required. The FY09 and out funding identified is for those efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 1950 / *New Design SSN Combat Sys Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Sonar Combat Control and Architecture Subsystems	15.458	20.553	18.914	-	18.914
Articles:	-	-	-	-	-
Description: Continued the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.					
FY 2014 Accomplishments: Continued the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.					
FY 2015 Plans: Continue the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.					
FY 2016 Base Plans: Continue the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.					
FY 2016 OCO Plans: N/A					
Title: C3I Systems Engineering	13.609	13.561	12.594	-	12.594
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued the development of System Level and other subsystem Improvements to maintain VIRGINIA Class Commonality to backfit fleet.					
FY 2015 Plans: Continue the development of System Level and other subsystem Improvements to maintain VIRGINIA Class Commonality to backfit fleet.					
FY 2016 Base Plans: Continue the development of System Level and other subsystem Improvements to maintain VIRGINIA Class Commonality to backfit fleet.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	29.067	34.114	31.508	-	31.508

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 1950 / *New Design SSN Combat Sys Dev*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SCN/2013: *VA CL*	6,462.316	5,832.079	5,340.110	-	5,340.110	5,184.120	5,023.887	6,691.774	6,768.232	-	90,040.091
• O&M,N/0204283N: *Sub Ops & Safety*	38.776	33.938	31.355	-	31.355	28.028	29.238	30.175	30.770	Continuing	Continuing
• OPN/0942: *VA CL Support Equipment*	69.341	70.689	35.747	-	35.747	56.262	49.263	49.672	50.743	Continuing	Continuing
• RDT&E/0604580N: *Virginia Payload Module*	57.282	120.602	167.719	-	167.719	100.234	68.989	-	-	-	514.826

Remarks

D. Acquisition Strategy

The VIRGINIA Class Submarine Program has implemented Integrated Product and Process Development (IPPD). The traditional distinct phasing of the design process has been replaced with the continuous concurrent engineering IPPD process. The IPPD approach has facilitated a smoother transition from design to manufacturing and has reduced the number of changes typically encountered during construction of the lead and early follow-on ships. In September 1997, Congress passed a law allowing Electric Boat (EB) and Northrop Grumman Newport News (NGNN), now Huntington Ingalls Industries (HII), to team for production of the first four VIRGINIA Class Submarines. Under the teaming agreement, EB remained the design yard for the VIRGINIA Class Submarine and HII became a part of the IPPD process. The Program Office is managing three Multi-Year Procurement (MYP) contracts. The first and second contracts are for the Block II (FY04-08) and Block III (FY09-13) ships. The third contract is for Block IV (FY14-18) ships awarded April 2014. All Block I & II ships (SSNs 774-783) have been delivered. The lead Block III ship, SSN 784, delivered in August 2014 with the remaining 7 ships awarded and under construction.

E. Performance Metrics

Successful completion of Milestone III Review. Successful completion of Final Operational Test and Evaluation (FOT&E) for Technology Insertion (TI)-08 and Block III. Successful implementation of Reduced Total Ownership Costs (RTOC) initiatives.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604558N / *New Design SSN*	Project (Number/Name) 1950 / *New Design SSN Combat Sys Dev*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PTR Corrections	Various	Various : TBD	30.088	-		-		-		-		-	Continuing	Continuing	Continuing
Unique Virginia Class Improvements	Various	Various : TBD	50.455	7.853	Nov 2013	9.889	Feb 2015	10.057	Nov 2015	-		10.057	Continuing	Continuing	Continuing
Advanced Display Sys (AN/UYQ-70)	SS/CPIF	Lockheed Martin : St. Paul, MN	34.287	1.123	Nov 2013	1.179	Feb 2015	1.200	Nov 2015	-		1.200	Continuing	Continuing	Continuing
Photonics	C/CPIF	Kollmorgen : Northampton, MA	55.892	1.624	May 2014	1.753	May 2015	1.782	May 2016	-		1.782	Continuing	Continuing	Continuing
Electronic Support Measures	C/FFP	Lockheed Martin : Syracuse, NY	38.067	-		-		-		-		-	Continuing	Continuing	Continuing
Platform Integration	SS/CPFF	Electric Boat : Groton, CT	48.055	1.299	Nov 2013	1.589	Jan 2015	1.617	Nov 2015	-		1.617	Continuing	Continuing	Continuing
Technology Refreshment	Various	Various : TBD	20.355	-		-		-		-		-	Continuing	Continuing	Continuing
Technical Direction Agent	WR	NUWC : Newport, RI	288.731	7.153	Jan 2014	7.767	Jan 2015	7.900	Jan 2016	-		7.900	Continuing	Continuing	Continuing
Technology Refreshment/ Info. Assurance	C/CPFF	Progeny Systems : Manassas, VA	34.784	1.623	Nov 2013	1.998	Feb 2015	2.030	Nov 2015	-		2.030	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Carderock, MD	11.096	0.866	Nov 2013	0.891	Jan 2015	0.906	Nov 2015	-		0.906	Continuing	Continuing	Continuing
Systems Engineering	WR	SSC : Charleston, SC	7.078	0.540	Nov 2013	0.550	Feb 2015	0.559	Nov 2015	-		0.559	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC : Keyport, WA	10.944	0.244	Nov 2013	0.348	Jan 2015	0.354	Nov 2015	-		0.354	Continuing	Continuing	Continuing
Miscellaneous	Various	Various : TBD	133.794	3.982	Nov 2013	5.310	Feb 2015	2.183	Nov 2015	-		2.183	Continuing	Continuing	Continuing
		Subtotal	763.626	26.307		31.274		28.588		-		28.588	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Various	Various	Various : TBD	6.212	-		-		-		-		-	-	6.212	-
		Subtotal	6.212	-		-		-		-		-	-	6.212	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604558N / *New Design SSN*	Project (Number/Name) 1950 / *New Design SSN Combat Sys Dev*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Support Services/ETS	C/CPAF	URS : Rockville, MD	27.136	2.760	Dec 2013	2.840	Feb 2015	2.920	Dec 2015	-		2.920	Continuing	Continuing	Continuing
DAWDF	Various	Various : Various	0.195	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	27.331	2.760		2.840		2.920		-		2.920	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	797.169	29.067		34.114		31.508		-		31.508	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 1950 / *New Design SSN Combat Sys Dev*

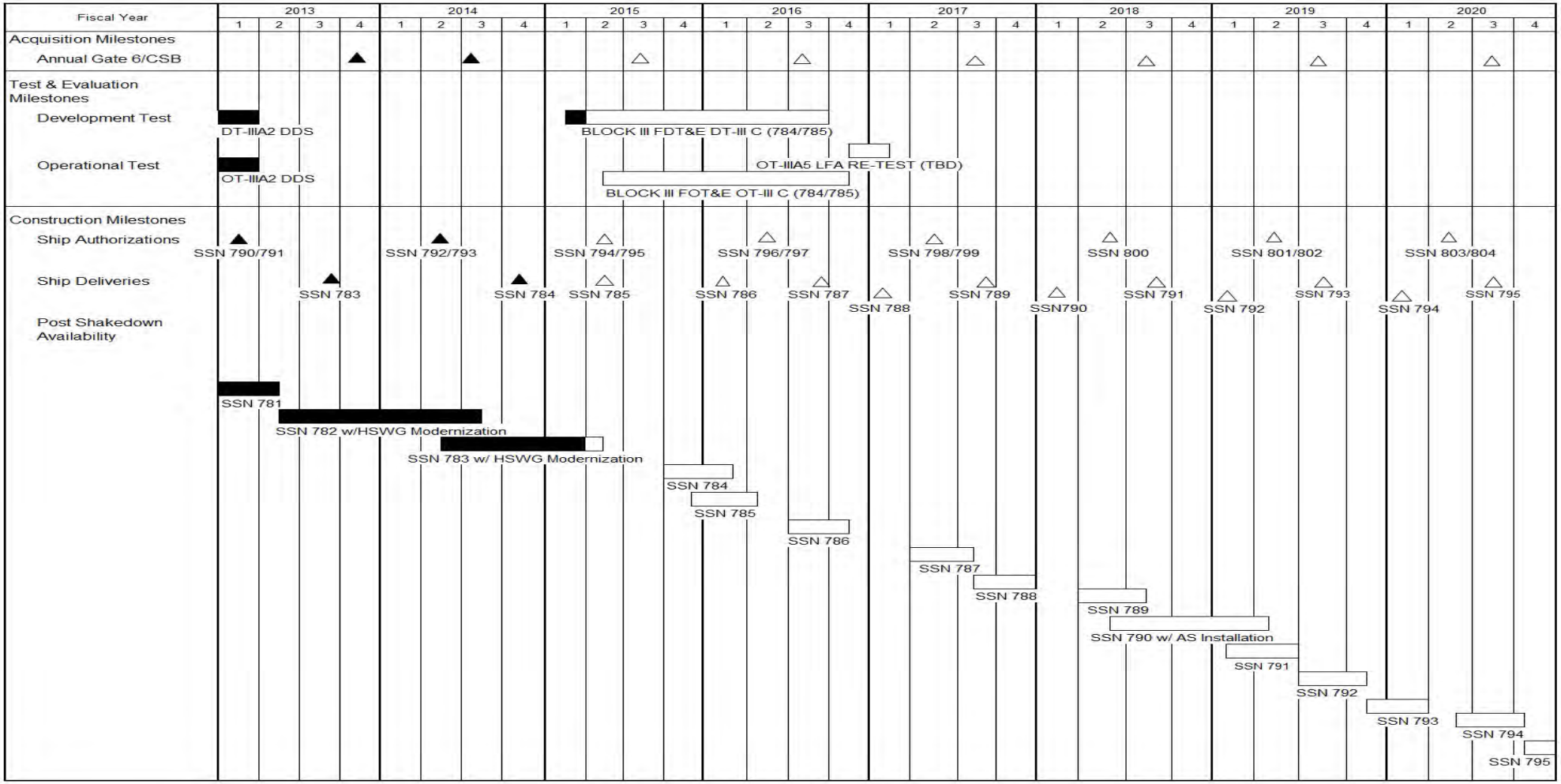


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 1950 / *New Design SSN Combat Sys Dev*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1950				
Post Shakedown Availability with HSWG Modernization (PSA SSN 782)	1	2014	3	2014
Ship Authorization (SSN 792/793)	2	2014	2	2014
Post Shakedown Availability with HSWG Modernization (PSA SSN 783)	2	2014	2	2015
FY14 Annual Gate 6/CSB	3	2014	3	2014
Ship Delivery (SSN 784)	4	2014	4	2014
Block III FOT&E DT-III C	1	2015	3	2016
Ship Authorization (SSN 794/795)	2	2015	2	2015
Ship Delivery (SSN 785)	2	2015	2	2015
Block III FOT&E OT-III C	2	2015	4	2016
Post Shakedown Availability (PSA SSN 784)	4	2015	1	2016
FY15 Annual Gate 6/CSB	3	2015	3	2015
Post Shakedown Availability (PSA SSN 785)	4	2015	2	2016
Ship Delivery (SSN 786)	1	2016	1	2016
Ship Authorization (SSN 796/797)	2	2016	2	2016
Post Shakedown Availability (SSN 786)	3	2016	4	2016
FY16 Annual Gate 6/CSB	3	2016	3	2016
Ship Delivery (SSN 787)	3	2016	3	2016
LFA Re-Test	4	2016	1	2017
Ship Delivery (SSN 788)	1	2017	1	2017
Ship Authorization (SSNs 798/799)	2	2017	2	2017
Post Shakedown Availability (SSN 787)	2	2017	3	2017
Post Shakedown Availability (SSN 788)	3	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 1950 / *New Design SSN Combat Sys Dev*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Ship Delivery (SSN 789)	3	2017	3	2017
FY17 Annual Gate 6/CSB	3	2017	3	2017
Ship Delivery (SSN 790)	1	2018	1	2018
Ship Authorization (SSN 800)	2	2018	2	2018
Post Shakedown Availability (SSN 789)	2	2018	3	2018
Post Shakedown Availability with Acoustic Superiority Installation (SSN 790)	2	2018	2	2019
FY18 Annual Gate 6/CSB	3	2018	3	2018
Ship Delivery (SSN 791)	3	2018	3	2018
Ship Delivery (SSN 792)	1	2019	1	2019
Post Shakedown Availability (PSA SSN 791)	1	2019	2	2019
Ship Authorization (SSNs 801/802)	1	2019	1	2019
Post Shakedown Availability (PSA SSN 792)	2	2019	4	2019
FY19 Annual Gate 6/CSB	3	2019	3	2019
Ship Delivery (SSN 793)	3	2019	3	2019
Post Shakedown Availability (PSA SSN 793)	4	2019	1	2020
Ship Delivery (SSN 794)	1	2020	1	2020
Ship Authorization (SSNs 803/804)	2	2020	2	2020
Post Shakedown (PSA SSN 794)	2	2020	4	2020
FY20 Annual Gate 6/CSB	3	2020	3	2020
Ship Delivery (SSN 795)	3	2020	3	2020
Post Shakedown Availability (PSA SSN 795)	4	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604558N / *New Design SSN*	Project (Number/Name) 3062 / *Submarine Multi-Mission Team Trainer*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3062: *Submarine Multi-Mission Team Trainer*	26.955	2.773	2.570	7.550	-	7.550	2.606	2.630	2.684	2.740	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

To achieve desired submarine force readiness levels, it is necessary to construct highly sophisticated shore based Combat System Team Trainers capable of training personnel in all aspects of submarine approach, attack and surveillance operations in a controlled, simulated environment. The Combat Control System (CCS) MK1, CCS MK2, and AN/BYG-1, along with sonar systems AN/BSY-1, AN/BQQ-5, and AN/BQQ-10 are installed on SSN and SSGN class submarines. These tactical systems are planned for future upgrades with the next hardware and software revisions which will provide enhanced War Fighter capabilities. The Tactical Acoustic Rapid COTS (commercial-off-the-shelf) Insertion (ARCI) phased upgrades are also being installed with future revisions. The Advanced Processing Builds (APB) and Technical Insertion (TI) sensors, which feed technology insertion into the CCS/Acoustic development, directly impact the trainers.

The Submarine Multi-Mission Team Trainer (SMMTT) supports operator, employment, strike, and Battle Group training for enlisted and officer pipelines. The SMMTT provides operators and combat teams the opportunity to train ashore, prior to, and between deployments. The shore based training provides a means of maintaining team proficiency in stand alone or in combined team mode prior to ship deployment.

FY-16 RDTE,N Line 3062 was increased in support of SSBN Modernization. This funding will be used for the development, test and evaluation of new sensors and stimulation/simulation hardware and software required to integrate with tactical systems to build new SSBN Attack Centers.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Submarine Multi-Mission Team Trainer	2.773	2.570	7.550	-	7.550
Articles:	-	-	-	-	-
Description: To achieve desired submarine force readiness levels, it is necessary to construct highly sophisticated shore based Combat System Team Trainers capable of training personnel in all aspects of submarine approach, attack and surveillance operations in a controlled, simulated environment.					
FY 2014 Accomplishments: Developed implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays. This effort includes new sensor developments and simulations to match advancements in					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 3062 / *Submarine Multi-Mission Team Trainer*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
tactical systems supported by SMMTT. This effort also integrates the APB into the SMMTT baseline along with completing and integrating the LCCA sensor. ***FY 2015 Plans:*** Develop implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays. These efforts include new sensor developments and simulations to match advancements in tactical systems supported by SMMTT. These efforts will also integrate the APB into the SMMTT baseline along with completing and integrating the LCCA sensor. ***FY 2016 Base Plans:*** Develop implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays. These efforts include new sensor developments and simulations to match advancements in tactical systems supported by SMMTT. These efforts will also integrate the APB into the SMMTT baseline along with completing and integrating the LCCA sensor. In addition, the 3062 RDTE,N line was increased in support of SSBN Modernization. This funding will be used for the development, test and evaluation of new sensors and stimulation/simulation hardware and software required to integrate with tactical systems to build new SSBN Attack Centers. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	2.773	2.570	7.550	-	7.550

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/5661: *Submarine Training Device Mods*	19.599	13.498	31.264	-	31.264	25.126	32.772	36.402	32.950	Continuing	Continuing

Remarks

D. Acquisition Strategy

The SMMTT program software development is accounted for in this RDTE,N line. All production kits are procured in OPN PE 0804731N BLI 566100 and 566200, cost code TD009.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 3062 / *Submarine Multi-Mission Team Trainer*

E. Performance Metrics

Within 90 days of introduction to the Fleet, this RDTE,N project shall develop required changes to the Control and Display Documentation and Interface Description Language (IDL) Interfaces for the initial development for new sensors that are required to simulate/stimulate the TI/APB for the AN/BQQ-5 and AN/BYG-1 in the SMMTT Trainer.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 3062 / *Submarine Multi-Mission Team Trainer*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Component Development	Reqn	NSWC/CD : Bethesda, MD	22.770	1.773	Dec 2013	1.248	Mar 2015	3.990	Dec 2015	-		3.990	Continuing	Continuing	Continuing
Component Development	C/CPFF	ARL : UT Austin	2.185	-	Jan 2014	0.250	Apr 2015	0.310	Jan 2016	-		0.310	Continuing	Continuing	Continuing
Component Development	Reqn	NSWC/NPT : Newport, RI	2.000	1.000	Dec 2013	1.072	Jan 2015	3.250	Dec 2015	-		3.250	-	7.322	-
		Subtotal	26.955	2.773		2.570		7.550		-		7.550	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	26.955	2.773		2.570		7.550		-		7.550	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 3062 / *Submarine Multi-Mission Team Trainer*

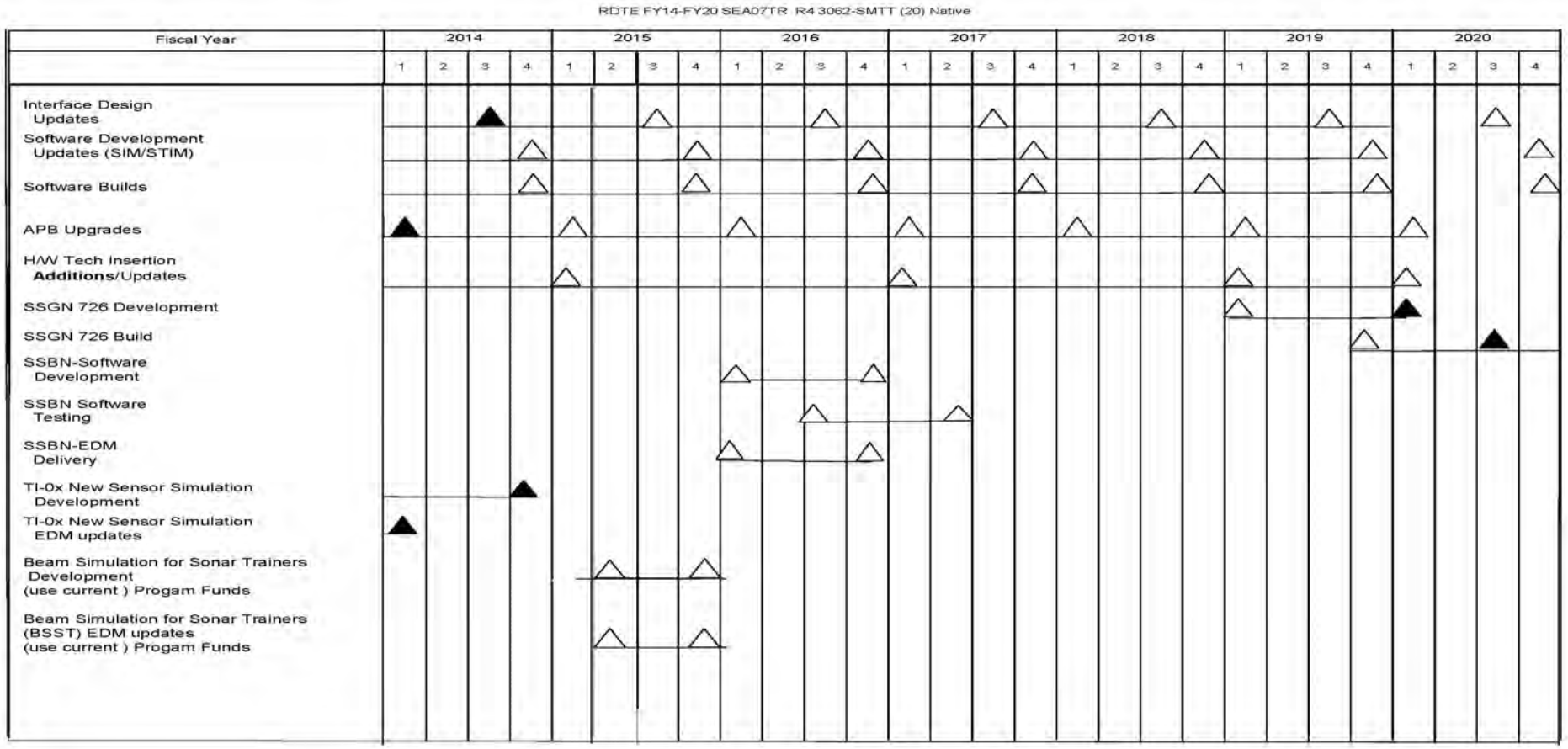


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604558N / *New Design SSN*	**Project (Number/Name)** 3062 / *Submarine Multi-Mission Team Trainer*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3062				
Interface deisgn updates: Interface Design Updates	1	2014	4	2017
Software Development Updates: Software Development Updates (SIM/STIM)	1	2014	4	2017
Software Builds: Software Builds	1	2014	4	2017
Advanced Processing Build(APB) Upgrades: Advanced Processing Build (APB) Upgrades	1	2014	1	2017
Hard Ware Tech Insertion Updates: Hard Ware Tech Insertion Updates	1	2014	1	2017
SSN 21 Software Develpment: SSN 21 Software Development	1	2014	1	2014
TI-Ox New Sensor Simulation Development: TI-0x New Sensor Simulation Development	1	2014	4	2014
TI-Ox New Sensor Simulation EDM Updates: TI-0x New Sensor Simulation EDM Updates	1	2014	2	2014
Beam Simulation for Sonar Trainers: Beam Simulation for Sonar Trainers	2	2015	4	2015
Beam Simulation for Sonar Trainers BSST EDM Updates: Schedule Detail	2	2015	4	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604562N *I Submarine Tactical Warfare System*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	459.521	47.777	38.985	48.213	-	48.213	44.721	46.491	60.124	65.844	Continuing	Continuing
0236: *SSN Comb Cont Sys Imprvmnt (ENG)*	459.521	47.777	38.985	48.213	-	48.213	44.721	46.491	60.124	65.844	Continuing	Continuing

A. Mission Description and Budget Item Justification

Project Unit 0236: This program develops Commercial-Off-The-Shelf (COTS) based software and hardware upgrades to integrate improved tactical and weapons control capabilities for multiple submarine Classes (SSN-688, SSGN, SEAWOLF, SSBN and VIRGINIA (Post Shakedown Availability)). The AN/BYG-1 is the combat control system common across submarine platforms which incorporates tactical control, weapon control, and tactical Local Area Network (LAN) functions into a single development program. The hardware upgrades, Technology Insertions (TI) are developed on a biennial basis to provide improved capability and address COTS obsolescence. Funding also accommodates the biennial integration of software Advanced Processing Builds (APB) for both tactical control (APB(T)) and weapon control (APB(W)) subsystems. The tactical control integration effort incorporates the integration of other sensor (ESM, sonar, radar, etc.) inputs to provide a common operational picture and improved situational awareness in an information assurance (IA) compliant environment. The weapon control development effort provides improvements to the weapons control subsystem based on improvements to missiles and torpedoes as well as development of a modernized Weapon Control System (WCS) architecture to support various payloads such as, but not limited to, Modular Undersea Heavyweight Vehicle (MUHV), Unmanned Aerial Systems (UAS), torpedoes, and sub launched mobile mines (SLMM). Provides funding for the development of Weapons Launch System, Multi-tube Weapons System (MTWS), Information Assurance (IA) system, Onboard Team Trainer (OBTT), and Command, Control, Computer and Intelligence Maintenance Tool (C3IMT). AN/BYG-1 allows the submarine Navy to rapidly update the ship safety tactical picture, integrate the common tactical picture into the battlegroup, improve torpedo interfaces, and provide Tactical TOMAHAWK (TOMAHAWK Block IV) capability.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	49.135	38.985	55.514	-	55.514
Current President's Budget	47.777	38.985	48.213	-	48.213
Total Adjustments	-1.358	-	-7.301	-	-7.301
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.006	-			
• SBIR/STTR Transfer	-1.352	-			
• Program Adjustments	-	-	-6.968	-	-6.968
• Rate/Misc Adjustments	-	-	-0.333	-	-0.333

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604562N *I Submarine Tactical Warfare System*

Change Summary Explanation

Reduced FY16 funding due to SWFTS reductions and Tailored 2/4 SWFTS Modernization model.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604562N / *Submarine Tactical Warfare System*	Project (Number/Name) 0236 / *SSN Comb Cont Sys Imprvmnt (ENG)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0236: *SSN Comb Cont Sys Imprvmnt (ENG)*	459.521	47.777	38.985	48.213	-	48.213	44.721	46.491	60.124	65.844	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project Unit 0236: This program develops Commercial-Off-The-Shelf (COTS) based software and hardware upgrades to integrate improved tactical and weapons control capabilities for multiple submarine Classes (SSN 688, SSGN, SEAWOLF, SSBN and VIRGINIA (Post Shakedown Availability)). The AN/BYG-1 is the combat control system common across submarine platforms which incorporates tactical control, weapon control, and tactical Local Area Network (LAN) functions into a single development program. The hardware upgrades Technology Insertions (TI) are developed on a biennial basis to provide improved capability and address COTS obsolescence. Funding also accommodates the biennial integration of software Advanced Processing Builds (APBs) for both tactical control (APB(T)) and weapon control (APB(W)) subsystems. The tactical control integration effort incorporates the integration of other sensor (ESM, sonar, radar, etc.) inputs to provide a common operational picture and improved situational awareness in an information assurance (IA) compliant environment. The weapon control development effort provides improvements to the weapons control subsystem based on improvements to missiles and torpedoes as well as development of a modernized Weapon Control System (WCS) architecture to support various payloads such as, but not limited to Modular Undersea Heavyweight Vehicle (MUHV), Unmanned Aerial Systems (UAS), torpedoes, and sub launched mobile mines (SLMM). AN/BYG-1 allows the submarine Navy to rapidly update the ship safety tactical picture, integrates the common tactical picture into the battlegroup, improves torpedo interfaces and provides Tactical TOMAHAWK (TOMAHAWK Block IV) capability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Advanced Processing Builds	24.491	15.145	22.955	-	22.955
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Complete APB-13 integration into AN/BYG-1 (TI-14) baseline. Support development of APB-15 into AN/BYG-1 baseline.					
FY 2015 Plans: Continue development of APB-15 into AN/BYG-1 (TI-14) baseline.					
FY 2016 Base Plans: Start development of APB-17 into AN/BYG-1 (TI-16) baseline.					
FY 2016 OCO Plans: N/A					
Title: AN/BYG-1 TI-12	5.120	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604562N / *Submarine Tactical Warfare System*	**Project (Number/Name)** 0236 / *SSN Comb Cont Sys Imprvmnt (ENG)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Complete development, integration and test of the next generation AN/BYG-1 (TI-12) for SSN 688/SSGN/VA Class submarines. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: AN/BYG-1 TI-14	7.945	6.734	4.887	-	4.887
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continue development, integration and test of the next generation AN/BYG-1 (TI-14) for SSN 688/SSGN/VA Class submarines. ***FY 2015 Plans:*** Continue development, integration and test of the next generation AN/BYG-1 (TI-14) for SSN 688/SSGN/VA Class submarines. ***FY 2016 Base Plans:*** Complete development, integration and test of the next generation AN/BYG-1 (TI-14) for SSN 688/SSGN/VA Class submarines. ***FY 2016 OCO Plans:*** N/A					
Title: AN/BYG-1 TI-16	-	4.254	6.508	-	6.508
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604562N / *Submarine Tactical Warfare System*	**Project (Number/Name)** 0236 / *SSN Comb Cont Sys Imprvmnt (ENG)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Begin development, integration and test of the next generation AN/BYG-1 (TI-16) for SSN 688/SSGN/SSBN/VA Class submarines. ***FY 2016 Base Plans:*** Continue development, integration and test of the next generation AN/BYG-1 (TI-16) for SSN 688/SSGN/SSBN/VA Class submarines. ***FY 2016 OCO Plans:*** N/A					
Title: Weapon Control System Upgrade	-	3.500	6.100	-	6.100
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** Begin development process to modernize the Weapon Control System architecture to support various payloads. ***FY 2016 Base Plans:*** Continue development process to modernize the Weapon Control System architecture to support various payloads. ***FY 2016 OCO Plans:*** N/A					
Title: Testing	3.590	4.597	2.899	-	2.899
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Begin DT/OT for AN/BYG-1 APB-13 on SSN 688/SSGN/Seawolf/VA Class submarines. ***FY 2015 Plans:*** Complete DT/OT for AN/BYG-1 APB-13 on SSN 688/SSGN/Seawolf/VA Class submarines. ***FY 2016 Base Plans:*** Begin DT/OT for AN/BYG-1 APB-15 on SSN 688/SSGN/Seawolf/VA Class submarines. ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604562N / *Submarine Tactical Warfare System*	**Project (Number/Name)** 0236 / *SSN Comb Cont Sys Imprvmnt (ENG)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Information Assurance (IA)	6.631	4.755	4.864	-	4.864
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Develop and integrate IA Toolkit and conduct IA Certification Testing on BYG-1 TI-14					
FY 2015 Plans: Complete integration of IA Toolkit and continue IA Certification Testing on BYG-1 TI-14					
FY 2016 Base Plans: Develop integration of IA Toolkit and continue IA Certification Testing on BYG-1 TI-16					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	47.777	38.985	48.213	-	48.213

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This budget integrates APBs developed by the advanced development community.
This program has been tailored in accordance with the new DoD5000 directive to incorporate annual MDA production reviews.
Advanced Processing Builds (APB) products associated with AN/BYG-1 Release-To-Fleet 3Q 2015, 3Q 2017 and 3Q 2019.

E. Performance Metrics

AN/BYG-1 Submarine Combat and Weapon Control System performance metrics for each Advanced Processor Build (APB) and Technology Insertion (TI) cycle are contained in the classified Capability Production Document (CPD) annex to the overarching system requirements as laid out in the Capabilities Development Document (CDD). Each APB cycle receives an updated CPD based on fleet required capabilities.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604562N / *Submarine Tactical Warfare System*	Project (Number/Name) 0236 / *SSN Comb Cont Sys Imprvmnt (ENG)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/BYG-1 TECH INSERTION	C/CPIF	GENERAL DYNAMICS (GDAIS) : FAIR LAKES, VA	79.464	5.634	Oct 2013	5.123	Oct 2014	5.147	Oct 2015	-		5.147	Continuing	Continuing	Continuing
AN/BYG-1 TECH INSERTION	C/CPIF	GENERAL DYNAMICS (GDAIS) : PITTSFIELD, MA	31.159	3.695	Oct 2013	3.246	Oct 2014	3.233	Oct 2015	-		3.233	Continuing	Continuing	Continuing
GOVERNMENT ENGINEERING	WR	NUWC : NEWPORT, RI	79.115	1.589	Oct 2013	1.448	Oct 2014	1.399	Oct 2015	-		1.399	Continuing	Continuing	Continuing
INFORMATION ASSURANCE	C/CPAF	PROGENY : MANASSAS, VA	22.337	6.631	Oct 2013	4.755	Oct 2014	4.864	Oct 2015	-		4.864	Continuing	Continuing	Continuing
AN/BYG-1 Tech Insertion	C/CPAF	Lockheed Martin (LM-MSS) : Manassas, VA	1.487	2.147	Oct 2013	1.171	Oct 2014	1.616	Oct 2015	-		1.616	Continuing	Continuing	Continuing
		Subtotal	213.562	19.696		15.743		16.259		-		16.259	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
APB SOFTWARE INTEGRATION	C/CPIF	GENERAL DYNAMICS (GDAIS) : FAIRLAKES, VA	61.209	7.887	Oct 2013	5.160	Oct 2014	7.157	Oct 2015	-		7.157	Continuing	Continuing	Continuing
APB SOFTWARE INTEGRATION	C/CPIF	GENERAL DYNAMICS : PITTSFIELD, MA	16.167	3.260	Oct 2013	2.768	Oct 2014	4.718	Oct 2015	-		4.718	Continuing	Continuing	Continuing
APB SOFTWARE INTEGRATION	WR	NUWC : NEWPORT, RI	43.854	3.807	Oct 2013	2.883	Oct 2014	4.835	Oct 2015	-		4.835	Continuing	Continuing	Continuing
APB SOFTWARE INTEGRATION	C/CPAF	LOCKHEED MARTIN (LM-MSS) : MANASSAS, VA	3.921	4.466	Oct 2013	3.893	Oct 2014	6.271	Oct 2015	-		6.271	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604562N / *Submarine Tactical Warfare System*	Project (Number/Name) 0236 / *SSN Comb Cont Sys Imprvmnt (ENG)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOFTWARE DEVELOPMENT	Various	VARIOUS : VARIOUS:Not Specified	45.442	2.629	Oct 2013	1.902	Oct 2014	4.238	Oct 2015	-		4.238	Continuing	Continuing	Continuing
		Subtotal	170.593	22.049		16.606		27.219		-		27.219	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DEVELOPMENT TEST & EVALUATION	WR	NUWC : NEWPORT, RI	32.898	1.785	Oct 2013	1.498	Oct 2014	0.932	Oct 2015	-		0.932	Continuing	Continuing	Continuing
TEST & EVALUATION	C/CPIF	GENERAL DYNAMICS : FAIRLAKES, VA	6.896	0.524	Oct 2013	1.277	Oct 2014	0.711	Oct 2015	-		0.711	Continuing	Continuing	Continuing
TEST & EVALUATION	C/CPIF	GENERAL DYNAMICS : PITTSFIELD, MA	1.000	0.524	Oct 2013	1.277	Oct 2014	0.711	Oct 2015	-		0.711	Continuing	Continuing	Continuing
TEST & EVALUATION	C/CPAF	PROGENY : MANASSAS, VA	0.450	0.457	Oct 2013	0.466	Oct 2014	0.466	Oct 2015	-		0.466	Continuing	Continuing	Continuing
OPERATIONAL TEST & EVALUATION	WR	COMOPTEVFOR : NORFOLK, VA	16.374	0.300	Oct 2013	0.079	Oct 2014	0.079	Oct 2015	-		0.079	Continuing	Continuing	Continuing
		Subtotal	57.618	3.590		4.597		2.899		-		2.899	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PROGRAM MANAGEMENT SUPPORT	C/CPFF	VARIOUS : VARIOUS:Not Specified	17.748	2.442	Oct 2013	2.039	Oct 2014	1.836	Oct 2015	-		1.836	Continuing	Continuing	Continuing
		Subtotal	17.748	2.442		2.039		1.836		-		1.836	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604562N / *Submarine Tactical Warfare System*	Project (Number/Name) 0236 / *SSN Comb Cont Sys Imprvmnt (ENG)*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	459.521	47.777		38.985		48.213		-		48.213	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604562N / *Submarine Tactical Warfare System*	**Project (Number/Name)** 0236 / *SSN Comb Cont Sys Imprvmnt (ENG)*

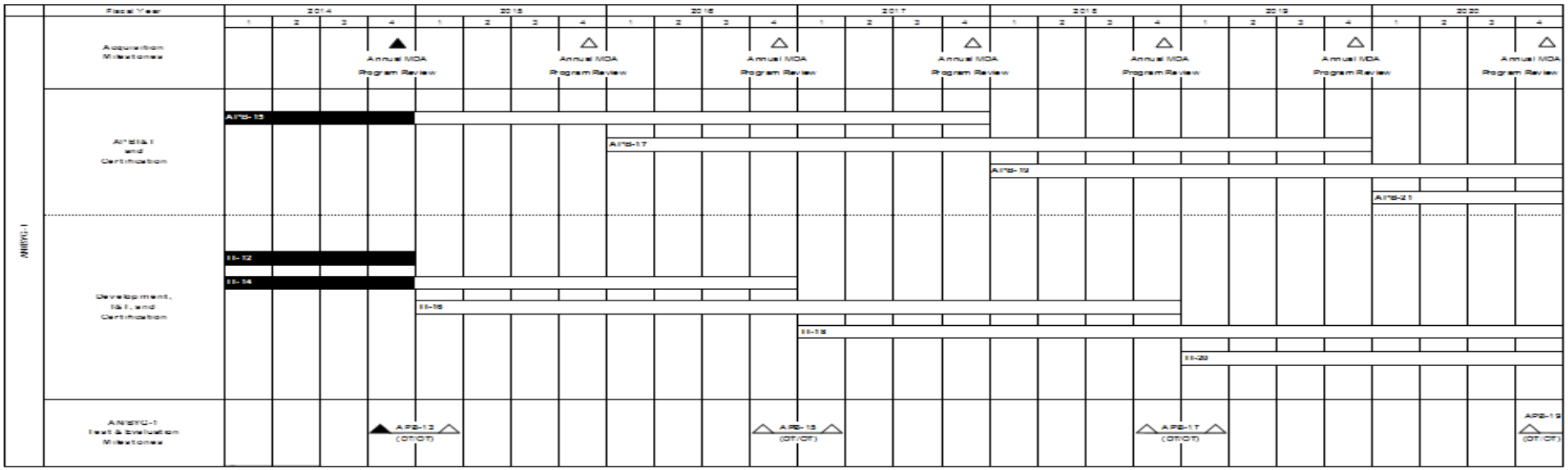


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604562N / *Submarine Tactical Warfare System*	**Project (Number/Name)** 0236 / *SSN Comb Cont Sys Imprvmnt (ENG)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Page 1				
Acq Milestones: Annual MDA Program Review - FY14	4	2014	4	2014
Acq Milestones: Annual MDA Program Review - FY15	4	2015	4	2015
Acq Milestones: Annual MDA Program Review - FY16	4	2016	4	2016
Acq Milestones: Annual MDA Program Review - FY17	4	2017	4	2017
Acq Milestones: Annual MDA Program Review - FY18	4	2018	4	2018
Acq Milestones: Annual MDA Program Review - FY19	4	2019	4	2019
Acq Milestones: Annual MDA Program Review - FY20	4	2020	4	2020
APB I&T, Certification: APB-15: APB-15	1	2014	4	2017
APB I&T, Certification: APB-17: APB-17	1	2016	4	2019
APB I&T, Certification: APB-19: APB-19	1	2018	4	2020
APB I&T, Certification: APB-21: APB-21	1	2020	4	2020
Development, I&T Certification: TI-12: TI-12	1	2014	4	2014
Development, I&T Certification: TI-14: TI-14	1	2014	4	2016
Development, I&T Certification: TI-16: TI-16	1	2015	4	2018
Development, I&T Certification: TI-18: TI-18	1	2017	4	2020
Development, I&T Certification: TI-20: TI-20	1	2019	4	2020
Test & Evaluation Milestones: AN/BYG-1: APB-13 DT/OT	4	2014	1	2015
Test & Evaluation Milestones: AN/BYG-1: APB-15 DT/OT	4	2016	1	2017
Test & Evaluation Milestones: AN/BYG-1: APB-17 DT/OT	4	2018	1	2019
Test & Evaluation Milestones: AN/BYG-1: APB-19 DT/OT	4	2020	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604567N *I Ship Contract Design/ Live Fire T&E*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	847.298	174.375	40.016	49.712	-	49.712	40.880	45.950	47.121	36.013	Continuing	Continuing
1803: *Ship Contract Design*	110.258	12.050	2.639	8.322	-	8.322	5.216	6.436	3.259	3.325	Continuing	Continuing
2465: *LHA(R) FLT Design and Total Ship Integration*	208.341	28.757	10.561	9.520	-	9.520	3.924	7.507	14.471	5.068	Continuing	Continuing
3108: *CVN 80 Total Ship Integration*	0.000	-	-	7.960	-	7.960	8.759	9.265	8.674	6.477	Continuing	Continuing
3133: *Ship to Shore Connectors Contract Design*	95.681	0.819	-	-	-	-	-	-	-	-	-	96.500
3137: *SSC Construction*	236.172	67.532	-	-	-	-	-	-	-	-	-	303.704
3179: *CVN-79 Total Ship Integration*	142.165	11.607	15.441	14.979	-	14.979	17.347	17.029	14.880	15.188	Continuing	Continuing
3369: *Hybrid Electric Drive*	0.000	-	7.949	4.222	-	4.222	1.689	1.712	1.746	1.780	Continuing	Continuing
4007: *CVN 21 LFT&E*	54.681	3.610	3.426	4.709	-	4.709	3.945	4.001	4.091	4.175	Continuing	Continuing
9999: *Congressional Adds*	0.000	50.000	-	-	-	-	-	-	-	-	-	50.000
MDAP/MAIS Code: **Other MDAP/MAIS Code(s):** 333, 303, 223												

A. Mission Description and Budget Item Justification

This Program Element (PE) directly supports the Navy's Shipbuilding Plan by providing for the development of engineering, programmatic and acquisition documentation including ship specifications (including performance specifications) and contractual documentation associated with acquisition of Navy ships. This PE also supports the Congressionally mandated Live Fire Test and Evaluation (LFT&E) program for new ship designs.

Contract Design has traditionally been the engineering development of the technical and contractual definition of the ship design (including ship specifications and drawings) to a level of detail sufficient for shipbuilders to make a sound estimate of the construction cost and schedule. Additionally, the contract design package developed under this PE has provided the technical baseline from which the Navy selects the shipbuilder who then develops the detail design package required to support the construction and eventual delivery of the ship. This PE also supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to efficient production of new ships and ship conversions, and supports engineering planning and ship affordability studies.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604567N *I Ship Contract Design/ Live Fire T&E*

Under Acquisition Reform for new design ships, traditional distinct phasing of the design process has been replaced with a continuous concurrent engineering Integrated Product and Process Development (IPPD) process extending through and after contract award. This serves to maintain the focus of multi-discipline teams consisting of the government,
shipbuilder, system programs, and suppliers. Government/Industry Integrated Product Team(s) (IPTs) will utilize the IPPD process to develop the design in an Integrated Product and Data Environment (IPDE). The design approach is part of an acquisition strategy that is based on commercial practices and incorporates a phased technical definition.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	187.421	48.470	40.275	-	40.275
Current President's Budget	174.375	40.016	49.712	-	49.712
Total Adjustments	-13.046	-8.454	9.437	-	9.437
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-8.454			
• Reprogrammings	8.500	-			
• SBIR/STTR Transfer	-5.216	-			
• Program Adjustments	-	-	9.742	-	9.742
• Rate/Misc Adjustments	-	-	-0.305	-	-0.305
• Congressional Rescission Adjustments	-16.330	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Project: 9999: *Congressional Adds*		
Congressional Add: *LHA(R) FLT Design and Total Ship Integration*	50.000	-
Congressional Add Subtotals for Project: 9999	50.000	-
Congressional Add Totals for all Projects	50.000	-

Change Summary Explanation

Cost/Funding:

Reduced project 3369 funding to properly phase requirements with planned transition to procurement.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604567N *I Ship Contract Design/ Live Fire T&E*

Added funding to projects 2465 and 3108 to begin integration efforts for the Enterprise Air Search Radar (for Ford-class Carriers, the replacement for Dual Band Radar) which will be installed on CVN 79, CVN 80, and LHA 8.

Added funding to project 1803 for Task Force Cyber Awareness boundary defense and AFSB dynamic interface testing.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*				Project (Number/Name) 1803 / *Ship Contract Design*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
1803: *Ship Contract Design*	110.258	12.050	2.639	8.322	-	8.322	5.216	6.436	3.259	3.325	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

DDG Modernization:
The major effort is the engineering development of the technical and contractual definition of the ship's design (e.g. ship specifications and drawings), with sufficient details for the planning yard to make a sound estimate of cost and schedule. It also serves as the technical definition from which the planning yard develops the detailed design and testing package required to build and test the ship. It provides the Navy with a digital, ship design knowledge base, including lessons learned, required to ensure that a proper development, analysis and evaluation can be conducted of any current or future planned.

Another area this project funds is the development of specific Navy ship criteria and standards for newly developed technologies. Additionally, as new laws are passed, new safety regulations and environmental criteria are developed and other legal/Congressional requirements identified, this project funds the translation into Navy ship design criteria
and standards. This project also funds the translation of the traditional Ship Specifications into performance-based criteria, which supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to ship alterations. This project also supports ship survivability studies, superstructure integrity analysis, developmental and operational testing, gun weapon system software integration and next generation Machinery Control System (MCS) software integration.

DON Energy Initiative - Hybrid Electric Drive:
This project includes an increment for the DON Energy Initiative related to the DDG 51 Hybrid Electric Drive to reduce DDG 51 Class ship energy consumption and increase mission effectiveness through longer time on station. This project supports propulsion at low ship speeds without the need for LM 2500 main engines. Fuel savings from the Hybrid Electric Drive system will be achieved by utilizing fewer gas turbines for propulsion and ship service power generation while also loading gas turbines generators at a more efficient operating load. Provides critical foundation for SECNAV and CNO objectives to achieve greater Navy-wide energy security. Beginning in FY 2015, Hybrid Electric Drive moves to project 3369 in this program element.

Afloat Forward Staging Base (AFSB):
Funds are for Dynamic Interface Testing for various airframes (MQ-8C, CH-47, V-22, AH-6, MH-60) on the Mobile Landing Platform Afloat Forward Staging Base (MLP AFSB) as part of the Special Operations Forces (SOF) Backfit.

TFCA - NAVSEA Boundary Defense Capability:
Computer security upgrades and mitigation for operating machinery, machinery controllers, and machinery control systems.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 1803 / *Ship Contract Design*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Ship Contract Design	3.550	2.639	2.572	-	2.572
Articles:	-	-	-	-	-

FY 2014 Accomplishments:
For DDGs, specific efforts include, but are not limited to Engineering Analysis, developmental and operational test events and planning, feasibility studies, structural analysis for hull integrity, and topside analysis related to the next generation Advanced Capability Build and next generation MCS software integration.

CG Class specific efforts include aluminum cracking studies, superstructure repair planning, sustainment studies, extended service life studies, and new alteration development to ensure CGs are able to reach expected service life.

Another area this project funds is the development of specific Navy ship criteria and standards for newly developed technologies. Additionally, as new laws are passed, new safety regulations and environmental criteria are developed and other legal/Congressional requirements identified, this project funds the translation into Navy ship design criteria and standards. This project also funds the translation of the traditional Ship Specifications into performance-based criteria, which supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to ship alterations.

FY 2015 Plans:
For DDGs, specific efforts include, but are not limited to Engineering Analysis, feasibility studies, structural analysis for hull integrity, and topside analysis related to the next generation MCS software integration and GEDMS .
CG Class specific efforts include, but are not limited to; aluminum cracking studies and superstructure repair planning to ensure CGs are able to reach expected service life and developmental and operational test events related to Baseline 9.

Another area this project funds is the development of specific Navy ship criteria and standards for newly developed technologies. Additionally, as new laws are passed, new safety regulations and environmental criteria are developed and other legal/Congressional requirements identified, this project funds the translation into Navy ship design criteria and standards. This project also funds the translation of the traditional Ship

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 1803 / *Ship Contract Design*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Specifications into performance-based criteria, which supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to ship alterations. ***FY 2016 Base Plans:*** For DDGs, specific efforts include, but are not limited to Engineering Analysis, feasibility studies, structural analysis for hull integrity, and information assurance requirements related to the next generation MCS software integration. CG Class specific efforts include, but are not limited to, aluminum cracking studies, superstructure repair planning, sustainment studies, extended service life studies, and new alteration development to ensure CGs are able to reach expected service life as well as information assurance requirements related to the Integrated Ship Control system. Another area this project funds is the development of specific Navy ship criteria and standards for newly developed technologies. Additionally, as new laws are passed, new safety regulations and environmental criteria are developed and other legal/Congressional requirements identified, this project funds the translation into Navy ship design criteria and standards. This project also funds the translation of the traditional Ship Specifications into performance-based criteria, which supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to ship alterations. ***FY 2016 OCO Plans:*** N/A					
Title: Hybrid Electric Drive	8.500	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Funds issued in support of the Hybrid Electric Drive (HED) Final Acceptance Testing and integration testing of the first Pre-Production Unit and Environmental Qualification Testing of the second Pre-Production Unit. Testing was essential to ensure software integration between HED and the DDG-51 propulsion plant, as well as to confirm new ship systems meet shock and vibration standards prior to installation. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 1803 / *Ship Contract Design*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 OCO Plans:*** N/A					
Title: MLP AFSB	-	-	3.750	-	3.750
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Dynamic Interface Testing for MLP AFSB 3 SOF Equipment (MH-60, AH-6 and CH-47), Dynamic Interface Testing/AVCERT (for CV22 and MQ-8C) and SESEF/EMC Testing. ***FY 2016 OCO Plans:*** N/A					
Title: Boundary Defense Capability	-	-	2.000	-	2.000
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Begin efforts to implement external boundary cyber defense capability. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	12.050	2.639	8.322	-	8.322

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 1803 / *Ship Contract Design*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN 0900: *DDG Modernization*	285.994	324.219	364.157	-	364.157	403.782	570.886	507.745	521.562	Continuing	Continuing
• OPN 0960: *CG Modernization*	10.539	-	-	-	-	84.251	108.996	103.036	105.183	-	1,716.021
• WPN 4223: *CG Modernization*	-	-	-	-	-	19.365	19.713	-	-	-	188.616
• OPN 0140: *Hybrid Electric Drive*	-	12.638	32.906	-	32.906	40.494	41.427	42.402	43.256	Continuing	Continuing

Remarks

D. Acquisition Strategy

A full and open competition with a Fixed Price Incentive Fee Contract awarded for the development, qualification, and delivery of the Engineering Development Models (EDM) Hybrid Electric Drive (HED) and the initial HED production shipsets for the DDG 51 Fleet modernization Program.

E. Performance Metrics

CG:
Aluminum sensitization study to determine the lifetime until sensitization for aluminum alloys and stress and buckling analysis of the CG 47 Class ship structure, and develop proposed fatigue fixes in the high stress areas to produce a technical report with modifications or improvements to the ship that may be necessary to preclude cracking in the areas of concern. Evaluation of composite patch and development of composite patch installation procedures as a method for repairing cracks. Development of ultrasonic impact treatment guidance as a method for repairing cracks. Evaluation of different coating that can prevent cracking and different aluminum alloys that are sensitization resistant. Additionally, review and track distributed services margins, predict future system loads, develop technical reports and make recommendation to ensure reaching hull service life.

DDG Modernization:
Efforts for DDG Mod include design and development for next generation MCS software integration.

Hybrid Electric Drive (HED) DON Energy Initiative:
Successful completion of Engineering Development Model (EDM) and complete fielding of First Article (FA) including contract award, design, manufacturing, and delivery. Successful completion of Factory Acceptance Test (FAT) and performance testing in Land Based Engineering Site (LBES). Commencement, completion, delivery and installation of Low Rate Initial Production (LRIP) units. Achieve fuel efficiency and increase on-station time.

Afloat Forward Staging Base (AFSB):
Successful completion of Dynamic Interface Testing.

Task Force Cyber Awareness (TFCA):
NAVSEA Boundary Defense Capability.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 1803 / *Ship Contract Design*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CG Mod Electronics Systems Eng	C/CPAF	Lockheed : Martin, Moorestown, NJ	17.413	-		-		-		-		-	Continuing	Continuing	Continuing
DON Energy Initiative - OEM	C/FPIF	L-3 Maritime Systems : Leesburg, VA	34.857	-		-		-		-		-	-	34.857	-
DON Energy Initiative	WR	NSWC/SSES : Philadelphia, PA	3.629	-		-		-		-		-	-	3.629	-
Engineering Development and Design	Various	COTF/NAVAIR/ NSWCCD/ NSWCDD/NSWCPC/ NSWCPHD/ NSWCSSES : DC/ MD/PA/CA	1.085	-		-		-		-		-	-	1.085	-
Preliminary and Contract Design	C/FPIF	NASSCO : San Diego, CA	6.500	-		-		-		-		-	-	6.500	-
Hybrid Electric Drive	C/CPIF	L-3 Maritime Systems : Leesburg, VA	6.911	-		-		-		-		-	-	6.911	-
Hybrid Electric Drive	C/CPAF	Rolls Royce : Walpole, MA	0.100	-		-		-		-		-	-	0.100	-
Hybrid Electric Drive	C/CR	General Atomics : San Diego, CA	0.040	-		-		-		-		-	-	0.040	-
Hybrid Electric Drive	C/CPAF	Herren Engineering : Alexandria, VA	0.600	-		-		-		-		-	-	0.600	-
Hybrid Electric Drive	C/CPAF	Syntek : Arlington, VA	0.099	-		-		-		-		-	-	0.099	-
Hybrid Electric Drive	WR	NSWC/SSES : Philadelphia, PA	0.750	-		-		-		-		-	-	0.750	-
Hybrid Electric Drive	TBD	Not Specified : Not Specified	0.000	8.500	Mar 2015	-		-		-		-	-	8.500	-
		Subtotal	71.984	8.500		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 1803 / *Ship Contract Design*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Funds issued in support of the Hybrid Electric Drive (HED) Final Acceptance Testing and integration testing of the first Pre-Production Unit and Environmental Qualification Testing of the second Pre-Production Unit. Testing was essential to ensure software integration between HED and the DDG-51 propulsion plant, as well as to confirm new ship systems meet shock and vibration standards prior to installation.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DDG/CGM Program / Engineering Spt	WR	NSWC/DD : Dahlgren, VA	4.376	-		-		-		-		-	Continuing	Continuing	Continuing
DDGM Program/ Engineering Spt	Various	SUPSHIP/BATH : Bath, ME	2.011	1.320	Apr 2014	-		-		-		-	Continuing	Continuing	Continuing
DDG/CGM Program / Engineering Spt	C/CPAF	CSC/BAE : Hampton, VA	4.713	-		-		-		-		-	Continuing	Continuing	Continuing
DDG/CGM Program / Engineering Spt	WR	SPAWARSYSCEN : Charleston, SC	1.397	-		-		-		-		-	Continuing	Continuing	Continuing
CGM Program / Engineering Spt	WR	NRL : Washington, DC	0.617	-		-		-		-		-	Continuing	Continuing	Continuing
CGM Program / Engineering Spt	C/CPAF	JJMA/ALION : Washington, DC	2.947	-		-		-		-		-	Continuing	Continuing	Continuing
DDG/CGM Program / Engineering Spt	C/CPAF	Lockheed Martin : Moorestown, NJ	0.000	-		-		-		-		-	-	-	-
DDG/CGM Program / Engineering Spt	WR	NSWC/PHD : Port Hueneme, CA	2.889	-		-		-		-		-	Continuing	Continuing	Continuing
Integrated Logistics Support	C/CPFF	CSC : Washington DC	0.085	-		-		-		-		-	-	0.085	-
CGM/DDG Program / Engineering Spt	WR	COMOPTEVFOR : Norfolk, VA	0.420	-		-		-		-		-	Continuing	Continuing	Continuing
DDGM/HED Program / Engineering Spt	WR	NSWC/SSES : Philadelphia, PA	4.900	-		-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 1803 / *Ship Contract Design*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DDGM Program / Engineering Spt	WR	NSWC/SSES : Philadelphia, PA	0.230	0.885	Apr 2014	2.389	Dec 2014	2.420	Dec 2015	-		2.420	-	5.924	-
HED Program / Engineering Spt	WR	NSWC/SSES : Philadelphia, PA	0.500	-		-		-		-		-	-	0.500	-
HED	C/CPAF	L-3 Maritime Systems : Leesburg, VA	1.048	-		-		-		-		-	Continuing	Continuing	Continuing
CG Program / Engineering Spt	WR	NSWC/BETHESDA : Bethesda, MD	8.256	1.000	Apr 2014	0.050	Dec 2014	0.051	Dec 2015	-		0.051	Continuing	Continuing	Continuing
CG Program / Engineering Spt	Various	SUPSHIP/ PASCAGOULA : Pascagoula, MS	3.885	0.345	Apr 2014	0.200	Dec 2014	0.101	Dec 2015	-		0.101	Continuing	Continuing	Continuing
Afloat Forward Staging Base	Various	TBD : TBD	0.000	-		-		3.750	Jan 2016	-		3.750	-	3.750	-
NAVSEA Boundary Defense Capability	Various	TBD : TBD	0.000	-		-		2.000	Dec 2015	-		2.000	-	2.000	-
		Subtotal	38.274	3.550		2.639		8.322		-		8.322	-	-	-

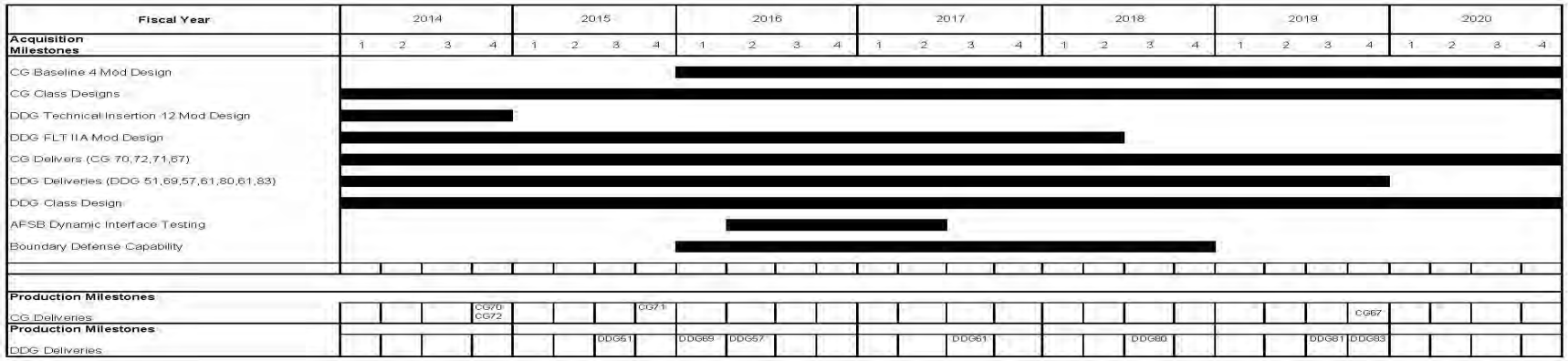
Remarks

AFSB funding is required Jan 2016 to support Dynamic interface testing and the MH-60 test.

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	110.258	12.050		2.639		8.322		-		8.322	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 1803 / *Ship Contract Design*



CG Baseline 4 Mod Design

DDG Technical Insertion 12 Mod Design

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 1803 / *Ship Contract Design*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1803				
CGM Baseline 4 Mod Design	1	2016	4	2020
CG Class Design	1	2014	4	2020
DDG Technical Insertion 12 Mod Design	1	2014	4	2014
DDG FLT IIA Mod Design	1	2014	2	2018
CG Deliveries (CG 70,71,67,72)	1	2014	4	2020
DDGM Deliveries (DDG 51,69,57,81,83,61,80)	1	2014	4	2019
DDG Class Design	1	2014	4	2020
AFSB Dynamic Interface Testing	2	2016	2	2017
Boundary Defense Capability	1	2016	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 2465 / *LHA(R) FLT Design and Total Ship Integration*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2465: *LHA(R) FLT Design and Total Ship Integration*	208.341	28.757	10.561	9.520	-	9.520	3.924	7.507	14.471	5.068	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 333

A. Mission Description and Budget Item Justification

This project provides the contract design, development and testing efforts for the Amphibious Assault Ship Replacement Program LHA(R). The LHA (R) is a ship construction program designed to: (1) provide a functional replacement for the Amphibious Assault Ships which begin reaching the end of their extended service lives between FY11 and FY15 (2) be a key platform in the Amphibious Readiness Group (ARG) of the future and (3) provide for an affordable and sustainable amphibious ship development program. LHA(R) ships will provide forward presence and power projection as an integral part of Joint, inter-agency, and multi-national maritime expeditionary forces. Additionally, LHA(R) will be designed to operate for sustained periods in transit to and operations in an Amphibious Objective Area to include the embarkation, deployment, and landing of a Marine Landing Force in an assault by helicopters and tilt rotors (MV-22) supported by Joint Strike Fighters (F-35B).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: LHA (R) FLT 0 Design and Total Ship Integration - LHA 6	10.122	4.796	3.098	-	3.098
Articles:	-	-	-	-	-
FY 2014 Accomplishments: LHA 6 Completed Development Testing (DT-B1/B2). LHA 6 Initiated Development Testing (DT-B3). LHA 6 Continued Test and Evaluation Master Plan (TEMP) Rev B. LHA 6 Continued Operational Test and Evaluation (OT&E). LHA 6 Continued evaluating the interoperability data supporting Key Performance Parameters (KPP). LHA 6 Continued Vulnerability Assessment Report (VAR). LHA 6 Continued Total Ship Survivability Trial (TSST) preparations. LHA 6 Continued LHA Class Reliability Maintainability and Availability (RMA).					
FY 2015 Plans: LHA 6 Continue Development Testing (DT-B3). LHA 6 Complete Test and Evaluation Master Plan (TEMP) Rev B. LHA 6 Continue Operational Test and Evaluation (OT&E). LHA 6 Continue evaluating the interoperability data supporting Key Performance Parameters (KPP). LHA 6 Continue Vulnerability Assessment Report (VAR).					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 2465 / *LHA(R) FLT Design and Total Ship Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
LHA 6 Continue Total Ship Survivability Trial (TSST) preparations. LHA 6 Continue LHA Class Reliability Maintainability and Availability (RMA). ***FY 2016 Base Plans:*** LHA 6 Complete Development Testing (DT-B3). LHA 6 Complete Operational Test and Evaluation (OT&E). LHA 6 Continue evaluating the interoperability data supporting Key Performance Parameters (KPP). LHA 6 Continue Vulnerability Assessment Report (VAR). LHA 6 Complete Total Ship Survivability Trial (TSST) preparations. LHA 6 Continue LHA Class Reliability Maintainability and Availability (RMA). ***FY 2016 OCO Plans:*** N/A					
Title: LHA (R) FLT 1 Design and Total Ship Integration - LHA 8	18.635	5.765	6.422	-	6.422
Articles:	-	-	-	-	-
FY 2014 Accomplishments: LHA 8 Completed Capability Development Document (CDD) and Concepts of Operations (CONOPS). LHA 8 Continued Contract Design. LHA 8 Continued Early Industry Involvement. LHA 8 Continued development of Milestone Documents. LHA 8 Continued Operational Assessment efforts. LHA 8 Continued Operational Test and Evaluation (OT&E) preparations. LHA 8 Continued Test and Evaluation Master Plan (TEMP) Rev B. LHA 8 Continued Vulnerability Assessment Report (VAR). ***FY 2015 Plans:*** LHA 8 Continue Milestone Documentation, Gate Reviews and Defense Acquisition Board (DAB) Program Reviews. LHA 8 Complete Early Industry Involvement. LHA 8 Complete Operational Assessment efforts. LHA 8 Continue Operational Test and Evaluation (OT&E) preparations. LHA 8 Complete Test and Evaluation Master Plan (TEMP) Rev B. LHA 8 Continue Vulnerability Assessment Report (VAR). LHA 8 Complete Contract Design.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 2465 / *LHA(R) FLT Design and Total Ship Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
LHA 8 Issue Advance Procurement RFP. LHA 8 Award Advance Procurement Contract. ***FY 2016 Base Plans:*** LHA 8 Complete Milestone Documentation, Gate Reviews and Defense Acquisition Board (DAB) Program Reviews. LHA 8 Continue Operational Test and Evaluation (OT&E) preparations. LHA 8 Continue Vulnerability Assessment Report (VAR). LHA 8 Begin Enterprise Air Search Radar (EASR) integration efforts. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	28.757	10.561	9.520	-	9.520

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SCN/3041: *LHA (R) Ships*	37.700	29.093	277.543	-	277.543	1,525.817	2,085.216	-	-	-	10,334.569
• RDT&E/2465C: *LHA (R) FLT Design/Total Ship Integration (Cong. Add LHA 8 Design Efforts)*	50.000	-	-	-	-	-	-	-	-	-	50.000

Remarks

D. Acquisition Strategy

Acquisition strategy signed February 7, 2005 approved strategy for sole source to Northrop Grumman Shipbuilding (NGSB) (Now Huntington Ingalls Industries, Inc.) to incorporate previous LHD engineering, design and producibility lessons-learned into LHA(R). Advanced Procurement (AP) contract for Long Lead-Time Material (LLTM) procurement and engineering support awarded July 05 with continuation of these efforts in FY06 prior to award of Detail Design and Construction (DD&C) contract on 1 June 2007.The AP contract was subsumed by the FPI DD&C contract.

LHA 7 DD&C contract awarded on May 31, 2012.

LHA 8 is the lead ship in FLT 1, which reincorporates the well deck. AP starts in 2QTR FY15 to support FY17 DD&C award.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 2465 / *LHA(R) FLT Design and Total Ship Integration*

E. Performance Metrics

Successfully achieve Initial Operational Capability, successfully complete Operational Test and Milestone Reviews.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 2465 / *LHA(R) FLT Design and Total Ship Integration*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Ship Design	WR	NSWC : Various	97.925	-		-		-		-		-	-	97.925	-
Ship Design	C/CPFF	HII : Pascagoula, MS	5.019	-		-		-		-		-	Continuing	Continuing	Continuing
Ship Design	C/CPFF	Various : Various	23.884	14.420	Mar 2014	5.765	Dec 2014	5.548	Dec 2015	-		5.548	5.007	54.624	-
Special Studies	WR	NSWC : Panama City, FL	4.800	-		-		-		-		-	-	4.800	-
		Subtotal	131.628	14.420		5.765		5.548		-		5.548	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	JITC : Fort Huachuca, AZ	3.924	0.307	Mar 2014	0.097	Dec 2014	0.081	Dec 2015	-		0.081	0.200	4.609	-
Operational Test & Evaluation	WR	OPTEVFOR/ MCOTEA : Norfolk, VA/Quantico, VA	9.845	5.659	May 2014	2.005	Dec 2014	1.668	Dec 2015	-		1.668	7.296	26.473	-
Live Fire Test & Evaluation	WR	NSWC : Carderock, MD	50.417	6.080	Mar 2014	1.509	Dec 2014	1.237	Dec 2015	-		1.237	4.038	63.281	-
		Subtotal	64.186	12.046		3.611		2.986		-		2.986	11.534	94.363	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	C/CPFF	Various : Various	11.984	2.191	Feb 2014	1.135	Dec 2014	0.936	Dec 2015	-		0.936	1.000	17.246	-
Travel	Various	Navsea Travel : Washington, DC	0.532	0.100	Jun 2014	0.050	Jun 2015	0.050	Dec 2015	-		0.050	0.090	0.822	-
Defense Acquisition Workforce	Various	Various : Various	0.011	-		-		-		-		-	-	0.011	-
		Subtotal	12.527	2.291		1.185		0.986		-		0.986	1.090	18.079	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 2465 / *LHA(R) FLT Design and Total Ship Integration*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	208.341	28.757		10.561		9.520		-		9.520	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 2465 / *LHA(R) FLT Design and Total Ship Integration*

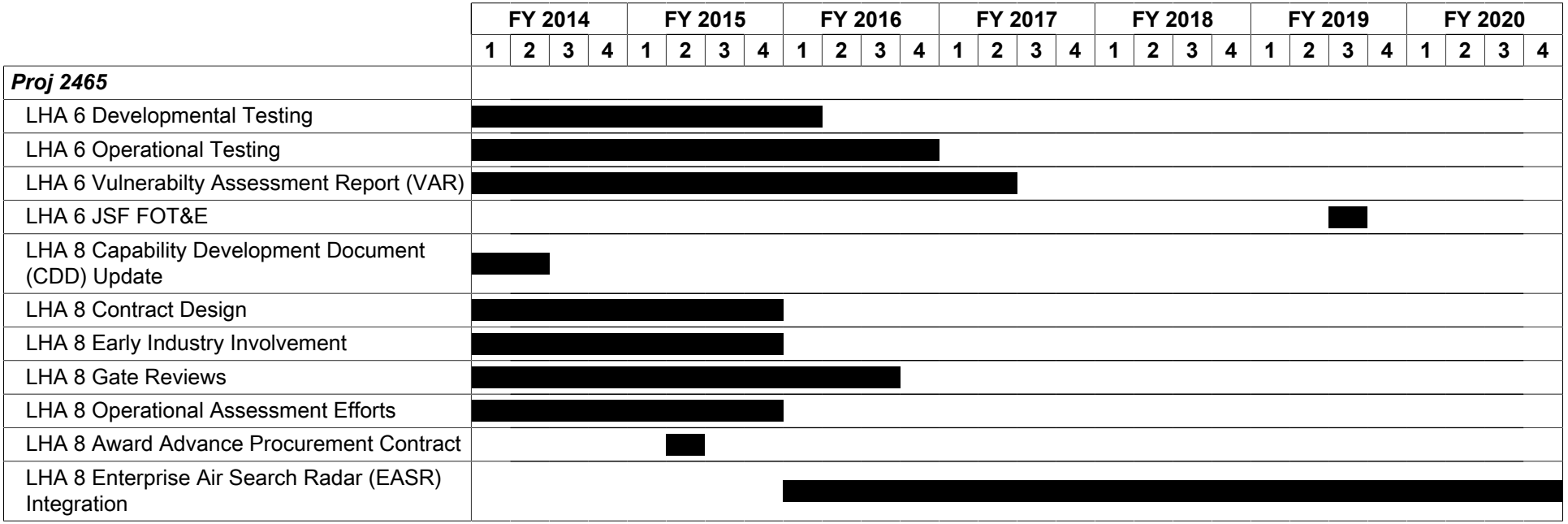


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 2465 / *LHA(R) FLT Design and Total Ship Integration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2465				
LHA 6 Developmental Testing	1	2014	1	2016
LHA 6 Operational Testing	1	2014	4	2016
LHA 6 Vulnerabilty Assessment Report (VAR)	1	2014	2	2017
LHA 6 JSF FOT&E	3	2019	3	2019
LHA 8 Capability Development Document (CDD) Update	1	2014	2	2014
LHA 8 Contract Design	1	2014	4	2015
LHA 8 Early Industry Involvement	1	2014	4	2015
LHA 8 Gate Reviews	1	2014	3	2016
LHA 8 Operational Assessment Efforts	1	2014	4	2015
LHA 8 Award Advance Procurement Contract	2	2015	2	2015
LHA 8 Enterprise Air Search Radar (EASR) Integration	1	2016	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 3108 / *CVN 80 Total Ship Integration*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3108: *CVN 80 Total Ship Integration*	-	-	-	7.960	-	7.960	8.759	9.265	8.674	6.477	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Development and related testing of CVN78 Class aircraft carrier specific technologies, the infusion of the ship technology base into existing and future aircraft carriers, and the potential realization of subsystem design capabilities not currently feasible. This project also funds the Contract Design efforts for the CVN 80. This project transitions the minimum sustaining technologies required to address obsolescence, critical survivability shortfalls as identified in CVN 78 Class testing, future requirements, and technologies which did not mature in time to support the CVN 78 or CVN 79. All systems developed in this project have the potential to support emerging requirements and other promising system technologies for insertion into new aircraft carrier designs. The emphasis is directed toward developing ship hull, mechanical, propulsion, electrical, aviation, warfare systems, and combat support systems, sub-systems and components to maintain aircraft carrier affordability, manpower requirements, survivability, and operational capabilities and to meet the requirements of existing and pending regulations and statutes critical to the operation of future aircraft carriers. This project also encompasses those tasks required to support CVN 80 procurement, including, but not limited to engineering support, programmatic and program support, modeling and simulation, manpower and program related studies, and design support systems, such as the Integrated Digital Environment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: New Accomplishment/Planned Program Entry	-	-	7.960	-	7.960
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Base Plans: Conduct/prepare risk reduction studies/reports, to include development of a risk/opportunity database to support future decision-making. Conduct technology assessment studies, to include review of proposed radar engineering changes and platform support to IWS 2.0 during the engineering and manufacturing development and production phases. Develop radar specification traceability matrix to the CVN ORD. Develop and maintain new CVN Warfare System architecture. Conduct ship integration studies, to include on-board and off-board Electromagnetic Interference / Control (EMI/EMC) studies due to introduction of the new radar sensor; power					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3108 / *CVN 80 Total Ship Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
interface trade studies based upon radar prime power requirement; and trade studies to analyze platform power against transformer design and platform power against cost of ship modification. Analyze/perform integrated topside design due to the new radar sensor. Conduct system integration studies related to the TEMP: platform impacts & updates to TEMP; cybersecurity analysis; Information Support Plan updates supporting Net Ready KPP. Conduct Reliability, Maintainability & Availability and integrated logistics support studies, to include trade studies and identification of investment opportunities/requirements. Prepare/update acquisition support documents, cost estimates and the request for proposal. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	-	7.960	-	7.960

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SCN / 2001: *Carrier Replacement Program*	917.553	1,219.425	2,509.359	-	2,509.359	2,955.056	3,530.762	2,075.957	873.334	Continuing	Continuing
• RDTEN / 0603512N: *Project Units 2208, 4004*	72.734	-	-	-	-	-	-	-	-	-	1,709.131
• RDTEN / 0603570N: *Propulsion Plant Development (PU 2692)*	57.499	60.459	-	-	-	-	-	-	-	-	1,526.813
• SCN / 5300: *Completion of Prior Year Shipbuilding Programs*	588.100	663.000	123.760	-	123.760	-	-	-	-	-	1,374.860
• RDTEN / 0604112N: *Project Units 2208, 4004*	-	43.613	48.105	-	48.105	45.386	33.890	25.418	25.951	Continuing	Continuing
• OMN / 1B2B: *CVN 78 Ford Class Training (12BJ0)*	-	4.907	38.389	-	38.389	35.600	3.878	3.880	3.956	Continuing	Continuing
• RDTEN / 0604501N: *Project Unit 3236 Advanced Radar Technology*	-	-	23.301	-	23.301	73.000	69.700	28.700	-	-	194.701

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3108 / *CVN 80 Total Ship Integration*

D. Acquisition Strategy

The CVN 80 is the third ship of the CVN 78 Class of aircraft carriers designed to replace USS ENTERPRISE and the ships of the NIMITZ Class Carriers. The CVN 80 is a modified repeat of the CVN 78, which features a new nuclear propulsion and electrical generation/distribution system, electromagnetic aircraft launching system, advanced arresting gear system, electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the NIMITZ Class. Additionally, the following war-fighting benefits will be realized: increased sortie generation rate, improved ship self defense capability, increased launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.

CVN 80 will use late integration of Government-Furnished Equipment to provide the latest combat system and C4I suite applications within the planned system baseline. CVN 80 will improve upon processes used on CVN 78 to gain efficiencies during the CVN 80 Construction Preparation and Construction periods.

E. Performance Metrics

Successfully develop risk/opportunity database. Complete draft radar specification traceability matrix to the CVN ORD. Draft cybersecurity analysis. Develop radar-specific acquisition documentation, exhibits, and artifacts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3108 / *CVN 80 Total Ship Integration*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Advanced Design & Development	C/CPAF	HII : VA	0.000	-		-		0.398	Dec 2015	-		0.398	Continuing	Continuing	Continuing
Advanced Design & Development	C/CPAF	RAYTHEON : VA	0.000	-		-		3.822	Dec 2015	-		3.822	Continuing	Continuing	Continuing
Advanced Design & Development	WR	NSWC DAHLGREN : VA	0.000	-		-		2.889	Nov 2015	-		2.889	Continuing	Continuing	Continuing
Advanced Design & Development	WR	NSWC CARDEROCK : MD	0.000	-		-		0.265	Nov 2015	-		0.265	-	0.265	-
Advanced Design & Development	Various	MISCELLANEOUS : VARIOUS	0.000	-		-		0.586	Dec 2015	-		0.586	-	0.586	-
		Subtotal	0.000	-		-		7.960		-		7.960	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		7.960		-		7.960	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		**Date:** February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3108 / *CVN 80 Total Ship Integration*

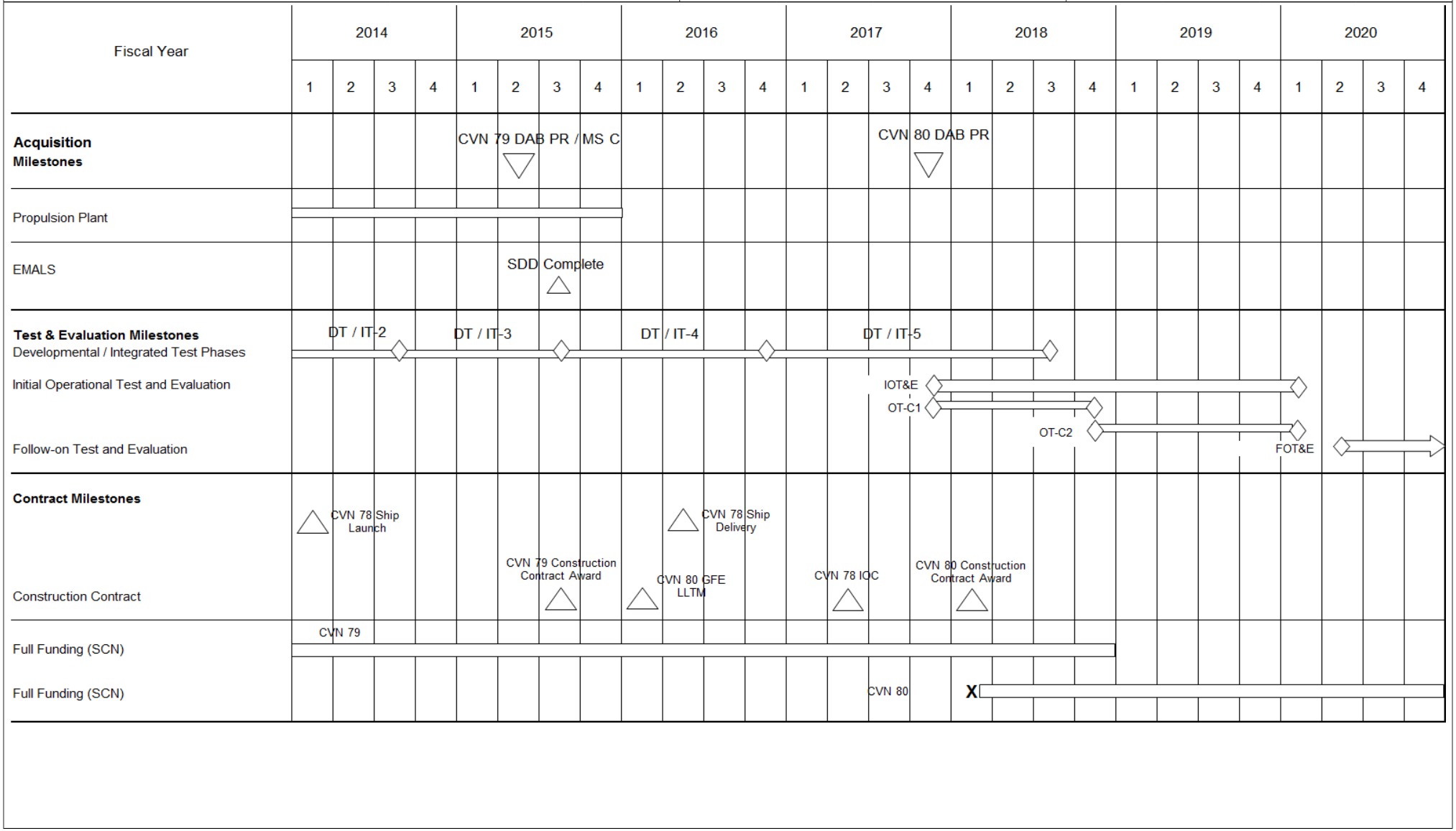


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3108 / *CVN 80 Total Ship Integration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3108				
CVN 79 DAB PR	2	2015	2	2015
CVN 80 DAB PR	4	2017	4	2017
Milestone C	2	2015	2	2015
Propulsion Plant	1	2014	4	2015
EMALS SDD Complete	3	2015	3	2015
DT/IT -2- Developmental Test / Integrated Test Phase 2	1	2014	3	2014
DT/IT -3- Developmental Test / Integrated Test Phase 3	3	2014	3	2015
DT/IT -4- Developmental Test / Integrated Test Phase 4	3	2015	4	2016
DT/IT -5- Developmental Test / Integrated Test Phase 5	4	2016	3	2018
Initial Operational Test & Evaluation	4	2017	1	2020
OT -C1 - Initial Operational Test & Evaluation - Phase C1	4	2017	4	2018
OT -C2 - Initial Operational Test & Evaluation - Phase C2	4	2018	1	2020
FOT&E - Follow-On Test & Evaluation	2	2020	4	2020
CVN 78 Ship Launch	1	2014	1	2014
CVN 78 Ship Delivery	2	2016	2	2016
CVN 78 Initial Operational Capability (IOC)	2	2017	2	2017
CVN 79 Construction Contract Award	3	2015	3	2015
CVN 80 GFE LLTM Contract Award	1	2016	1	2016
CVN 80 Construction Contract Award	1	2018	1	2018
CVN 79 SCN Full Funding	1	2014	4	2018
CVN 80 SCN Full Funding	1	2018	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*				Project (Number/Name) 3133 / *Ship to Shore Connectors Contract Design*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
3133: *Ship to Shore Connectors Contract Design*	95.681	0.819	-	-	-	-	-	-	-	-	-	96.500
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 303

A. Mission Description and Budget Item Justification

Note: Funding for this project unit effort is realigned to PE 0605220N in FY15 and out.

Ship to Shore Connector (SSC) - This project provides the Preliminary and Contract design and Class test efforts for the SSC Program. The SSC program provides the capability to rapidly move assault forces with the littoral operational environment to accomplish Unified Command Plan (UCP) missions and ensures the Joint Force Commander's (JFCDR's) ability to conduct amphibious operations and operate over the high water mark, including movement over ice, mud, rivers, swamps and marshes. SSC provides the functional replacement for the LCAC crafts, which begin reaching extended service life in 2015. This project provided for the FY12 and prior tasks that supported the Systems Development and technical data package required for the solicitation for detail design, construction and test of the initial article. For FY13 and beyond, this project will provide for Class Test and Evaluation of components and systems, as well as all programmatic effort and support activities necessary for the development and execution of Class T&E plans and programs. The Test and Training craft (Craft 100) and R&D cost for Craft 101 are funded in RDT&E Project 3137, which realigns from PE 0604567N to PE 0605220N in FY15 and out.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Ship to Shore Connector (Contract Des)	0.819	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Commenced Class Test and Evaluation program including Test Planning and Coordination, Interoperability Testing, Vulnerability Assessment Report (VAR), Live Fire Test and Evaluation (LFT&E) Paper Studies, Surrogate tests, TEMP and LFT&E Management plan updates and LFT&E Document Coordination.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3133 / *Ship to Shore Connectors Contract Design*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	0.819	-	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTEN 0604567N: *SSC Construction (PRJ 3137)*	67.532	-	-	-	-	-	-	-	-	-	303.704
• SCN 5112: *Ship to Shore Connector*	-	159.600	255.630	-	255.630	275.581	500.550	560.634	509.943	1,556.612	3,818.550
• RDTEN 0605220N: *Ship to Shore Connector (PRJ 3133/3137)*	-	42.778	7.778	-	7.778	7.021	1.068	1.098	1.120	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Test and Training craft (Craft 100) and Craft 101 have been executed on contract. Craft 100 will be procured and constructed with RDTEN. Craft 101 was awarded with RDTEN and transferred to SCN for completion. The Detail Design and Construction contract includes options for construction of an additional seven SCN craft, if exercised.

E. Performance Metrics

Continue Test and Evaluation Master Plan (TEMP) updates. Continue Developmental Testing Phase B and Operational Testing Phase B.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 3133 / *Ship to Shore Connectors Contract Design*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Ship Design	C/CPFF	CSC : Washington	14.330	-		-		-		-		-	-	14.330	-
Preliminary/Contract Design	Various	Various : Various	31.140	-		-		-		-		-	-	31.140	-
System Engineering	Various	Various : Various	6.241	-		-		-		-		-	-	6.241	-
		Subtotal	51.711	-		-		-		-		-	-	51.711	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Support	WR	NSWC PCD : Panama City, FL	4.636	-		-		-		-		-	-	4.636	-
Software Development	Various	Various : Various	2.219	-		-		-		-		-	-	2.219	-
Integrated Logistics Support	WR	NSWC : Various	3.365	-		-		-		-		-	-	3.365	-
Studies & Analyses	TBD	Various : Various	5.711	-		-		-		-		-	-	5.711	-
		Subtotal	15.931	-		-		-		-		-	-	15.931	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various : Various	0.427	-		-		-		-		-	-	0.427	-
Operational Test & Evaluation	Various	Various : Various	2.374	0.381	Apr 2014	-		-		-		-	-	2.755	-
Live Fire Test & Evaluation	Various	Various : Various	5.680	0.438	May 2014	-		-		-		-	-	6.118	-
		Subtotal	8.481	0.819		-		-		-		-	-	9.300	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 3133 / *Ship to Shore Connectors Contract Design*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPFF	CSC/Alion : Washington, DC	9.323	-		-		-		-		-	-	9.323	-
Government Engineering Support	WR	NSWC : Various	3.689	-		-		-		-		-	-	3.689	-
Program Management Support	Various	Various : Various	6.120	-		-		-		-		-	-	6.120	-
Travel	Various	NAVSEA Travel : Washington, DC	0.300	-		-		-		-		-	-	0.300	-
Defense Acquisition Workforce	Various	Various : Various	0.126	-		-		-		-		-	-	0.126	-
		Subtotal	19.558	-		-		-		-		-	-	19.558	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	95.681	0.819		-		-		-		-	-	96.500	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3133 / *Ship to Shore Connectors Contract Design*

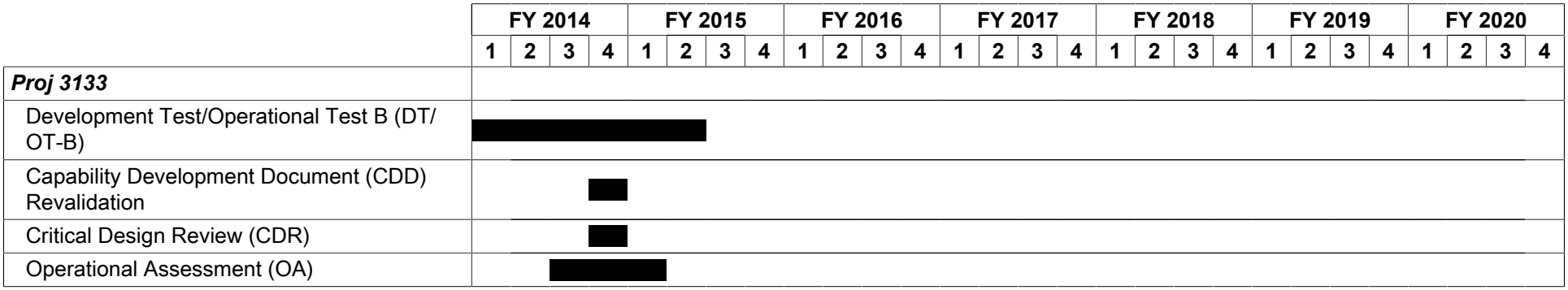


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3133 / *Ship to Shore Connectors Contract Design*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3133				
Development Test/Operational Test B (DT/OT-B)	1	2014	2	2015
Capability Development Document (CDD) Revalidation	4	2014	4	2014
Critical Design Review (CDR)	4	2014	4	2014
Operational Assessment (OA)	3	2014	1	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*				Project (Number/Name) 3137 / *SSC Construction*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
3137: *SSC Construction*	236.172	67.532	-	-	-	-	-	-	-	-	-	303.704
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 303

A. Mission Description and Budget Item Justification

Note: This project funds the Ship to Shore Connector (SSC) Engineering & Manufacturing Development phase which includes Detail Design and Construction, Product Support, Government Furnished Equipment (GFE), Program support, and Outfitting and Post Delivery. The lead craft will be maintained as a test and training platform throughout its life cycle. The SSC program provides the capability to rapidly move assault forces within the littoral operational environment to accomplish Unified Command Plan (UCP) missions, and ensures the Joint Force Commander's (JFCDR's) ability to conduct amphibious operations and operate over the high water mark, including movement over ice, mud, rivers, swamps and marshes. The SSC program provides the functional replacement for the LCAC craft, which begin reaching extended service life in 2015. Funding for this project unit effort is executed under PE 0605220N in FY15 and out.

Below end cost for Craft 100 and R&D cost for Craft 101 reflects total program funding in project 3137 between PE 0604567N and PE 0605220N. P.L. 113-235 transfers Craft 101 to SCN 5112 for FY15. The total RDT&E,N funding for craft 101 is $34.1M (FY 13 and FY 14).

TEST AND TRAINING CRAFT 100:

Plans/Basic Construction:
TOTAL 226.6 (FY16 0.0)
Change Orders:
TOTAL 16.2 (FY16 0.0)
Electronics
TOTAL 9.6 (FY16 0.2)
HM&E:
TOTAL 31.0 (FY16 2.7)
Other Support:
TOTAL 30.0 (FY16 1.7)
Ordnance
Total 0.05 (FY16 0.0)
Post Delivery/Outfitting:
TOTAL 4.0 (FY16 0.0)
Ship Total:

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3137 / *SSC Construction*

TOTAL 317.4 (FY16 4.6)

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SSC Construction	67.532	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Commenced Detail Design and Construction planning efforts; continue Test and Training Craft 100 and Craft 101 LLTM procurement and production planning, conducted a Production Readiness Review.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	67.532	-	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTEN 0604567N: *SSC Contract Design (PRJ 3133)*	0.819	-	-	-	-	-	-	-	-	-	96.500
• SCN 5112: *Ship to Shore Connector*	-	159.600	255.630	-	255.630	275.581	500.550	560.634	509.943	1,556.612	3,818.550
• RDTEN 0605220N: *Ship to Shore Connector (PRJ 3133/3137)*	-	42.778	7.778	-	7.778	7.021	1.068	1.098	1.120	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Test and Training craft (Craft 100) and Craft 101 have been executed on contract. Craft 100 will be procured and constructed with RDTEN. Craft 101 was awarded with RDTEN and transferred to SCN for completion. The Detail Design and Construction contract includes options for construction of an additional seven SCN craft, if exercised.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3137 / *SSC Construction*

E. Performance Metrics

Conduct Production Readiness Review

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 3137 / *SSC Construction*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Ship Design	C/CPFF	Various : Various	11.653	5.810	Nov 2013	-		-		-		-	-	17.463	-
Test & Trng Craft Detail Design/Construction	C/FPIF	Textron : New Orleans, LA	179.886	30.510	Dec 2013	-		-		-		-	-	210.396	-
Test & Trng Craft Government Furnished Equipment (GFE)	Various	Various : Various	6.747	3.500	Nov 2013	-		-		-		-	-	10.247	-
Test & Trng Craft Change Orders	C/FPIF	Textron : New Orleans, LA	0.655	7.085	Nov 2013	-		-		-		-	-	7.740	-
Craft 101 Ship Design	C/CPFF	Alion : Washington, DC	1.702	-		-		-		-		-	-	1.702	-
Craft 101 LLTM & Construction Planning	C/FPIF	Textron : New Orleans, LA	16.508	10.467	Dec 2013	-		-		-		-	-	26.975	-
Craft 101 Government Furnished Equipment	Various	Various : Various	0.206	1.574	Nov 2013	-		-		-		-	-	1.780	-
Craft 101 Change Orders	C/FPIF	Textron : New Orleans, LA	0.000	0.070	Dec 2013	-		-		-		-	-	0.070	-
		Subtotal	217.357	59.016		-		-		-		-	-	276.373	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Studies and Analysis	Various	Various : Various	0.665	1.766	Nov 2013	-		-		-		-	-	2.431	-
Craft 101 Studies and Analysis	Various	Various : Various	0.000	0.506	Nov 2013	-		-		-		-	-	0.506	-
Test & Trng Craft Integrated Logistics Support	WR	NSWC : Various	2.337	-		-		-		-		-	-	2.337	-
Craft 101 Integrated Logistics Support	WR	NSWC : Various	0.000	-	Nov 2013	-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 3137 / *SSC Construction*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	3.002	2.272		-		-		-		-	-	5.274	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Construction Test Program	Various	Various : Various	0.932	1.336	Nov 2013	-		-		-		-	-	2.268	-
		Subtotal	0.932	1.336		-		-		-		-	-	2.268	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Contractor Engineering Support	C/CPFF	CSC/Alion : Washington DC	10.489	3.938	Jun 2014	-		-		-		-	-	14.427	-
Travel	Various	Various : Various	0.166	0.060	Nov 2013	-		-		-		-	-	0.226	-
Test & Trng Craft Government Engineering Support	WR	Various : Various	1.156	0.910	Nov 2013	-		-		-		-	-	2.066	-
Craft 101 Contractor Engineering Services	WR	CSC/Alion : Washington DC	3.070	-	Mar 2014	-		-		-		-	-	3.070	-
Craft 101 Government Engineering Serivces	WR	Various : Various	0.000	-	Oct 2014	-		-		-		-	-	-	-
		Subtotal	14.881	4.908		-		-		-		-	-	19.789	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	236.172	67.532		-		-		-		-	-	303.704	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 3137 / *SSC Construction*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3137 / *SSC Construction*

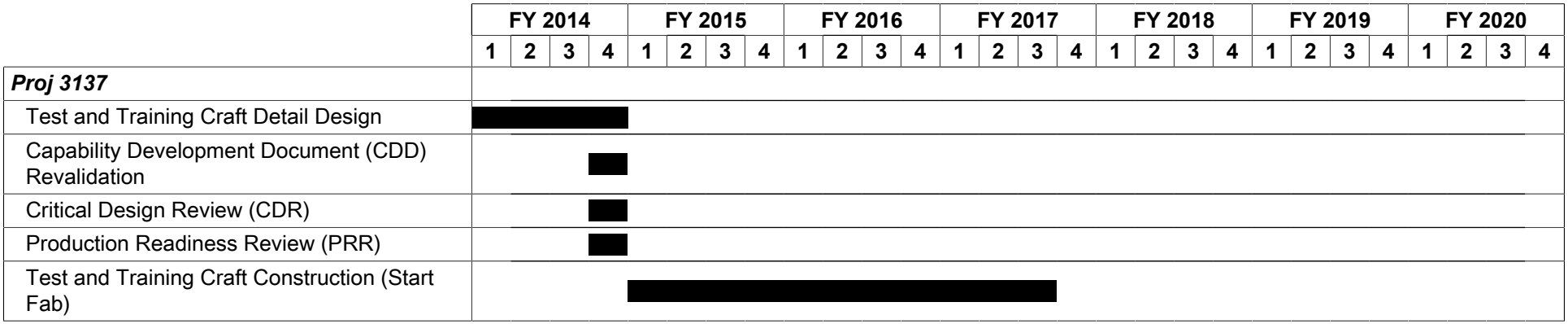


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3137 / *SSC Construction*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3137				
Test and Training Craft Detail Design	1	2014	4	2014
Capability Development Document (CDD) Revalidation	4	2014	4	2014
Critical Design Review (CDR)	4	2014	4	2014
Production Readiness Review (PRR)	4	2014	4	2014
Test and Training Craft Construction (Start Fab)	1	2015	3	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 3179 / *CVN-79 Total Ship Integration*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3179: *CVN-79 Total Ship Integration*	142.165	11.607	15.441	14.979	-	14.979	17.347	17.029	14.880	15.188	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 223

A. Mission Description and Budget Item Justification

Development and related testing of CVN 78 Class aircraft carrier specific technologies, the infusion of the ship technology base into existing and future aircraft carriers, and the potential realization of subsystem design capabilities not currently feasible. This project also funds the Contract Design efforts for the CVN 79. This project transitions the minimum sustaining technologies required to address obsolescence, critical survivability shortfalls as identified in CVN 78 Class testing, future requirements, and technologies which did not mature in time to support the CVN 78. All systems developed in this project have the potential to support emerging requirements and other promising systems technologies for insertion into new aircraft carrier designs. The emphasis is directed toward developing ship hull, mechanical, propulsion, electrical, aviation, warfare systems, and combat support systems, sub-systems and components to maintain aircraft carrier affordability, manpower requirements, survivability, and operational capabilities and to meet the requirements of existing and pending regulations and statutes critical to the operation of future aircraft carriers. This project also encompasses those tasks required to develop the contract data package necessary to support CVN 79 procurement, including, but not limited to, engineering support, programmatic and program support, logistics support, modeling and simulation, manpower and program related studies, and design support systems, such as the Integrated Digital Environment. In addition, this project focuses on significant procurement and life cycle cost reduction compared to the first ship of the class. Cost reductions are sought, developed and implemented in the areas of design, labor and material.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: CVN-79 Total Ship Integration	11.607	15.441	14.979	-	14.979
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted an analysis of GFE obsolescence prior to installation on the ship. Other projects included continuation of affordability efforts through analysis of build practices and identification of optimized build strategies based on lessons learned from CVN 78. Continuation of super lift reviews identified further opportunities to move work out of the dry-dock and back onto the platen or component fabrication shops, reducing construction time and cost. Conducted an analysis of warfare system GFE. Projects in this area included the following: GFI review and comment (Schedule A-C input), Aviation LI-ION battery locker requirements analysis and aviation fuels					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3179 / *CVN-79 Total Ship Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
operational sequencing system review. Continued efforts to fully integrate all aviation and land combat systems on ship with increased efficiency to support the warfighter. ***FY 2015 Plans:*** Continue to identify and implement cost reduction measures. Integrate the unique maintenance, storage and handling requirements to deploy with the F-35C. Assess design, equipment, and system changes between CVN 78 and CVN 79 to identify candidate equipment and / or systems that may require Follow-on Test and Evaluation. Complete the CVN 78 Class shock and vibration testing. Address design and construction issues based on the results of CVN 78 testing. Continue to manage fact-of-life and obsolescence changes on government furnished equipment systems. ***FY 2016 Base Plans:*** Continue to identify and implement cost reduction measures in support of CVN 79 and follow-on ship affordability. Assess design and process changes to further address JP-5 CRES piping system integrity. Continue to integrate the unique maintenance, storage and handling requirements to deploy with the F-35C. Continue to address design, equipment, and system changes between CVN 78 and CVN 79 to identify candidate equipment and / or systems that may require Follow-on Test and Evaluation. Continue to address design and construction issues based on the results of CVN 78 testing. Continue to manage fact-of-life and obsolescence changes on government furnished equipment systems. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	11.607	15.441	14.979	-	14.979

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTEN / 0605312N: *Project Units 2208, 4004*	72.734	-	-	-	-	-	-	-	-	-	1,709.131
• RDTEN / 0603570N: *Propulsion Plant Development (PU 2692)*	57.499	60.459	-	-	-	-	-	-	-	-	1,526.813
• SCN / 2001: *Carrier Replacement Program*	917.553	1,219.425	2,509.359	-	2,509.359	2,955.056	3,530.762	2,075.957	873.334	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3179 / *CVN-79 Total Ship Integration*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SCN / 5300: *Completion of Prior Year Shipbuilding Programs*	588.100	663.000	123.760	-	123.760	-	-	-	-	-	1,374.860
• RDTEN / 0604112N: *Project Units 2208, 4004*	-	43.613	48.105	-	48.105	45.386	33.890	25.418	25.951	Continuing	Continuing
• OMN / 1B2B: *CVN 78 Ford Class Training (12BJ0)*	-	4.907	38.389	-	38.389	35.600	3.878	3.880	3.956	Continuing	Continuing

Remarks

D. Acquisition Strategy

The CVN 78 is the first ship of the CVN 78 Class of aircraft carriers designed to replace USS ENTERPRISE and the ships of the NIMITZ Class. The CVN 78 class will feature a new nuclear propulsion and electrical generation/distribution system, new electromagnetic aircraft launching system (EMALS), advanced arresting gear (AAG) system, all electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the NIMITZ Class. Additionally, the following war fighting benefits will be realized: increased sortie generation rate, improved ship self-defense capability, increased launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.

E. Performance Metrics

Successfully complete system development efforts for designated new and modified shipboard system, including developmental test and evaluation documents. Successfully complete design related activities associated with integration of new and modified shipboard systems into the ship, including developmental test and evaluation documentation. Successfully perform system design and analysis studies. Successfully support design integration and analysis. Successfully complete or support feasibility and tradeoff studies on new and modified shipboard systems, technologies, and proposed modifications. Studies shall include requirements and engineering analysis; identification of subsystem, integration, and logistics impacts; cost estimates; analysis of construction schedule impacts; and conduct/ support of shipchecks. Successfully provide Manpower Workload Analysis associated with design and policy activities, and with integration of new and modified system/equipment. Successfully complete the development of multiple Business Case Analyses (BCAs) that demonstrate technology, process, requirements and/or infrastructure improvements that will reduce the man hours (or equivalent material costs) for CVN 79 Construction.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 3179 / *CVN-79 Total Ship Integration*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Total Ship Integration	C/CPAF	HII : VA	82.729	2.801	Nov 2013	5.411	Nov 2014	5.957	Nov 2015	-		5.957	Continuing	Continuing	Continuing
Total Ship Integration	WR	NSWC CARDEROCK : MD	10.831	0.711	Nov 2013	0.579	Oct 2014	0.198	Nov 2015	-		0.198	Continuing	Continuing	Continuing
Total Ship Integration	WR	NSWC DAHLGREN : VA	8.874	1.052	Nov 2013	1.669	Oct 2014	1.614	Oct 2015	-		1.614	Continuing	Continuing	Continuing
Total Ship Integration	WR	NAWCAD PAX RIVER : MD	3.758	1.185	Nov 2013	3.286	Oct 2014	1.885	Oct 2015	-		1.885	Continuing	Continuing	Continuing
Total Ship Integration	WR	SPAWAR : SD	3.593	0.288	Nov 2013	0.320	Oct 2014	0.269	Nov 2015	-		0.269	Continuing	Continuing	Continuing
Total Ship Integration	C/CPFF	NAVSEA SEAPORT : DC	18.778	4.021	Nov 2013	1.448	Dec 2014	2.000	Dec 2015	-		2.000	Continuing	Continuing	Continuing
Total Ship Integration	C/CPAF	RAYTHEON : MA	6.230	1.549	Dec 2013	2.127	Dec 2014	1.556	Dec 2015	-		1.556	Continuing	Continuing	Continuing
Total Ship Integration	WR	SSC CHARLESTON : SC	0.726	-		-		-		-		-	-	0.726	-
Total Ship Integration	C/CPFF	SAIC : VA	1.445	-		0.101	Dec 2014	-		-		-	Continuing	Continuing	Continuing
		Subtotal	136.964	11.607		14.941		13.479		-		13.479	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	C/CPAF	HII : VA	0.000	-		-		0.220	Nov 2015	-		0.220	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	NSWC CARDEROCK : MD	4.721	-		-		-		-		-	-	4.721	-
Developmental Test & Evaluation	WR	NUWC NEWPORT : RI	0.123	-		-		0.018	Nov 2015	-		0.018	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	NSWC DAHLGREN : VA	0.000	-		0.303	Oct 2014	0.934	Nov 2015	-		0.934	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	NAVFAC LANT : VA	0.000	-		-		0.105	Nov 2015	-		0.105	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 3179 / *CVN-79 Total Ship Integration*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	C/CPFF	FISC : VA	0.176	-		0.197	Nov 2014	0.223	Dec 2015	-		0.223	Continuing	Continuing	Continuing
		Subtotal	5.020	-		0.500		1.500		-		1.500	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Defense Acquisition Workforce	Various	Various : Misc	0.181	-		-		-		-		-	-	0.181	-
		Subtotal	0.181	-		-		-		-		-	-	0.181	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	142.165	11.607		15.441		14.979		-		14.979	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		**Date:** February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3179 / *CVN-79 Total Ship Integration*

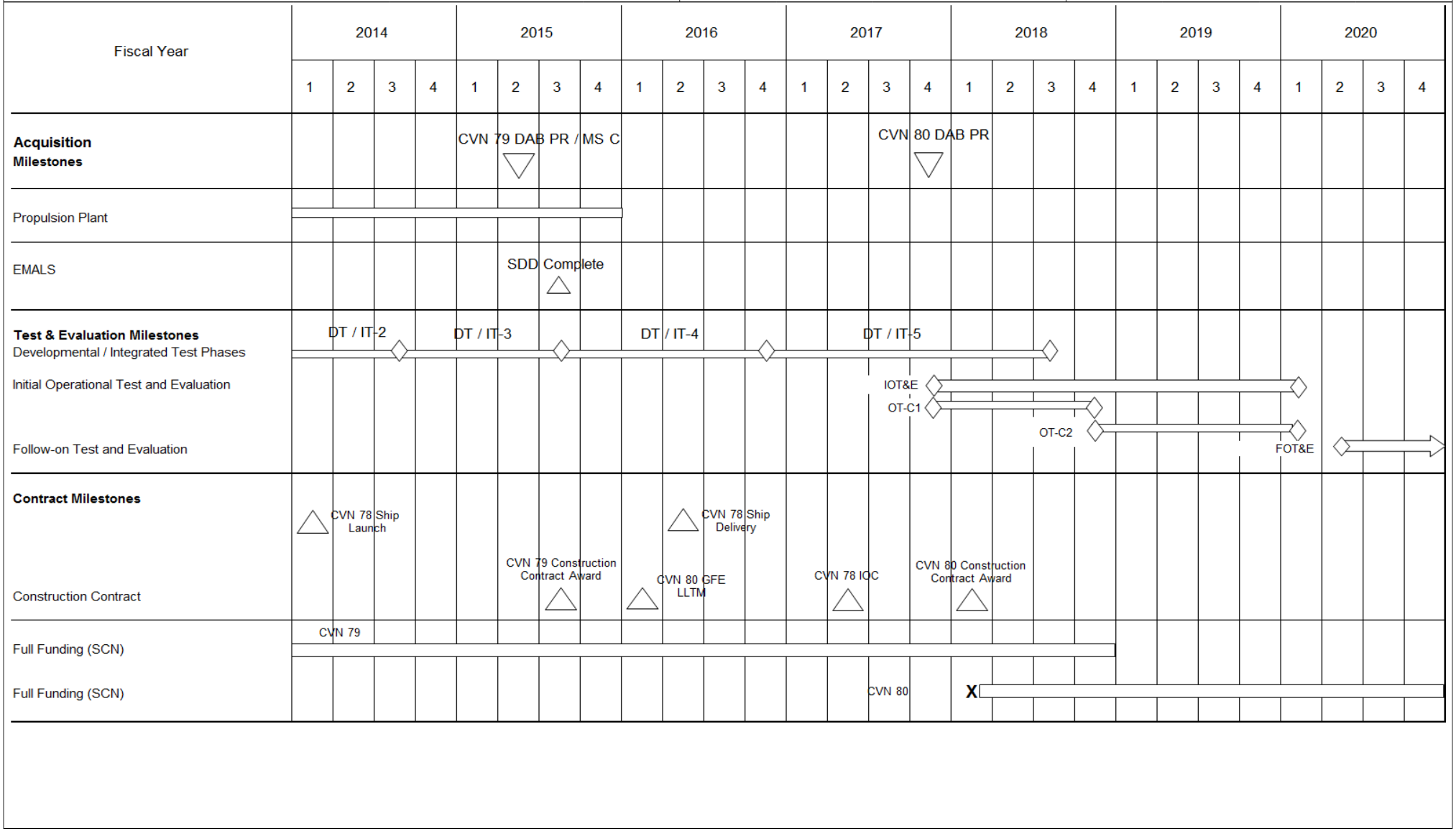


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3179 / *CVN-79 Total Ship Integration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3179				
CVN 79 DAB PR	2	2015	2	2015
CVN 80 DAB PR	4	2017	4	2017
Milestone C	2	2015	2	2015
Propulsion Plant	1	2014	4	2015
EMALS SDD Complete	3	2015	3	2015
DT/IT -2- Developmental Test / Integrated Test Phase 2	1	2014	3	2014
DT/IT -3- Developmental Test / Integrated Test Phase 3	3	2014	3	2015
DT/IT -4- Developmental Test / Integrated Test Phase 4	3	2015	4	2016
DT/IT -5- Developmental Test / Integrated Test Phase 5	4	2016	3	2018
Initial Operational Test & Evaluation	4	2017	1	2020
OT -C1 - Initial Operational Test & Evaluation - Phase C1	4	2017	4	2018
OT -C2 - Initial Operational Test & Evaluation - Phase C2	4	2018	1	2020
FOT&E - Follow-On Test & Evaluation	2	2020	4	2020
CVN 78 Ship Launch	1	2014	1	2014
CVN 78 Ship Delivery	2	2016	2	2016
CVN 78 Initial Operational Capability (IOC)	2	2017	2	2017
CVN 79 Construction Contract Award	3	2015	3	2015
CVN 80 GFE LLTM Contract Award	1	2016	1	2016
CVN 80 Construction Contract Award	1	2018	1	2018
CVN 79 SCN Full Funding	1	2014	4	2018
CVN 80 SCN Full Funding	1	2018	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 3369 / *Hybrid Electric Drive*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3369: *Hybrid Electric Drive*	-	-	7.949	4.222	-	4.222	1.689	1.712	1.746	1.780	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project includes the DON Energy Initiative related to the DDG 51 Hybrid Electric Drive to reduce DDG 51 Class ship energy consumption and increase mission effectiveness through longer time on station. This project supports propulsion at low ship speeds without the need for LM 2500 main engines. Fuel savings from the Hybrid Electric Drive system will be achieved by utilizing fewer gas turbines for propulsion and ship service power generation while also loading gas turbines generators at a more efficient operating load. Provides critical foundation for SECNAV and CNO objectives to achieve greater Navy-wide energy security.

Note: FY 2014 and prior year funding is resourced under project 1803 in the program element.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: DON Energy Initiative	-	7.949	4.222	-	4.222
Articles:	-	-	-	-	-
Description: This project is a DON Energy Initiative related to the DDG 51 Hybrid Electric Drive (HED) to reduce DDG 51 Class ship energy consumption and increase mission effectiveness through longer time on station.					
FY 2014 Accomplishments: N/A					
FY 2015 Plans: Complete Machinery Control System (MCS) integration development and environmental qualification testing. Continued training, integrated logistics support (ILS), and ship integration design development (efforts continued from those resourced under project 1803). Begin Land Based Engineering Sites (LBES) Installation and Checkout of the pre-production unit.					
FY 2016 Base Plans: Complete MCS software development. Complete Land Based Engineering Sites (LBES) Installation and Checkout of the pre-production unit. Commence initial LBES integration testing. Complete Integrated Logistics Support (ILS) certifications and ship design development.					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3369 / *Hybrid Electric Drive*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	-	7.949	4.222	-	4.222

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN 0140: *Hybrid Electric Drive*	-	12.638	32.906	-	32.906	40.494	41.427	42.402	43.256	Continuing	Continuing

Remarks

D. Acquisition Strategy

A full and open competition with a Fixed Price Incentive Fee Contract awarded for the development, qualification, and delivery of the Engineering Development Models (EDM) Hybrid Electric Drive (HED) and the initial HED production shipsets for the DDG 51 Fleet Modernization Program.

E. Performance Metrics

Successful completion of Engineering Development Model (EDM) and complete fielding of First Article (FA) including contract award, design, manufacturing, and delivery. Successful completion of Factory Acceptance Test (FAT) and performance testing in Land Based Engineering Site (LBES). Commencement, completion, delivery and installation of Low Rate Initial Production (LRIP) units. Achieve fuel efficiency and increase on-station time.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 3369 / *Hybrid Electric Drive*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DON Energy Initiave - OEM	C/FPIF	L-3 Maritime Systems : Leesburg, VA	0.000	-		2.337	Jan 2015	0.750	Jan 2016	-		0.750	Continuing	Continuing	Continuing
		Subtotal	0.000	-		2.337		0.750		-		0.750	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HED - DON Energy Initiative -OEM	WR	NSWC/SSES : Philadelphia, PA	0.000	-		5.287	Dec 2014	3.372	Dec 2015	-		3.372	Continuing	Continuing	Continuing
HED - DON Energy Initiative -OEM	Various	SUPSHIP BATH : Bath, ME	0.000	-		0.325	Jan 2015	0.100	Jan 2016	-		0.100	-	0.425	-
		Subtotal	0.000	-		5.612		3.472		-		3.472	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		7.949		4.222		-		4.222	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3369 / *Hybrid Electric Drive*

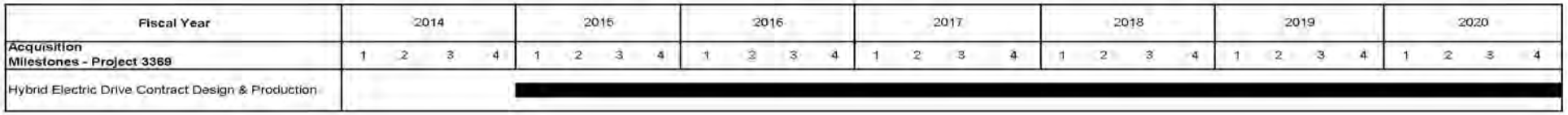


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 3369 / *Hybrid Electric Drive*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3369				
Hybrid Electric Drive Contract Design and Production	1	2015	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 4007 / *CVN 21 LFT&E*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
4007: *CVN 21 LFT&E*	54.681	3.610	3.426	4.709	-	4.709	3.945	4.001	4.091	4.175	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 223

A. Mission Description and Budget Item Justification

This project encompasses Live Fire Test and Evaluation (LFT&E) efforts for the CVN 78 Class. Title 10, US Code, Section 2366, CVN 21 Operational Requirements Document (ORD) and the CVN 78 Class Test and Evaluation Master Plan (TEMP) 1610, prescribe requirements for LFT&E. The purpose of LFT&E is to evaluate covered systems in a realistic combat environment before proceeding beyond low-rate initial production. Since the application of the survivability testing required by 10 USC 2366 to a CVN 78 Class ship would be unreasonably expensive and impractical, the Secretary of Defense waived the live fire testing requirement in 2004 and submitted a certification of that determination to Congress. The CVN 78 Class LFT&E Management Plan details the testing, modeling and simulation, and engineering analyses that are being used to determine whether CVN 78 Class ships will be able to survive and carry out their missions against the threat weapons identified in the Surface Ship Capstone System Threat Assessment Report (CSTAR) that are likely to be encountered in combat. The results of these tests and analyses are documented in periodic Vulnerability Assessment Reports (VARs).

The CVN 78 Class VAR 3 was completed in the summer of 2007 and the CVN 78 Class VAR 4 is scheduled to be completed in FY 15.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: CVN 21 LFT&E	3.610	3.426	4.709	-	4.709
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed the Damage Scenario-Based Engineering Analyses (DSBEAs) for VAR 4. These analyses assessed the vulnerability of the detail design of the CVN 78 Class to selected LFT&E threat weapons as well as the capabilities of the ship design to facilitate the crew's ability to contain damage and restore mission capability after the weapon hits. Continued the Ship Vulnerability Model (SVM) analyses, which included determining the probabilities of ship and / or mission losses resulting from hits by each of the ORD or LFT&E threat weapons and conducting detailed analyses of each result where there was a high probability of ship or mission loss to identify the equipment and / or systems that were the main contributors to the vulnerability. Began documenting the DSBEA and SVM analyses and results in VAR 4. Completed the enhancements to the CVN 78 full-ship structural Finite Element Model (FEM), which included adding structural details, refining the mesh size in the areas of interest and conducting quality assurance checks.					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 4007 / *CVN 21 LFT&E*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Complete the SVM analyses and document the findings and results in the draft VAR 4. Distribute the draft VAR 4 for review, adjudicate comments, update and finalize, and route for signature. Using the enhanced CVN 78 full-ship structural FEM, commence the M&S Analytical Bridge studies of the CVN 78's response to Underwater Explosive (UNDEX) events. These studies will be used to establish a bridge from the results of the surrogate live-fire tests of scaled models of selected ship sections to the analytical results of the full-ship CVN 78 to similar UNDEX events. These studies will also be used for Verification and Validation of the Modeling & Simulation (M&S) tools, leading to increased confidence in the M&S results. Begin planning for the CVN 78 Total Ship Survivability Trial (TSST), which will be a full-ship, full-crew validation of previous DSBEA assessments of the capabilities of the ship design to facilitate the crew's ability to contain the damage and restore mission capability after the weapon hits. ***FY 2016 Base Plans:*** Continue using the enhanced CVN 78 full-ship structural FEM to support the accomplishment of the M&S Analytical Bridge studies of the CVN 78's response to UNDEX events. Continue planning for the CVN 78 TSST, which includes continuing to update the DSBEAs selected as TSST scenarios and beginning the development of the TSST drill guides. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	3.610	3.426	4.709	-	4.709

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTEN / 0603512N: *Project Units 2208, 4004*	72.734	-	-	-	-	-	-	-	-	-	1,709.131
• RDTEN / 0603570N: *Propulsion Plant Development (PU 2692)*	57.499	60.459	-	-	-	-	-	-	-	-	1,526.813
• SCN / 2001: *Carrier Replacement Program*	917.553	1,219.425	2,509.359	-	2,509.359	2,955.056	3,530.762	2,075.957	873.334	Continuing	Continuing
• SCN / 5300: *Completion of Prior Year Shipbuilding Programs*	588.100	663.000	123.760	-	123.760	-	-	-	-	-	1,374.860
• RDTEN / 0604112N: *Project Units 2208, 4004*	-	43.613	48.105	-	48.105	45.386	33.890	25.418	25.951	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 4007 / *CVN 21 LFT&E*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OMN / 1B2B: *CVN 78 Ford Class Training (12BJ0)*	-	4.907	38.389	-	38.389	35.600	3.878	3.880	3.956	Continuing	Continuing

Remarks

D. Acquisition Strategy

The CVN 78 is the first ship of the CVN 78 Class of aircraft carriers designed to replace USS ENTERPRISE and the ships of the NIMITZ Class. The CVN 78 will feature a new nuclear propulsion and electrical generation/distribution system, new electromagnetic aircraft launching system (EMALS), advanced arresting gear (AAG) system, all electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the NIMITZ Class. Additionally, the following war fighting benefits will be realized: increased sortie generation rate, improved ship self-defense capability, increased launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.

E. Performance Metrics

Complete: (1) the adjudication of final comments and updates to the CVN 78 Class LFT&E Management Plan, Revision B and route for signature; (2) the refinement of the CVN 78 structural FEM, in support of the Analytical Bridge analyses; and (3) the analyses and documentation for VAR 4 and route for signature.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 4007 / *CVN 21 LFT&E*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Live Fire Test & Evaluation	WR	NSWC Carderock : MD	45.128	2.570	Nov 2013	2.466	Nov 2014	3.358	Nov 2015	-		3.358	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	C/CPAF	HII : VA	9.504	0.994	Nov 2013	0.960	Nov 2014	1.291	Nov 2015	-		1.291	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	WR	NSWC Dahlgren : VA	0.039	0.046	Dec 2013	-		0.060	Nov 2015	-		0.060	Continuing	Continuing	Continuing
		Subtotal	54.671	3.610		3.426		4.709		-		4.709	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Defense Acquisition Workforce	TBD	Various : Various	0.010	-		-		-		-		-	-	0.010	-
		Subtotal	0.010	-		-		-		-		-	-	0.010	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	54.681	3.610		3.426		4.709		-		4.709	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		**Date:** February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 4007 / *CVN 21 LFT&E*

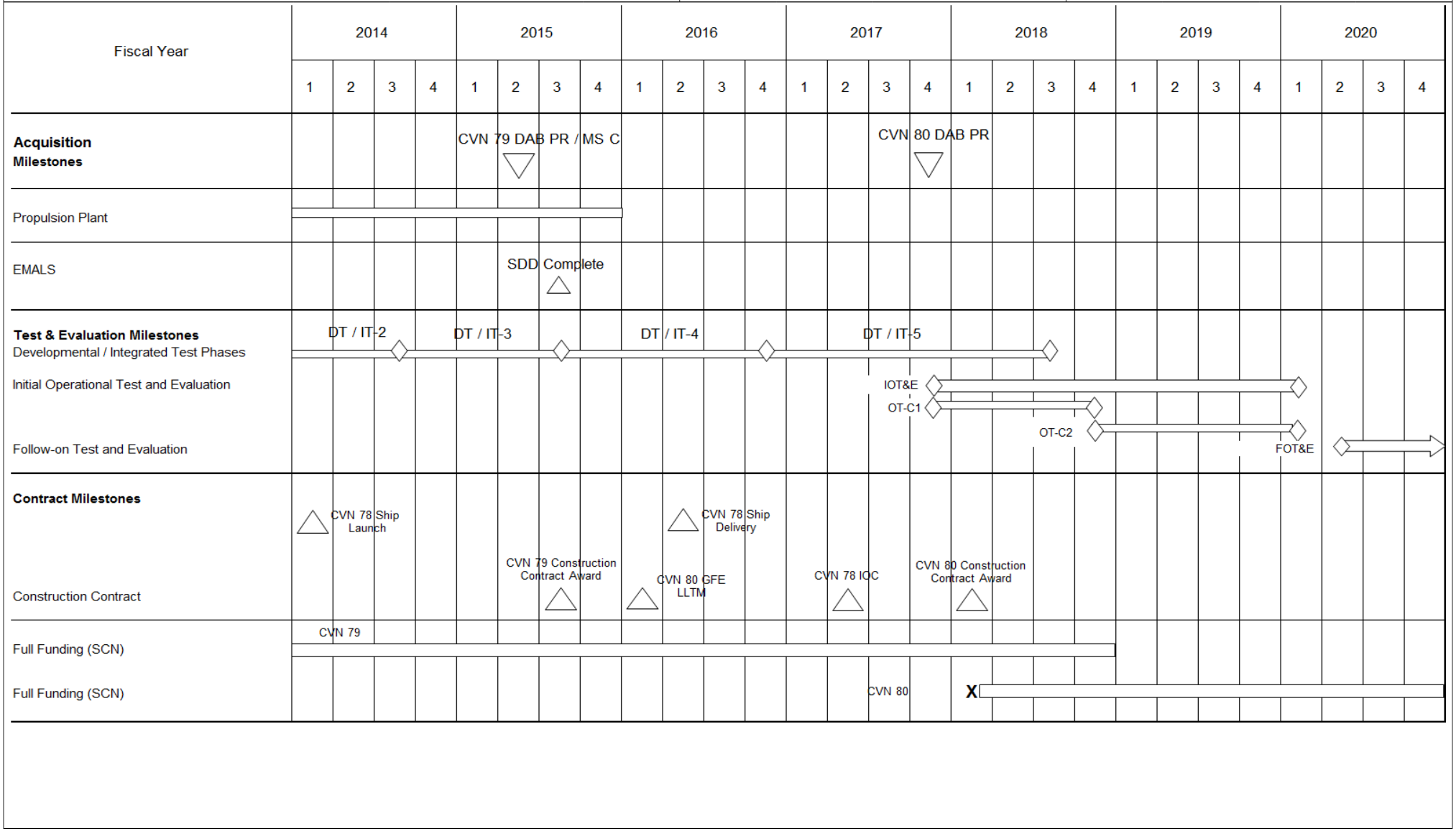


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 4007 / *CVN 21 LFT&E*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 4007				
CVN 79 DAB PR	2	2015	2	2015
CVN 80 DAB PR	4	2017	4	2017
Milestone C	2	2015	2	2015
Propulsion Plant	1	2014	4	2015
EMALS SDD Complete	3	2015	3	2015
DT/IT -2- Developmental Test / Integrated Test Phase 2	1	2014	3	2014
DT/IT -3- Developmental Test / Integrated Test Phase 3	3	2014	3	2015
DT/IT -4- Developmental Test / Integrated Test Phase 4	3	2015	4	2016
DT/IT -5- Developmental Test / Integrated Test Phase 5	4	2016	3	2018
Initial Operational Test & Evaluation	4	2017	1	2020
OT - C1 - Initial Operational Test & Evaluation - Phase C1	4	2017	4	2018
OT - C2 - Initial Operational Test & Evaluation - Phase C2	4	2018	1	2020
FOT&E - Follow-On Test & Evaluation	2	2020	4	2020
CVN 78 Ship Launch	1	2014	1	2014
CVN 78 Ship Delivery	2	2016	2	2016
CVN 78 Initial Operational Capability (IOC)	2	2017	2	2017
CVN 79 Construction Contract Award	3	2015	3	2015
CVN 80 GFE LLTM Contract Award	1	2016	1	2016
CVN 80 Construction Contract Award	1	2018	1	2018
CVN 79 SCN Full Funding	1	2014	4	2018
CVN 80 SCN Full Funding	1	2018	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604567N / *Ship Contract Design/ Live Fire T&E*	Project (Number/Name) 9999 / *Congressional Adds*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9999: *Congressional Adds*	-	50.000	-	-	-	-	-	-	-	-	-	50.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 333

A. Mission Description and Budget Item Justification

The LHA(R) program recapitalizes the aging Amphibious Assault Ships (LHA & LHD). LHA(R) Flight 1, the second increment of the LHA(R) program, will: continue using the LHD-1/LHA-6 hull form; reincorporate a well deck; have a smaller island, as compared to LHD-1/LHA-6, to improve flight deck operations; maintain the Flight 0 aviation capability to the maximum extent possible - making only those trades necessary to accommodate a well deck. LHA(R) ships contribute to the Navy and integrated joint warfighting force by providing sustained military forward presence and crisis response capability far from the Continental United States with little or no reliance on host governments for basing and logistics. Independently, or as part of a larger force, the LHA(R) ship enables Sailors and Marines to operate for sustained periods while conducting amphibious and/or expeditionary operations to include: embarking, transporting, controlling, inserting, sustaining and extracting elements of a Marine Air-Ground Task Force and supporting forces.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015
Congressional Add: LHA(R) FLT Design and Total Ship Integration	50.000	-
FY 2014 Accomplishments: LHA 8 Conducted, with industry, specification reading sessions of proposed contract design LHA 8 Initiated expanded Early Industry Involvement to develop each competitors cost estimate LHA 8 Initiated systematic review to identify major cost drivers and cost reduction opportunities LHA 8 Initiated vendor studies and break out analysis to identify cost savings		
FY 2015 Plans: LHA 8 Conduct, with industry, specification reading sessions of final contract design LHA 8 Complete expanded Early Industry Involvement to develop each competitors cost basis LHA 8 Complete systematic review to identify major cost drivers and cost reduction opportunities LHA 8 Complete vendor studies and break out analysis to identify cost savings LHA 8 Issue RFP for Advanced Procurement FY 15 efforts financed with FY 14 carryover.		
Congressional Adds Subtotals	50.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 9999 / *Congressional Adds*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SCN/3041: *LHA (R) Ships*	37.700	29.093	277.543	-	277.543	1,525.817	2,085.216	-	-	-	10,334.569
• RDT&E/2465: *LHA (R) FLT Design and Total Ship Integration*	28.757	10.561	9.520	-	9.520	3.924	7.507	14.471	5.068	Continuing	Continuing

Remarks

D. Acquisition Strategy

Acquisition Strategy document currently in development.

E. Performance Metrics

Identify LHA 8 major cost drivers and cost savings initiatives.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 9999 / *Congressional Adds*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Ship Design/Special Studies - Government	WR	Various : Various	0.000	6.000	Feb 2014	-		-		-		-	-	6.000	-
Ship Design/Special Studies - Industry	C/CPFF	Various : Various	0.000	44.000	Jun 2014	-		-		-		-	-	44.000	-
		Subtotal	0.000	50.000		-		-		-		-	-	50.000	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	50.000		-		-		-		-	-	50.000	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 9999 / *Congressional Adds*

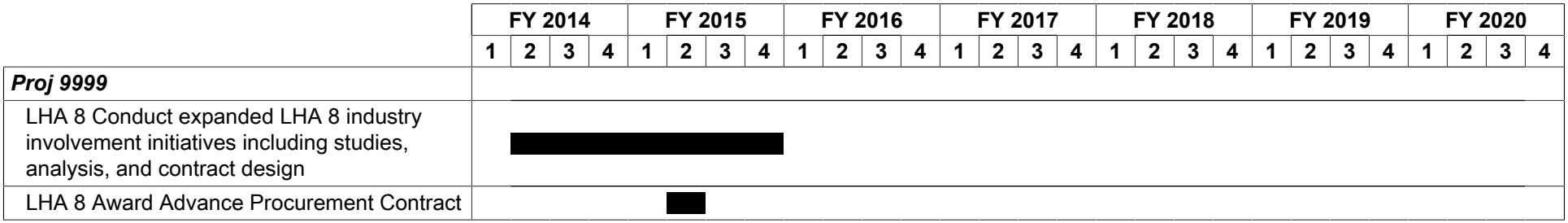


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604567N / *Ship Contract Design/ Live Fire T&E*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9999				
LHA 8 Conduct expanded LHA 8 industry involvement initiatives including studies, analysis, and contract design	2	2014	4	2015
LHA 8 Award Advance Procurement Contract	2	2015	2	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604574N *I Navy Tactical Computer Resources*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	17.746	3.582	3.935	4.096	-	4.096	4.205	4.268	4.351	4.441	Continuing	Continuing
1353: *Standard Hardware*	17.746	3.582	-	-	-	-	-	-	-	-	-	21.328
3360: *Common Processing System (CPS)*	0.000	-	1.314	1.368	-	1.368	1.393	1.416	1.445	1.475	Continuing	Continuing
3361: *Common Display System (CDS)*	0.000	-	2.621	2.728	-	2.728	2.812	2.852	2.906	2.966	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Common Processing System (CPS) and Common Display System (CDS) programs support developing open architecture hardware and technology in a competitively sourced environment. CPS & CDS provide technical replacements for obsolete display and processing equipment (such as AN/UYQ-70) for multiple warfare systems aboard CVN, LHA, LPD, LHD, CG-47, DDG-1000, and DDG-51 class ships. CPS provides the computer processing and memory, data storage and extraction, and Input/Output (I/O) interface to support hosting Navy combat system software applications and computing resources in AEGIS Modernization, AEGIS new construction, Surface Electronic Warfare Improvement Program (SEWIP), CVN-TSC, and other Navy programs. CDS provides operator display consoles with a common human machine interface for AEGIS modernization, AEGIS new construction, DDG-1000, CVN, Gun Weapon System (GWS), Ship Self Defense System (SSDS) MK 2, SEWIP, and Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS). Funding provides for technical management and Engineering Change Proposals (ECP) development for the common baseline. Procurement and development funds provided by user programs to support program unique requirements.

Note: Project 1353 transitioned into two separate Projects beginning in FY15. Projects are 3360 Common Processing System (CPS) and Project 3361 Common Display System (CDS).

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	3.689	3.935	4.141	-	4.141
Current President's Budget	3.582	3.935	4.096	-	4.096
Total Adjustments	-0.107	-	-0.045	-	-0.045
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.107	-			
• Rate/Misc Adjustments	-	-	-0.045	-	-0.045

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604574N / *Navy Tactical Computer Resources*	Project (Number/Name) 1353 / *Standard Hardware*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1353: *Standard Hardware*	17.746	3.582	-	-	-	-	-	-	-	-	-	21.328
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Funding distributed to Projects 3360 and 3361 beginning in FY15.

A. Mission Description and Budget Item Justification

The Common Processing System (CPS) and Common Display System (CDS) programs support developing open architecture hardware and technology in a competitively sourced environment. CPS & CDS provide technical replacements for obsolete display and processing equipment (such as AN/UYQ-70) for multiple warfare systems aboard CVN, LHA, LPD, LSD, CG-47, DDG-1000, and DDG-51 class ships. CPS provides the computer processing and memory, data storage and extraction, and Input/Output (I/O) interface to support hosting Navy combat system software applications and computing resources in AEGIS Modernization, AEGIS new construction, SEWIP, CVN, and other Navy programs. CDS provides operator display consoles with a common human machine interface for AEGIS Modernization, AEGIS new construction, DDG-1000, CVN, GWS, SSDS MK 2, SEWIP, and UCLASS. Funding provides for technical management and ECP development for the common baseline. Procurement and development funds provided by user programs to support program unique requirements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Systems Engineering	3.582	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed support of CDS TI-12 on multiple platforms including AEGIS Destroyers and Cruisers undergoing modernization, DDG-51 new construction, AEGIS Ashore, CVN, DDG 1000, UCLASS, SEWIP and SSDS Mk 2 ships. Began development of AEGIS Common Console under CDS TI-16 Design and Production contract. Completed support of CPS TI-12 on multiple platforms including AEGIS Destroyers and Cruisers undergoing modernization, DDG-51 new construction, AEGIS Ashore, CVN, DDG 1000, UCLASS, SEWIP and SSDS Mk 2 ships. Continued development of CPS TI-16.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / *Navy Tactical Computer Resources*	**Project (Number/Name)** 1353 / *Standard Hardware*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	3.582	-	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Contracts:
CDS:
TI 12 Indefinite Delivery Indefinite Quantity (IDIQ) Production continued in FY14.

CPS:
TI 12 IDIQ Production continued in FY14.

E. Performance Metrics

Major Milestones:
CPS/CDS TI 16 In-Process Review in third qtr FY14

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604574N / *Navy Tactical Computer Resources*	Project (Number/Name) 1353 / *Standard Hardware*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NSWC : PHD	0.215	-		-		-		-		-	-	0.215	-
Systems Engineering	WR	NSWC : Dahlgren	5.780	3.395	Oct 2013	-		-		-		-	-	9.175	-
Systems Engineering	C/CPFF	General Dynamics : Fairfax, VA	6.197	-		-		-		-		-	-	6.197	-
Systems Engineering	C/CPIF	Global Technical Systems : Virginia Beach, VA	3.529	-		-		-		-		-	-	3.529	-
Systems Engineering	WR	NSWC : Crane	0.799	-		-		-		-		-	-	0.799	-
Ssytems Engineering	C/CPIF	DRS Technologies : Gaithersburg, MD	0.478	-		-		-		-		-	-	0.478	-
Systems Engineering	Various	Various : Various	0.097	-		-		-		-		-	-	0.097	-
		Subtotal	17.095	3.395		-		-		-		-	-	20.490	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Services	Various	Various : Various	0.651	0.187	Oct 2013	-		-		-		-	0.100	0.938	-
		Subtotal	0.651	0.187		-		-		-		-	0.100	0.938	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	17.746	3.582		-		-		-		-	0.100	21.428	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / *Navy Tactical Computer Resources*	**Project (Number/Name)** 1353 / *Standard Hardware*

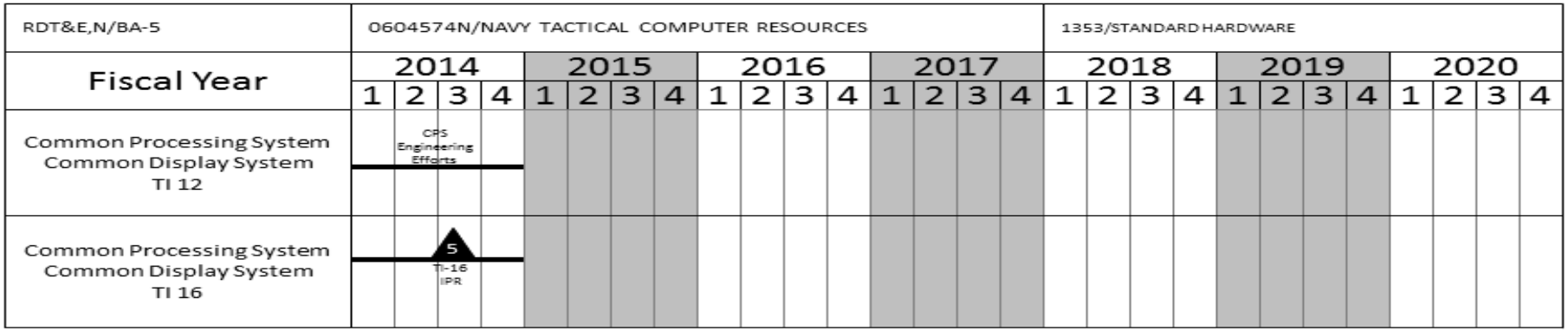


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / *Navy Tactical Computer Resources*	**Project (Number/Name)** 1353 / *Standard Hardware*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1353				
CPS/CDS TI 16 In-Process Review	3	2014	3	2014

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604574N / *Navy Tactical Computer Resources*	Project (Number/Name) 3360 / *Common Processing System (CPS)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3360: *Common Processing System (CPS)*	-	-	1.314	1.368	-	1.368	1.393	1.416	1.445	1.475	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Funding transferred from Project 1353 beginning in FY15.

A. Mission Description and Budget Item Justification

The Common Processing System (CPS) program supports developing open architecture computer processing hardware and storage technology in a competitively sourced environment. CPS provides technical replacements for obsolete processing equipment (such as AN/UYQ-70) for multiple warfare systems aboard CVN, LHA, LHD, LSD, CG-47, and DDG-51 class ships. CPS serves as the computer processing and memory, data storage and extraction, and Input/Output (I/O) interface to support hosting Navy combat system software applications and computing resources in AEGIS Modernization, AEGIS new construction, SSDS, SEWIP, CVN, UCLASS and other Navy programs. Funding provides for technical management and ECP development for the common product baseline. Procurement and development funds are provided by user programs to support program unique requirements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Common Processing System (CPS)	-	1.314	1.368	-	1.368
Articles:	-	-	-	-	-

FY 2014 Accomplishments:

N/A

FY 2015 Plans:

Continue system engineering support of CPS TI-12 on installed platforms including AEGIS Destroyers and Cruisers undergoing modernization, DDG new construction, AEGIS Ashore, CVN, and CVN/Amphib, SEWIP, UCLASS and SSDS Mk 2 ships. Continue build to print requirements development in support of contract award efforts for TI-16 CPS equipment.

FY 2016 Base Plans:

Continue system engineering support of CPS TI-12 / TI-16 on installed platforms including AEGIS Destroyers and Cruisers undergoing modernization, DDG new construction, AEGIS Ashore, CVN, and CVN/Amphib, SEWIP, UCLASS and SSDS Mk 2 ships. Support System Engineering efforts required to achieve Production

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / *Navy Tactical Computer Resources*	**Project (Number/Name)** 3360 / *Common Processing System (CPS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Readiness Review (PRR) milestone required to support AEGIS Modernization, AEGIS New Construction, CVN, CVN/Amphib, SEWIP, UCLASS and SSDS Mk 2 Ships. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	1.314	1.368	-	1.368

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

CPS TI-12: Continue IDIQ Production through FY14.
CPS TI-16: Award build to Print IDIQ production contract for FY16-FY21.

E. Performance Metrics

Major Milestones:
CPS TI-12 Build-To-Print Contract Award in second quarter FY15
CPS TI-12 Production Readiness Review in fourth quarter FY15
CPS TI-16 Production Contract Award in fourth quarter FY15
CPS TI-16 Preliminary Design Review in first quarter FY16
CPS TI-16 Critical Design Review in second quarter FY16
CPS TI-16 Test Readiness Review in third quarter FY16
CPS TI-16 Production Readiness Review in fourth quarter FY16
CPS TI-20 In Process Review No. 1 in third quarter FY17
CPS TI-20 In Process Review No. 2 in first quarter FY18
CPS TI-20 Production Readiness Review in fourth quarter FY19

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604574N / *Navy Tactical Computer Resources*	Project (Number/Name) 3360 / *Common Processing System (CPS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NSWC : PHD	0.000	-		0.010	Oct 2014	-	Oct 2015	-		-	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Dahlgren	0.000	-		0.619	Oct 2014	0.785	Nov 2015	-		0.785	Continuing	Continuing	Continuing
Systems Engineering	C/CPIF	TBD : TBD	0.000	-		0.643	Oct 2014	0.583	Jan 2016	-		0.583	-	1.226	-
		Subtotal	0.000	-		1.272		1.368		-		1.368	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Services	Various	Various : Various	0.000	-		0.042	Oct 2014	-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.000	-		0.042		-		-		-	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		1.314		1.368		-		1.368	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / *Navy Tactical Computer Resources*	**Project (Number/Name)** 3360 / *Common Processing System (CPS)*

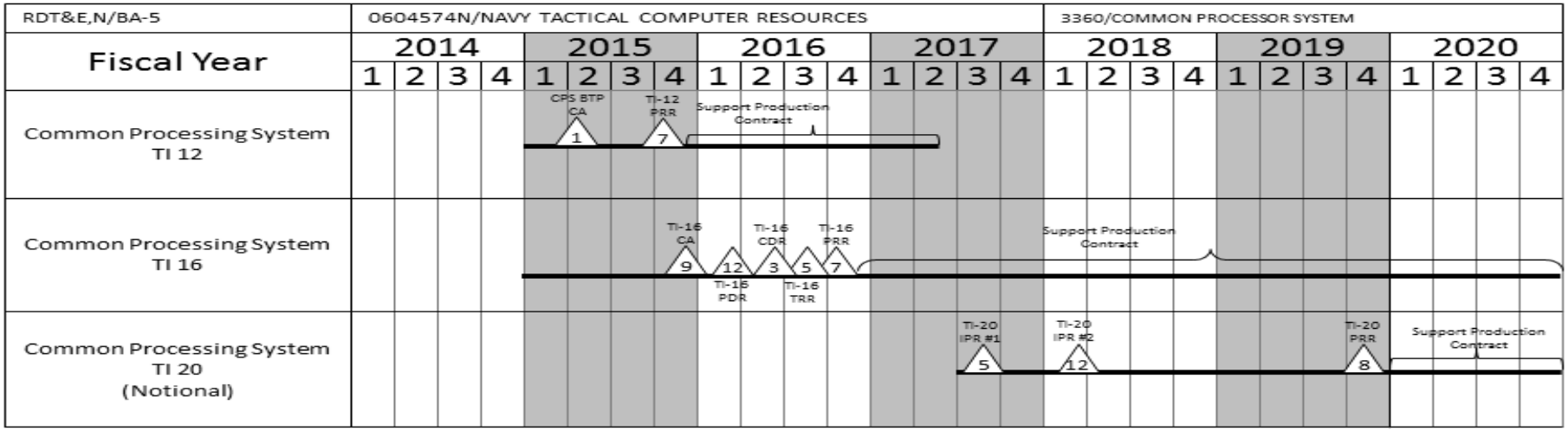


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / *Navy Tactical Computer Resources*	**Project (Number/Name)** 3360 / *Common Processing System (CPS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3360				
CPS TI 12 Built-To-Print Contract Award	2	2015	2	2015
CPS TI 12 Production Readiness Review	4	2015	4	2015
CPS TI 16 Production Contract Award	4	2015	4	2015
CPS TI 16 Preliminary Design Review	1	2016	1	2016
CPS TI 16 Critical Design Review	2	2016	2	2016
CPS TI 16 Test Readiness Review	3	2016	3	2016
CPS TI 16 Production Readiness Review	4	2016	4	2016
CPS TI 20 In Progress Review (IPR) No. 1	3	2017	3	2017
CPS TI 20 In Progress Review (IPR) No. 2	1	2018	1	2018
CPS TI 20 Production Readiness Review	4	2019	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604574N / *Navy Tactical Computer Resources*	Project (Number/Name) 3361 / *Common Display System (CDS)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3361: *Common Display System (CDS)*	-	-	2.621	2.728	-	2.728	2.812	2.852	2.906	2.966	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Funding transferred from Project 1353 beginning in FY15.

A. Mission Description and Budget Item Justification

The Common Display System (CDS) program supports developing open architecture hardware and technology in a competitively sourced environment. CDS provides technical replacements for obsolete display equipment (such as AN/UYQ-70) for multiple warfare systems aboard CVN, LHA, LHD, LSD, CG-47,DDG-1000, and DDG-51 class ships. CDS provides operator display consoles with a common human machine interface for AEGIS Modernization, AEGIS new construction, SSDS, DDG-1000, CVN, GWS, SSDS MK 2, SEWIP, and UCLASS. Funding provides for technical management and ECP development for the common baseline. Procurement and development funds provided by user programs for program unique requirements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Common Display System (CDS)	-	2.621	2.728	-	2.728
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: Continue system engineering support of CDS TI-12 on multiple platforms including AEGIS Destroyers and Cruisers undergoing modernization, DDG new construction, AEGIS Ashore, CVN, DDG 1000, CVN/Amphib SSDS and other ships. Award CDS TI-16 Common Display System award. Support Engineering efforts required to complete Preliminary Design Review (PDR) and Critical Design Review (CDR) as planned to support AEGIS Modernization, DDG new construction, AEGIS Ashore, CVN, DDG 1000, CVN/Amphib SSDS and other ships.					
FY 2016 Base Plans: Continue system engineering support of CDS TI-12 / TI-16 on multiple platforms including AEGIS Destroyers and Cruisers undergoing modernization, DDG new construction, AEGIS Ashore, CVN, DDG 1000, CVN/Amphib SSDS and other ships. Support Engineering efforts required to complete Test Readiness Review (TRR) and					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / *Navy Tactical Computer Resources*	**Project (Number/Name)** 3361 / *Common Display System (CDS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Production Readiness Review (PRR) as planned to support AEGIS Modernization, DDG new construction, AEGIS Ashore, CVN, DDG 1000, CVN/Amphib SSDS and other ships. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	2.621	2.728	-	2.728

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Contracts:
CDS Indefinite Delivery Indefinite Quantity (IDIQ) Production continues FY14-FY16.

E. Performance Metrics

CDS TI-12 Contract Award in second quarter FY15
CDS TI-12 Production Readiness Review in fourth quarter FY15
CDS TI-16 Contract Award in fourth quarter FY15
CDS TI-16 Preliminary Design Review in first quarter FY16
CDS TI-16 Critical Design Review in second quarter FY16
CDS TI-16 Test Readiness Review in third quarter FY16
CDS TI-16 Production Readiness Review in fourth quarter FY16
CDS TI 20 In Process Review No. 1 in third quarter FY17
CDS TI 20 System Requirements Review in fourth quarter FY17
CDS TI 20 In Process Review No. 2 in first quarter FY18
CDS TI 20 Preliminary Design Review in third quarter FY18
CDS TI 20 Critical Design Review in fourth quarter FY 18
CDS TI 20 In Process Review No. 3 in second quarter FY19
CDS TI 20 Test Readiness Review in third quarter FY19
CDS TI 20 Production Readiness Review in fourth quarter FY19

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / *Navy Tactical Computer Resources*	**Project (Number/Name)** 3361 / *Common Display System (CDS)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NSWC : PHD	0.000	-		0.114	Oct 2014	0.098	Dec 2015	-		0.098	Continuing	Continuing	Continuing
Systems Engineeing	WR	NSWC : Dahlgren	0.000	-		1.698	Oct 2014	1.819	Oct 2015	-		1.819	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	General Dynamics : Fairfax, VA	0.000	-		0.311	Oct 2014	-	Oct 2015	-		-	-	0.311	-
Systems Engineering	C/CPIF	DRS Technologies : Gaithersburg, MD	0.000	-		0.373	Oct 2014	-	Oct 2015	-		-	-	0.373	-
Systems Engineering	C/CPIF	TBD : TBD	0.000	-		-		0.811	Dec 2015	-		0.811	-	0.811	-
		Subtotal	0.000	-		2.496		2.728		-		2.728	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Services	Various	Various : Various	0.000	-		0.125	Oct 2014	-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.000	-		0.125		-		-		-	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		2.621		2.728		-		2.728	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / *Navy Tactical Computer Resources*	**Project (Number/Name)** 3361 / *Common Display System (CDS)*

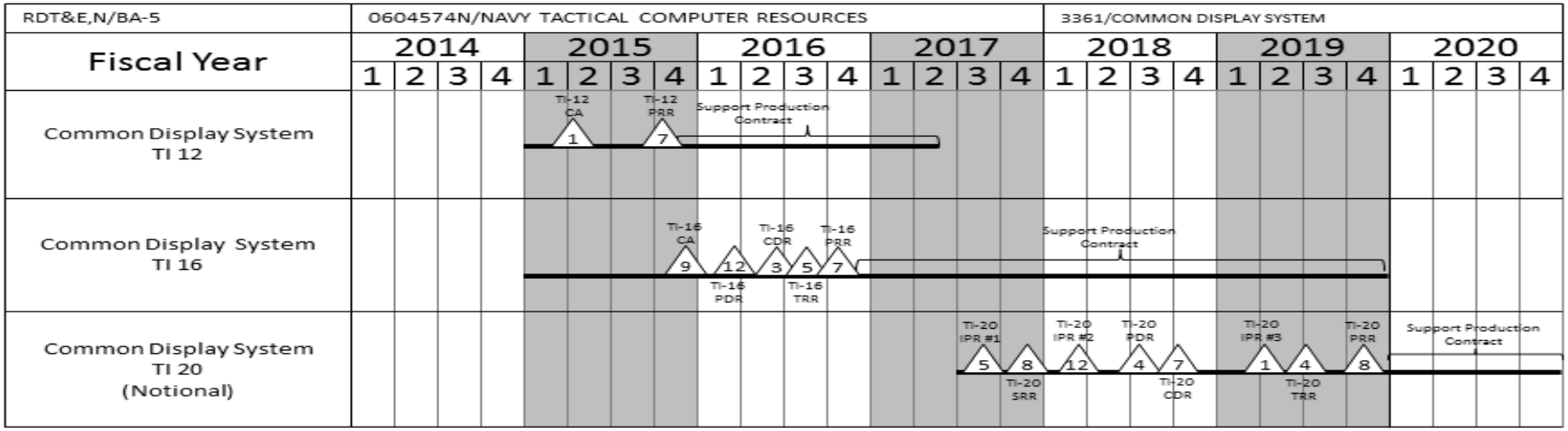


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604574N / *Navy Tactical Computer Resources*	**Project (Number/Name)** 3361 / *Common Display System (CDS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3361				
CDS TI 12 Contract Award	2	2015	2	2015
CDS TI12 Production Readiness Review	4	2015	4	2015
CDS TI16 Production Contract Award	4	2015	4	2015
CDS TI16 Preliminary Design Review	1	2016	1	2016
CDS TI16 Critical Design Review	2	2016	2	2016
CDS TI16 Test Readiness Review	3	2016	3	2016
CDS TI16 Production Readiness Review	4	2016	4	2016
CDS TI 20 IPR No. 1	3	2017	3	2017
CDS TI 20 System Requirements Review	4	2017	4	2017
CDS TI 20 IPR No. 2	1	2018	1	2018
CDS TI 20 Preliminary Design Review	3	2018	3	2018
CDS TI 20 Critical Design Review	4	2018	4	2018
CDS TI 20 IPR No. 3	2	2019	2	2019
CDS TI 20 Test Readiness Review	3	2019	3	2019
CDS TI 20 Production Readiness Review	4	2019	4	2019

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy												Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604580N *I (U)Virginia Payload Module (VPM*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	57.282	120.602	167.719	-	167.719	100.234	68.989	-	-	-	514.826
4500: *VIRGINIA Payload Module*	0.000	57.282	120.602	167.719	-	167.719	100.234	68.989	-	-	-	514.826
MDAP/MAIS Code: 516												

Note

1. Beginning in FY2014, an administrative change shifted efforts funded from PE 0604558N (New Design SSN) / Project 4500 to PE 0604580N (VIRGINIA Payload Module) / Project 4500. This shift is consistent with Congressional intent identified in the FY14 Appropriations Act Committee Report.

2. Detailed design funding for this project transitions to SCN (BLI: 2013) beginning in FY17 to support VPM production beginning in FY19.

A. Mission Description and Budget Item Justification

The U.S. Navy must maintain a submarine fleet that is of sufficient capability and numbers to defend American interests. The VIRGINIA Class Submarine, formerly the New Attack Submarine (New SSN), is designed to fulfill this need. It will counter the potential threats of the next century in a multi- mission capable submarine that has the ability to provide covert, sustained combat presence in denied waters. The primary goal of the program is to develop an affordable yet capable submarine by evaluating a broad range of system and technology alternatives, and pursuing cost reduction, producibility improvement, and technical risk management. This Program Element (PE) provides the technology, prototype components, and systems engineering needed to design and construct the VIRGINIA Payload Module (VPM). VPM mitigates and will recapitalize the conventional TOMAHAWK Land Attack Missile (TLAM) gap created by the retirement of SSGNs in the late 2020s while maintaining current platform requirements. This PE directly supports the following VIRGINIA Class Submarine missions: (1) covert strike warfare; (2) anti-submarine warfare; (3) covert intelligence collection/surveillance, indication and warning, and electronic warfare; (4) anti-surface ship warfare; (5) special warfare; (6) mine warfare; and (7) battle group support.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	59.120	132.602	167.719	-	167.719
Current President's Budget	57.282	120.602	167.719	-	167.719
Total Adjustments	-1.838	-12.000	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-12.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.838	-			
• Program Adjustments	-	-	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604580N *I (U)Virginia Payload Module (VPM*

Change Summary Explanation

The FY 2015 congressional reduction was due to program execution.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604580N / *(U)Virginia Payload Module (VPM*	Project (Number/Name) 4500 / *VIRGINIA Payload Module*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
4500: *VIRGINIA Payload Module*	-	57.282	120.602	167.719	-	167.719	100.234	68.989	-	-	-	514.826
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project encompasses Navy RDT&E efforts required to incorporate a modular design for future VIRGINIA Class Submarines (VCS) which integrates strike payload capacity for Tomahawk Land Attack and follow on missiles. The design is targeted for VCS Block V (FY19-23 ships).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Non-Propulsion Electronics System (NPES) Engineering	15.250	25.241	27.506	-	27.506
Articles:	-	-	-	-	-

FY 2014 Accomplishments:

Continued development of VPM system launch control and integration with existing VIRGINIA Class combat systems. Integrated and automated launch processes to enable efficient launch of payloads. Assessed launcher electronics and software design to support rapid, low cost integration and testing of payloads. Reduced overall launch electronics weight and footprint, and provided increased unit space for future payload electronics. Specified and developed interfaces including software for VPM systems and existing C3I systems.

FY 2015 Plans:

Continue development of VPM system launch control and integration with existing VIRGINIA Class combat systems. Integrate and automate launch processes to enable efficient launch of payloads. Assess launcher electronics and software design to support rapid, low cost integration and testing of payloads. Reduce overall launch electronics weight and footprint, and provide increased unit space for future payload electronics. Products include specifications, systems diagrams, arrangements, implementation of Advanced Message Queuing Protocol (AMQP) to VPM network (CORBA technology replacement), next generation tomahawk (replaces TLAM BLK IV), implementation of new Tomahawk Control System (PMA280 software), implementation of TTWCS 5.6 supporting tomahawk cell tasking vice tube tasking.

FY 2016 Base Plans:

Continue development of VPM system launch control and integration with existing VIRGINIA Class combat systems. Integrate and automate launch processes to enable efficient launch of payloads. Assess launcher electronics and software design to support rapid, low cost integration and testing of payloads. Reduce overall launch electronics weight and footprint, and provide increased unit space for future payload electronics. Products

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604580N / *(U)Virginia Payload Module (VPM*	**Project (Number/Name)** 4500 / *VIRGINIA Payload Module*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
include specifications, systems diagrams, arrangements, implementation of Advanced Message Queuing Protocol (AMQP) to VPM network (CORBA technology replacement), next generation tomahawk (replaces TLAM BLK IV), implementation of new Tomahawk Control System (PMA280 software), implementation of TTWCS 5.6 supporting tomahawk cell tasking vice tube tasking. ***FY 2016 OCO Plans:*** N/A					
Title: Hull, Mechanical, and Electrical (HM&E) Systems Engineering	42.032	95.361	140.213	-	140.213
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued design efforts for the VPM including integration to existing hull structure, hydrodynamic assessments, hydraulic system design, tube control interface, and internal arrangements to accommodate hardware, electronics and personnel. Developed Integrated Master Schedule (IMS) and Manufacturing Plans. Conducted design studies to assess all ship characteristics including maneuvering, signature levels, shock survivability, operational impacts and life cycle support. Products include specifications, system diagrams, and arrangements. ***FY 2015 Plans:*** Continue design efforts for the VPM including integration to existing hull structure, hydrodynamic assessments, hydraulic system design, tube control interface, and internal arrangements to accommodate hardware, electronics and personnel. Update Integrated Master Schedule (IMS) and Manufacturing Plans. Design studies to assess all ship characteristics including maneuvering, signature levels, shock survivability, operational impacts and life cycle support. Products include specifications, system diagrams, arrangements, technical trade studies, system description documents, develop long lead time components and update requirements matrix. ***FY 2016 Base Plans:*** Continue design efforts for the VPM including integration to existing hull structure, hydrodynamic assessments, hydraulic system design, tube control interface, and internal arrangements to accommodate hardware, electronics and personnel. Executing Integrated Master Schedule (IMS) and Manufacturing Plans. Start payload tube prototype construction. Complete ship specifications and diagrams. Begin development of plug design arrangements and base ship arrangements. Products include specifications, system diagrams, arrangements, system description documents, long lead time components and payload tube prototype. ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604580N / *(U)Virginia Payload Module (VPM*	**Project (Number/Name)** 4500 / *VIRGINIA Payload Module*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	57.282	120.602	167.719	-	167.719

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SCN//2013: *VIRGINIA Class Submarine*	6,462.316	5,832.079	5,340.110	-	5,340.110	5,184.120	5,023.887	6,691.774	6,768.232	-	90,040.091
• OPN/0942: *VA CL Support Equipment*	69.341	70.689	35.747	-	35.747	56.262	49.263	49.672	50.743	Continuing	Continuing
• O&MN/0204283N: *Sub Ops & Safety*	38.776	33.938	31.355	-	31.355	28.028	29.238	30.175	30.770	Continuing	Continuing
• RDT&E/0604558N: *New Design SSN**	58.070	85.125	115.006	-	115.006	112.727	173.190	87.948	84.689	Continuing	Continuing

Remarks

*Note: RDT&E PE 0604558N contains project 3062: Submarine Multi-Mission Team Trainer which is not funding directly related to the VIRGINIA Class Program.

D. Acquisition Strategy

The VIRGINIA Class Submarine Program has implemented Integrated Product and Process Development (IPPD). The traditional distinct phasing of the design process has been replaced with the continuous concurrent engineering IPPD process. The IPPD approach has facilitated a smoother transition from design to manufacturing and has reduced the number of changes typically encountered during construction of the lead and early follow-on ships. In September 1997, Congress passed a law allowing Electric Boat (EB) and Northrop Grumman Newport News (NGNN), now Huntington Ingalls Industries (HII), to team for production of the first four VIRGINIA Class Submarines. Under the teaming agreement, EB remained the design yard for the VIRGINIA Class Submarine and HII became a part of the IPPD process. The Program Office is managing three Multi-Year Procurement (MYP) contracts. The first and second contracts are for the Block II (FY04-08) and Block III (FY09-13) ships. The third contract is for Block IV (FY14-18) ships awarded April 2014. All Block I & II ships (SSNs 774-783) have been delivered. The lead Block III ship, SSN 784, delivered in August 2014 with the remaining 7 ships awarded and under construction. Developmental efforts began in FY13 and will be executed via current Lead Design Yard Agent contract with Electric Boat.

E. Performance Metrics

Preliminary Design Review
Critical Design Review

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604580N / *(U)Virginia Payload Module (VPM*	**Project (Number/Name)** 4500 / *VIRGINIA Payload Module*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Component Development	WR	NSWC : Carderock, MD	0.000	12.500	Mar 2014	12.000	Jan 2015	15.674	Nov 2015	-		15.674	15.815	55.989	-
Component Development	WR	NUWC : Newport, RI	0.000	11.250	Mar 2014	16.290	Jan 2015	7.647	Nov 2015	-		7.647	20.538	55.725	-
Component Development	C/CPFF	Electric Boat : Groton, CT	0.000	33.282	Mar 2014	85.062	Nov 2014	137.148	Nov 2015	-		137.148	132.370	387.862	-
Component Development	C/CPFF	GD-AIS : Pittsfield, MA	0.000	-		7.000	Feb 2015	7.000	Nov 2015	-		7.000	-	14.000	-
		Subtotal	0.000	57.032		120.352		167.469		-		167.469	168.723	513.576	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPAF	URS : Rockville, MD	0.000	0.250	Mar 2014	0.250	Feb 2015	0.250	Nov 2015	-		0.250	0.500	1.250	-
		Subtotal	0.000	0.250		0.250		0.250		-		0.250	0.500	1.250	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	57.282		120.602		167.719		-		167.719	169.223	514.826	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604580N / *(U)Virginia Payload Module (VPM*	**Project (Number/Name)** 4500 / *VIRGINIA Payload Module*

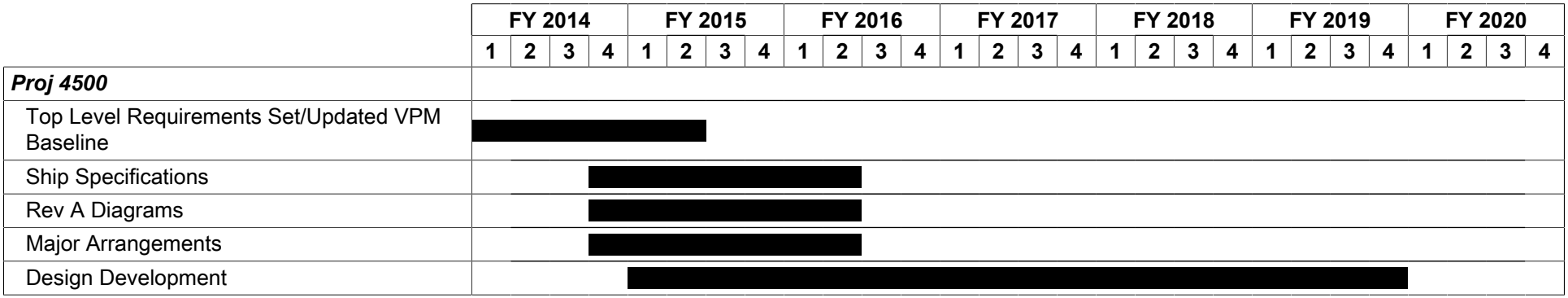


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604580N / *(U)Virginia Payload Module (VPM*	**Project (Number/Name)** 4500 / *VIRGINIA Payload Module*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 4500				
Top Level Requirements Set/Updated VPM Baseline	1	2014	2	2015
Ship Specifications	4	2014	2	2016
Rev A Diagrams	4	2014	2	2016
Major Arrangements	4	2014	2	2016
Design Development	1	2015	4	2019

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604601N *I Mine Development*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	206.403	4.903	14.067	15.122	-	15.122	14.478	17.590	8.000	8.881	Continuing	Continuing
0267: *Mine Improvements*	206.403	4.903	14.067	15.122	-	15.122	14.478	17.590	8.000	8.881	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project is the only R&D program for mine systems, and is the sole support for the capability to maintain the effectiveness of mines facing new threat targets and increasing emphasis on major regional conflicts and littoral warfare in shallow water. Project tasks are grouped into several areas: (1) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations; (2) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms;(3) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields; (4) Test and Evaluation (T&E) to support aircraft certification; (5) Redesigning test sets for Submarine Launch Mob1le Mine (SLMM) to address obsolescence;(6) Developing a conversion kit to convert SLMM warheads into Unmanned Underwater Vehicle (UUV) delivered mines. The first increment (FY15-FY16) focuses on rapid development using existing SLMM components including the Target Detection TDD Mk-57. The second increment (FY16-FY20) will improve upon the first increment by integrating the TDD Mk 71 and adding a remote command and control capability.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	5.041	19.067	3.734	-	3.734
Current President's Budget	4.903	14.067	15.122	-	15.122
Total Adjustments	-0.138	-5.000	11.388	-	11.388
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.139	-			
• Program Adjustments	-	-	11.500	-	11.500
• Rate/Misc Adjustments	0.001	-	-0.112	-	-0.112

Change Summary Explanation

Total Adjustments: FY14 -$138K: SBIR/Misc adjustments.
Total Adjustments: FY15 -$5,000K: Clandestine Mining Capability.
Total Adjustments: FY16 +$11,500K: Clandestine Mining Capability and FY16 -$112K/Misc adjustments.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604601N / *Mine Development*	Project (Number/Name) 0267 / *Mine Improvements*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0267: *Mine Improvements*	206.403	4.903	14.067	15.122	-	15.122	14.478	17.590	8.000	8.881	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project is the only R&D program for mine systems, and is the sole support for the capability to maintain the effectiveness of mines facing new threat targets and increasing emphasis on major regional conflicts and littoral warfare in shallow water. Project tasks are grouped into several areas: (1) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations; (2) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms;(3) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields; (4)Test and Evaluation (T&E) to support aircraft cetification; (5)Redesigning Submarine Launched Moble Mine (SLMM) components to address obsolescence; and (6) Developing conversion kits to enable clandestine UUV delivery of SLMM warheads.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Product Development	2.783	10.593	12.346	-	12.346
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Software Development: Modified algorithms based on testing results. Continued generating OPDATA for fast patrol boat, air cushioned vehicle, and large ship algorithms. Continued to work action items assigned by Navy and Air Force fuze safety boards. Continued modification to mine data recorder design. Concluded design of mine standoff delivery (Wing Kit) capability and built prototype system for evaluation. Conducted B52 aircraft certification testing.					
FY 2015 Plans: Modify algorithms based on testing results. Continue generating OPDATA for the Fast Patrol Boat, Air cushioned Vehicle, and large ship algorithms. Develop replacement test set to address SLMM obsolence issues. Design a clandestine delivered mine using existing SLMM components and TDD MK 57, capable of delivery by UUV. Modifications to fuze components, batteries, weapon casing and vehicle interfaces will be designed, prototypes fabricated and weapons integrated with designated delivery platform.					
FY 2016 Base Plans: Modify algorithms based on testing results. Continue generating OPDATA for the Fast Patrol Boat, Air cushioned Vehicle, and large ship algorithms. Continue to work action items assigned by Navy and Air Force fuse safety boards. Develop replacement test set to address SLMM obsolence issues. Continue development					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604601N / *Mine Development*	**Project (Number/Name)** 0267 / *Mine Improvements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
of a conversion kit to convert SLMM warheads into UUV delivered mines. Begin development of an upgrade to include remote command and control and integration of pogrammable Target Detection Device Mk 71. ***FY 2016 OCO Plans:*** N/A					
Title: Support ***Articles:***	0.050 -	0.050 -	0.050 -	- -	0.050 -
FY 2014 Accomplishments: Information Assurance (IA) and technical support of Mine Warfare development lab for Quickstrike Mines. ***FY 2015 Plans:*** Information Assurance (IA) and technical support of Mine Warfare development lab for Quickstrike Mines. ***FY 2016 Base Plans:*** Information Assurance (IA) and technical support of Mine Warfare development lab for Quickstrike Mines. ***FY 2016 OCO Plans:*** N/A					
Title: Test and Evaluation ***Articles:***	2.020 -	3.374 -	2.676 -	- -	2.676 -
FY 2014 Accomplishments: Continued Aircraft certification (B-52). Conducted ground testing of MINES standfoff (wing kit) prototype. ***FY 2015 Plans:*** Continue Aircraft certification (to include F/A-18). Conduct final in water testing for planned algorithms. Performed test and evaluation on the MINES standoff (Wing Kit) capabiltiy. ***FY 2016 Base Plans:*** Continue Aircraft certification (to include F/A-18). Begin safety qualification testing of fuze and battery components clandestine delivered mine. Conduct in-water test of clandestine delivered mine to evaluate interfaces with delivery vehicle, proper deployment and safe arming sequence. ***FY 2016 OCO Plans:*** N/A					
Title: Management: ***Articles:***	0.050 -	0.050 -	0.050 -	- -	0.050 -

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604601N / *Mine Development*	**Project (Number/Name)** 0267 / *Mine Improvements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Program Management Support, contract support and Travel ***FY 2015 Plans:*** Program Management Support, contract support and Travel ***FY 2016 Base Plans:*** Program Management Support, contract support and Travel ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	4.903	14.067	15.122	-	15.122

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• WPN 3231: *Quickstrike Mine*	7.800	6.966	13.254	-	13.254	12.773	11.102	8.504	8.680	-	93.166

Remarks

D. Acquisition Strategy

Procurement of Target Detecting Device (TDD) Mk 71, MK 62/63 kits, MK 65 kits and associated components.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604601N / *Mine Development*	Project (Number/Name) 0267 / *Mine Improvements*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	NSWC PC : WX	115.995	1.362	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Ancillary Hardware Development	C/CPAF	Various : Various	3.358	0.254	Nov 2013	0.400	Nov 2014	0.050	Nov 2015	-		0.050	Continuing	Continuing	Continuing
Ship Suitability	WR	NSWC PC : WX	2.467	-		-		-		-		-	Continuing	Continuing	Continuing
GFE	C/CPAF	Various : Various	4.790	-		-		-		-		-	Continuing	Continuing	Continuing
Software Development	WR	NSWC, PC : WX	17.655	1.167	Nov 2013	1.193	Nov 2014	1.200	Nov 2015	-		1.200	-	21.215	-
Clandestine Mine	WR	NSWC, PC : WX	0.000	-		5.950	Nov 2014	7.133	Nov 2015	-		7.133	-	13.083	-
Clandestine Mine	WR	NSWC, IH : WX	0.000	-		3.050	Nov 2014	3.963	Nov 2015	-		3.963	-	7.013	-
		Subtotal	144.265	2.783		10.593		12.346		-		12.346	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IA/ILS/Technical	WR	NSWC PC : WX	0.722	0.050	Nov 2013	0.050	Nov 2014	0.050	Nov 2015	-		0.050	Continuing	Continuing	Continuing
		Subtotal	0.722	0.050		0.050		0.050		-		0.050	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	WR	NSWC PC : WX	24.502	2.020	Nov 2013	3.374	Nov 2014	2.676	Nov 2015	-		2.676	-	32.572	-
		Subtotal	24.502	2.020		3.374		2.676		-		2.676	-	32.572	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604601N / *Mine Development*	Project (Number/Name) 0267 / *Mine Improvements*

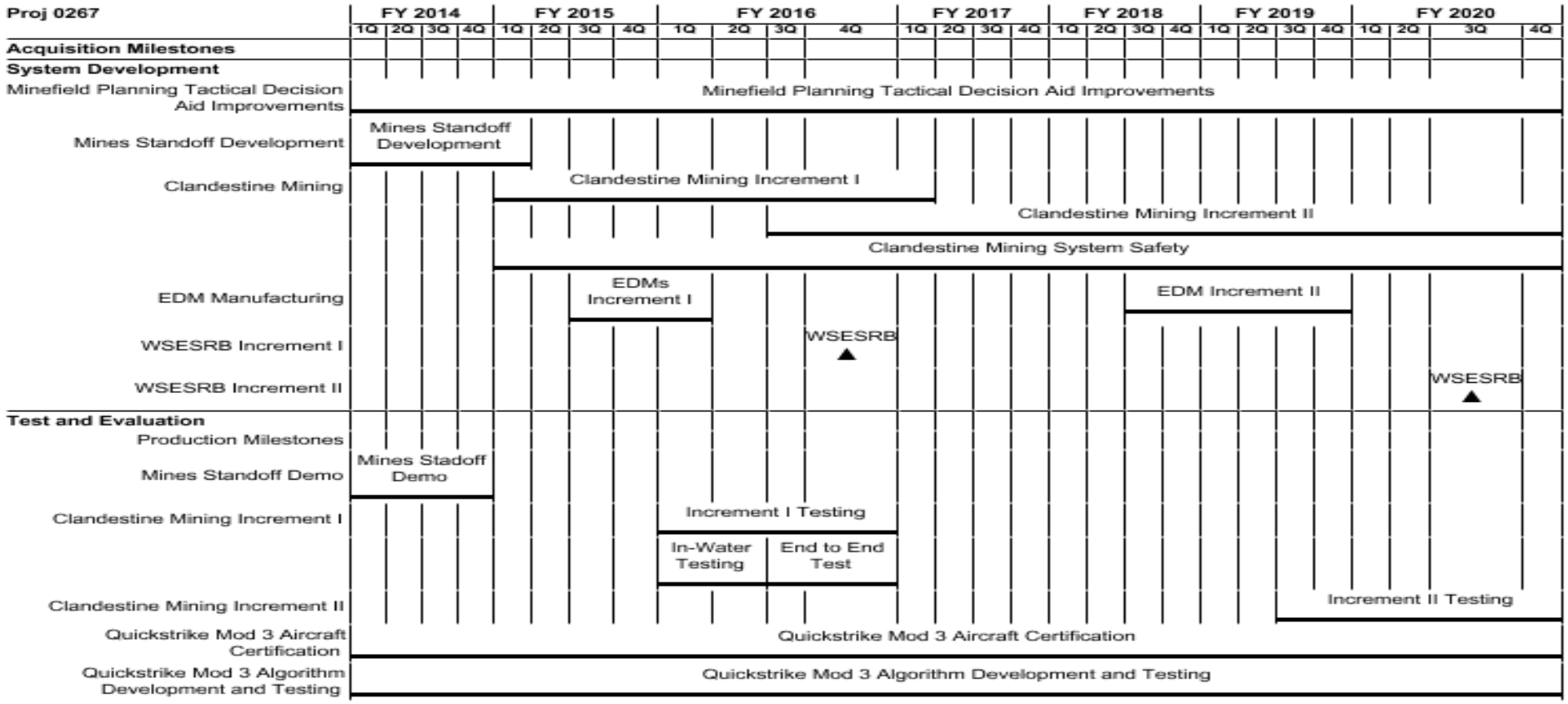
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	C/CPAF	Various : Various	36.102	0.050	Nov 2013	0.050	Nov 2014	0.050	Nov 2015	-		0.050	-	36.252	-
Program Management Support	C/CPAF	Various : Various	0.728	-		-		-		-		-	Continuing	Continuing	Continuing
Travel	Various	NAVSEA : PD	0.074	-		-		-		-		-	Continuing	Continuing	Continuing
DAWDF	Various	Various : Various	0.010	-		-		-		-		-	-	0.010	-
		Subtotal	36.914	0.050		0.050		0.050		-		0.050	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	206.403	4.903		14.067		15.122		-		15.122	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604601N / *Mine Development*	**Project (Number/Name)** 0267 / *Mine Improvements*



2016PB - 0604601N - 0267

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604601N / *Mine Development*	**Project (Number/Name)** 0267 / *Mine Improvements*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0267				
System Development: Minefield Planning Tactical Decision Aid Improvements:	1	2014	4	2020
System Development: Mines Standoff Development:	1	2014	1	2015
System Development: Clandestine Mining: Increment I	1	2015	1	2017
System Development: Clandestine Mining: Increment II	3	2016	4	2020
System Development: Clandestine Mining: System Safety	1	2015	4	2020
System Development: EDM Manufacturing: EDM Manfacturing Increment I	3	2015	1	2016
System Development: EDM Manufacturing: EDM Maufacturing Increment II	3	2018	4	2019
System Development: WSESRB Increment I: Increment I	4	2016	4	2016
System Development: WSESRB Increment II: Increment II	3	2020	3	2020
Test and Evaluation: Mines Standoff Demo:	1	2014	4	2014
Test and Evaluation: Clandestine Mining Increment I: Testing	1	2016	4	2016
Test and Evaluation: Clandestine Mining Increment I: In-Water Testing	1	2016	2	2016
Test and Evaluation: Clandestine Mining Increment I: End to End Test	3	2016	4	2016
Test and Evaluation: Clandestine Mining Increment II: Testing	3	2019	4	2020
Test and Evaluation: Quickstrike Mod 3 Aircraft Certification:	1	2014	4	2020
Test and Evaluation: Quickstrike Mod 3 Algorithm Development and Testing:	1	2014	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604610N *I Lightweight Torpedo Development*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	237.898	26.098	35.280	33.738	-	33.738	16.701	14.757	13.926	14.211	Continuing	Continuing
2234: *Lightweight Hybrid Torpedo*	237.898	26.098	25.280	33.738	-	33.738	16.701	14.757	13.926	14.211	Continuing	Continuing
9999: *Congressional Adds*	0.000	-	10.000	-	-	-	-	-	-	-	-	10.000

A. Mission Description and Budget Item Justification

The Lightweight Torpedo (LWT) program designs, integrates and tests the LWT MK 54. The LWT develpment program provides performance improvements in shallow water and counter-measure environments. The Engineering Development Model (EDM) contract has delivered 21 MK 54 Mod 1 EDM units to support the in-water test program. The EDM contract for the MK54 Mod 1 was awarded to Progeny Systems Corporation in September 2008. The High Altitude Anti-Submarine Warfare Weapon Capability (HAAWC) development and Low Rate Initial Production (LRIP) contract was awarded to Boeing on April 2013. Initial Operating Capability (IOC) of the MK 54 Mod 0 was achieved in 2004. IOC of the MK 54 equipped VLA was achieved in 2010.

Budget supports Pre-Planned Product Improvement (P3I) program using an incremental developmental acquisition approach combining hardware and Advanced Processor Build (APB) software upgrades to enable rapid fielding of improvements to the fleet. The P3I program will focus on common LWT and Heavyweight Torpedo (HWT) hardware and software architecture enhancements that will provide re-architecture, broadband array improvements,and APB software improvements. Future APB software builds will utilize the common torpedo software to deliver software and tactics to both the MK 54 LWT and MK 48 Advanced Capability (ADCAP). The P3I program will also support development of enhanced weapon delivery methods, including the high altitude launch of the MK 54 from Maritime Patrol Aircraft (MPA) with the HAAWC.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	26.444	25.280	18.668	-	18.668
Current President's Budget	26.098	35.280	33.738	-	33.738
Total Adjustments	-0.346	10.000	15.070	-	15.070
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.346	-			
• Program Adjustments	-	-	-2.600	-	-2.600
• Rate/Misc Adjustments	-	-	17.670	-	17.670

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604610N *I Lightweight Torpedo Development*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Project: 9999: *Congressional Adds*		
Congressional Add: *LWT SBIR (Cong)*	-	10.000
Congressional Add Subtotals for Project: 9999	-	10.000
Congressional Add Totals for all Projects	-	10.000

Change Summary Explanation

The FY 2016 funding request was reduced by $3.066 million to account for the availability of prior year execution balances. Miscellaneous adjustment increase will fund FY16 HAAWC development contract.

Schedule: MK 54 MOD 1 Production Readiness Review (PRR) start date change is due to the addition of additional requirements and schedule delays in completion of the MK 54 MOD 1 qualification testing. Change in estimated completion of MK 54 MOD 1 Developmental Testing (DT) from Q1FY17 to Q3FY17. Change in the start of the MK 54 MOD 1 Operational Testing (OT) is due to change in completion of the MK 54 MOD 1 DT. Change in HAAWC Design/ Development/Qualification and PRR are due to contractor identified delays in concept development.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604610N / *Lightweight Torpedo Development*	Project (Number/Name) 2234 / *Lightweight Hybrid Torpedo*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2234: *Lightweight Hybrid Torpedo*	237.898	26.098	25.280	33.738	-	33.738	16.701	14.757	13.926	14.211	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The program designs, integrates and tests the LWT, MK54. The LWT provides performance improvements in shallow water, counter-measure environments. The EDM contract was awarded to Raytheon Systems Company in June 1996. IOC of the MK54 Mod 0 achieved in 2004. IOC of MK 54 equipped VLA MK 54 achieved in 2010.

FY 2014 achievement of Block Upgrade (BUG) IOC
FY 2015 HAAWC Contract delivery of 6 engineering units
FY 2015 HAAWC Contract delivery of 14 EDM units
FY 2017 achievement of HAAWC IOC
FY 2021 achievement of MK 54 Mod 1 IOC

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: MK54 Pre-Planned Product Improvement	26.098	25.280	33.738	-	33.738
Articles:	-	14	-	-	-
Description: MK54 P3I includes the MK54 VLA integration and HAAWC programs.					
FY 2014 Accomplishments: Continued development of hardware/software improvements for P3I program. Continued development of MK54 high altitude launch capability from MPA (HAAWC). Completed MK54 MOD 1 qualification testing.					
FY 2015 Plans: Conduct MK54 MOD 1 Production Readiness Review (PRR). Continue development of hardware/software improvements for P3I program. Continue development of MK54 high altitude launch capability from MPA (HAAWC). Conduct first HAAWC flight tests. Start MK54 Mod 1 Developmental Testing (DT).					
FY 2016 Base Plans: Continue development of hardware/software improvements for P3I program.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604610N / *Lightweight Torpedo Development*	**Project (Number/Name)** 2234 / *Lightweight Hybrid Torpedo*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue development of MK 54 high altitude launch capability from MPA (HAAWC). Conduct HAAWC DT. Continue MK54 MOD 1 DT. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	26.098	25.280	33.738	-	33.738

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• WPN/3215: *MK54 Torpedo Mods*	122.098	64.155	113.219	-	113.219	132.428	140.341	147.441	152.630	Continuing	Continuing

Remarks

D. Acquisition Strategy

The EDM contract held by Raytheon Systems Company supports an incremental upgrade strategy to counter evolving threats. The award of EDM contracts among qualified producers includes both hardware and software upgrades. The contract was awarded as a cost-plus-award fee in June 1996, and was converted to cost-plus-incentive fee in December 1998. Sole source production contract awarded in FY 2004 for MK48 ADCAPS MODS/CBASS and MK54 LWT. The MK54 LWT kit fixed-price-incentive (firm target) procurement contract was awarded in September 2011 to Raytheon Systems Company. The MK 54 Mod 1 cost-plus-fixed-fee development contract was awarded to Progeny in September 2008.

E. Performance Metrics

Milestone reviews.
System engineering technical review.
Earned value management reviews.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604610N / *Lightweight Torpedo Development*	Project (Number/Name) 2234 / *Lightweight Hybrid Torpedo*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development - PRIOR YEAR	WR	NUWC : Newport/ Keyport	43.837	2.219	Oct 2013	1.584	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Hardware Development - MK 54 MOD 1	WR	NUWC : Newport	0.000	-		-		1.025	Nov 2015	-		1.025	-	1.025	-
Hardware Development - MK 54 MOD 1	SS/FP	Progeny Systems : Not Specified	24.394	-		-		-		-		-	-	24.394	-
Hardware Development - HAAWC	WR	NSWCCD : Carderock, MD	0.050	-		-		-		-		-	-	0.050	-
Hardware Development - HAAWC	C/CPAF	Boeing : St. Louis, MO	49.961	9.851	Apr 2014	6.369	Apr 2015	21.267	Dec 2015	-		21.267	Continuing	Continuing	Continuing
Hardware Development - HAAWC	WR	NSWCDD : Dahlgren, VA	0.000	-		0.400	Oct 2014	-		-		-	-	0.400	-
Hardware Development - INSENSITIVE MUNITIONS	C/BA	NUWC : Newport	0.000	-		-		0.210	Dec 2015	-		0.210	-	0.210	-
Hardware Development - INSENSITIVE MUNITIONS	WR	NSWC : Indian Head, MD	0.000	-		-		0.240	Dec 2015	-		0.240	-	0.240	-
Hardware Development - PRIOR YEAR	WR	NSWC : Indian Head, MD	3.140	0.990	Oct 2013	0.900	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Software Development - PRIOR YEAR	WR	NUWC : Newport/ Keyport	19.355	0.375	Oct 2013	0.059	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Software Development - MK 54 MOD 1	WR	NUWC : Newport	0.000	-		-		0.010	Oct 2015	-		0.010	-	0.010	-
Software Development - MK 54 MOD 1	C/CPFF	MIT : Boston, MA	0.300	0.045	Oct 2013	0.328	Oct 2014	0.337	Jan 2016	-		0.337	-	1.010	-
Software Development - MK 54 MOD 1	C/BA	ARL/PSU : Philadephia, PA	0.000	-		0.201	Oct 2014	0.207	Jan 2016	-		0.207	-	0.408	-
Systems Engineering - VLA	SS/FP	Lockheed Martin: VLA : Akron, OH	7.606	-		-		-		-		-	-	7.606	-
Systems Engineering - HAAWC	WR	NSWC PMA 290 : Paxtuxent, MD	6.082	1.250	Oct 2013	0.750	Oct 2014	0.500	Oct 2015	-		0.500	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604610N / *Lightweight Torpedo Development*	Project (Number/Name) 2234 / *Lightweight Hybrid Torpedo*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering - HAAWC	WR	NAWCWD : China Lake	3.706	1.400	Oct 2013	-	Oct 2014	0.500	Oct 2015	-		0.500	-	5.606	-
Systems Enginnering - HAAWC	C/CPFF	John Hopkins University : Baltimore, MD	0.050	-		-		-		-		-	-	0.050	-
Systems Engineering	SS/FP	SPA Inc. : Not Specified	0.640	-		-		-		-		-	-	0.640	-
Systems Engineering	WR	Naval Operational Logistics Support Center (NOLSC) : Not Specified	0.025	-		-		-		-		-	-	0.025	-
System Test & Evaluation - HAAWC	WR	NUWC : Newport/ Keyport	20.111	0.770	Oct 2013	0.350	Oct 2014	0.350	Nov 2015	-		0.350	Continuing	Continuing	Continuing
		Subtotal	179.257	16.900		10.941		24.646		-		24.646	-	-	-

Remarks

Increase in Product Development funds FY16 HAAWC development contract.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	WR	NUWC : Newport/ Keyport	1.669	1.053	Oct 2013	1.167	Oct 2014	0.458	Oct 2015	-		0.458	-	4.347	-
Program Management Support	WR	NUWC : Newport/ Keyport	3.391	1.466	Oct 2013	1.362	Oct 2014	1.362	Oct 2015	-		1.362	-	7.581	-
Program Management Support	C/BA	ARL/PSU : Philadephia, PA	0.441	-		-		-		-		-	-	0.441	-
Program Management Support	Various	NAVSEA : Not Specified	0.106	0.062	Oct 2013	-		-		-		-	-	0.168	-
Systems Engineering	WR	NUWC : Newport/ Keyport	0.120	-		-		-		-		-	-	0.120	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604610N / *Lightweight Torpedo Development*	Project (Number/Name) 2234 / *Lightweight Hybrid Torpedo*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Test and Evaluation	WR	NUWC : Newport/ Keyport	23.077	2.405	Oct 2013	1.614	Oct 2014	1.444	Oct 2015	-		1.444	Continuing	Continuing	Continuing
		Subtotal	28.804	4.986		4.143		3.264		-		3.264	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering - MK 54 MOD 1	WR	NSWC : Carderock	0.090	-	Oct 2013	0.694	Oct 2014	0.475	Oct 2015	-		0.475	-	1.259	-
System Test and Evaluation - PRIOR YEAR	WR	NUWC : Newport/ Keyport	22.087	3.053	Oct 2013	7.437	Oct 2014	-		-		-	Continuing	Continuing	Continuing
System Test and Evalution - MK 54 MOD 1	WR	NUWC : Keyport	0.000	-		-		1.097	Oct 2015	-		1.097	-	1.097	-
System Test and Evaluation - MK 54 MOD 1	WR	NUWC : Newport	0.000	-		-		1.561	Oct 2015	-		1.561	-	1.561	-
System Test and Evaluation - MK 54 MOD 1	WR	NSWC : Indian Head, MD	0.015	-	Oct 2013	0.758	Oct 2014	0.570	Oct 2015	-		0.570	-	1.343	-
System Test and Evaluation - MK 54 MOD 1	C/CPIF	ARL/PSU : Philadephia, PA	0.068	-		-		-		-		-	-	0.068	-
System Test and Evaluation - MK 54 MOD 1	TBD	Aberdeen Test Center : Aberdeen, MD	0.000	-	Oct 2013	0.318	Oct 2014	0.413	Oct 2015	-		0.413	-	0.731	-
System Test and Evaluation - MK 54 MOD 1	WR	OPTEVFOR : Not Specified	0.000	-		-		0.750	Oct 2015	-		0.750	-	0.750	-
System Test and Evaluation - PRIOR YEAR	WR	OPTEVFOR : Not Specified	2.640	0.500	Oct 2013	0.350	Oct 2014	-		-		-	Continuing	Continuing	Continuing
System Test and Evaluation - HAAWC	WR	OPTEVFOR : Not Specified	0.000	-		-		0.250	Nov 2015	-		0.250	-	0.250	-
System Test and Evaluation - HAAWC	WR	NSWC : Dalgren, VA	0.000	-		-		0.091	Oct 2015	-		0.091	-	0.091	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604610N / *Lightweight Torpedo Development*	**Project (Number/Name)** 2234 / *Lightweight Hybrid Torpedo*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Test and Evaluation - HAAWC	WR	NUWC : Keyport	0.000	-		-		0.152	Oct 2015	-		0.152	-	0.152	-
System Test and Evaluation - WEAPON TRANSPORT	WR	NUWC : Keyport	0.000	-		-		0.026	Oct 2015	-		0.026	-	0.026	-
System Test and Evaluation	TBD	NAVSEA : Not Specified	1.278	-		-		-		-		-	-	1.278	-
		Subtotal	26.178	3.553		9.557		5.385		-		5.385	-	-	-

Remarks

Decrease in FY16 T&E funding due to reduced number of MK 54 Mod 1 Developmental Test (DT) events.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	NAVSEA : Not Specified	0.379	0.026	Oct 2013	0.027	Oct 2014	0.027	Oct 2015	-		0.027	Continuing	Continuing	Continuing
Program Management Support	Various	Alion Science : Not Specified	2.694	0.462	Oct 2013	0.462	Oct 2014	0.416	Oct 2015	-		0.416	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	ARL/PSU : Philadephia, PA	0.267	0.171	Oct 2013	0.150	Oct 2014	-	Oct 2015	-		-	-	0.588	-
Program Management Support	Various	NAVSEA : Not Specified	0.093	-		-		-		-		-	-	0.093	-
Acquisition Workforce Fund	Various	Various : Various	0.226	-		-		-		-		-	-	0.226	-
		Subtotal	3.659	0.659		0.639		0.443		-		0.443	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	237.898	26.098		25.280		33.738		-		33.738	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604610N / *Lightweight Torpedo Development*	Project (Number/Name) 2234 / *Lightweight Hybrid Torpedo*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604610N / *Lightweight Torpedo Development*	**Project (Number/Name)** 2234 / *Lightweight Hybrid Torpedo*

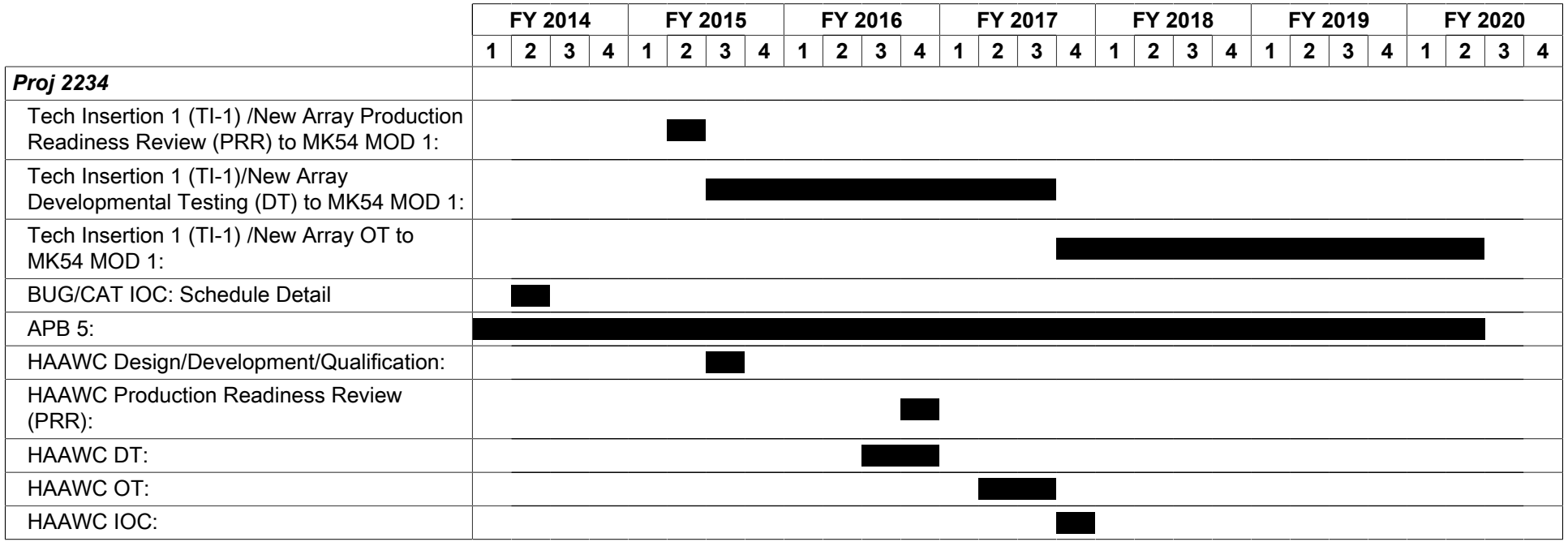


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604610N / *Lightweight Torpedo Development*	**Project (Number/Name)** 2234 / *Lightweight Hybrid Torpedo*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2234				
Tech Insertion 1 (TI-1) /New Array Production Readiness Review (PRR) to MK54 MOD 1:	2	2015	2	2015
Tech Insertion 1 (TI-1)/New Array Developmental Testing (DT) to MK54 MOD 1:	3	2015	3	2017
Tech Insertion 1 (TI-1) /New Array OT to MK54 MOD 1:	4	2017	2	2020
BUG/CAT IOC: Schedule Detail	2	2014	2	2014
APB 5:	1	2014	2	2020
HAAWC Design/Development/Qualification:	3	2015	3	2015
HAAWC Production Readiness Review (PRR):	4	2016	4	2016
HAAWC DT:	3	2016	4	2016
HAAWC OT:	2	2017	3	2017
HAAWC IOC:	4	2017	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604610N / *Lightweight Torpedo Development*	Project (Number/Name) 9999 / *Congressional Adds*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9999: *Congressional Adds*	-	-	10.000	-	-	-	-	-	-	-	-	10.000
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Congressional add for Small Business Technology Insertion.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015
Congressional Add: LWT SBIR (Cong)	-	10.000
FY 2014 Accomplishments: N/A		
FY 2015 Plans: Develop producability improvements, COTS modernization, and test equipment upgrades		
Congressional Adds Subtotals	-	10.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Milestone reviews.
System engineering technical review.
Earned value management reviews.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604610N / *Lightweight Torpedo Development*	**Project (Number/Name)** 9999 / *Congressional Adds*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	WR	NUWC : Newport	0.000	-		2.300	Apr 2015	-		-		-	-	2.300	-
Hardware Development	TBD	Progeny : Not Specified	0.000	-		7.700	Jul 2016	-		-		-	-	7.700	-
		Subtotal	0.000	-		10.000		-		-		-	-	10.000	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		10.000		-		-		-	-	10.000	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604610N / *Lightweight Torpedo Development*	**Project (Number/Name)** 9999 / *Congressional Adds*

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Proj 9999																												
Producability Improvement, COTS Modernization, Test Equipment Upgrade									[redacted]																			

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604610N / *Lightweight Torpedo Development*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9999				
Producability Improvement, COTS Modernization, Test Equipment Upgrade	3	2015	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604654N *I JT Service EOD*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	273.830	8.872	8.985	8.123	-	8.123	9.962	9.873	9.683	9.877	Continuing	Continuing
1829: *Expl Ord Disp Proc*	273.830	8.872	8.985	8.123	-	8.123	9.962	9.873	9.683	9.877	Continuing	Continuing

A. Mission Description and Budget Item Justification

DOD Directive 5160.62 assigned to the Secretary of the Navy (SECNAV) the responsibility of Single Manager for Explosive Ordnance Disposal (EOD) Technology and Training (T&T). It also assigns to the Executive Manager for EODT&T the responsibility to provide for technical development, validation, preparation, Joint Service approval, and distribution of all EOD procedures texts, graphic aids, manuals, and bulletins. This program provides for the development of validated EOD render-safe procedures (RSPs), key identification features, and safety information used by EOD personnel in all four military services when performing their mission of rendering safe and disposing of both domestic and foreign explosive ordnance and Improvised Explosive Devices (IEDs) that pose a threat to military operations, installations, personnel, and materials. In addition, EOD render-safe procedures for foreign ordnance must be developed as soon as possible after gaining knowledge of its existence. This effort requires exploitation and analysis of the foreign ordnance prior to development of the procedures. The program also provides for the development and evaluation of prototypical EOD Tier Two solutions sets for threats Identified in the National Response Framework. This effort also provides resources necessary for the Foreign Threat Mine Acquisition/Exploitation (FTMA/E) program. This effort includes acquisition, inert certification, intelligence and operational exploitation, analysis, procedure development, and disposition of the highest priority foreign threat naval mines.

This program is a non-acquisition program (without traditional acquisition milestones) with on-going, continuous delivery of urgent and periodic documented procedures and identification guides.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	8.897	8.985	9.178	-	9.178
Current President's Budget	8.872	8.985	8.123	-	8.123
Total Adjustments	-0.025	-	-1.055	-	-1.055
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.025	-			
• Rate/Misc Adjustments	-	-	-1.055	-	-1.055

Change Summary Explanation

The FY 2016 funding request was reduced by $1 million to account for the availability of prior year execution balances.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604654N *I JT Service EOD*

Program Adjustments: FY16 $1.055M in Other Total MISC Adjustments.

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604654N / *JT Service EOD*	Project (Number/Name) 1829 / *Expl Ord Disp Proc*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1829: *Expl Ord Disp Proc*	273.830	8.872	8.985	8.123	-	8.123	9.962	9.873	9.683	9.877	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

DOD Directive 5160.62 assigned to the Secretary of the Navy (SECNAV) the responsibility of Single Manager for Explosive Ordnance Disposal (EOD) Technology and Training (T&T). It also assigns to the Executive Manager for EODT&T the responsibility to provide for technical development, validation, preparation, Joint Service approval, and distribution of all EOD procedures texts, graphic aids, manuals, and bulletins. This program provides for the development of validated EOD render-safe procedures (RSPs), key identification features, and safety information used by EOD personnel in all four military services when performing their mission of rendering safe and disposing of both domestic and foreign explosive ordnance and Improvised Explosive Devices (IEDs) that pose a threat to military operations, installations, personnel, and materials. In addition, EOD render-safe procedures for foreign ordnance must be developed as soon as possible after gaining knowledge of its existence. This effort requires exploitation and analysis of the foreign ordnance prior to development of the procedures. The program also provides for the development and evaluation of prototypical EOD Tier Two solutions sets for threats Identified in the National Response Framework. This effort also provides resources necessary for the Foreign Threat Mine Acquisition/Exploitation (FTMA/E) program. This effort includes acquisition, inert certification, intelligence and operational exploitation, analysis, procedure development, and disposition of the highest priority foreign threat naval mines.

This program is a non-acquisition program (without traditional acquisition milestones) with on-going, continuous delivery of urgent and periodic documented procedures and identification guides.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Render-Safe Procedures (RSP) Development	4.212	3.837	3.420	-	3.420
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Identified, reverse engineered, analyzed and exploited ordnance items and developed EOD Render-Safe procedures.					
FY 2015 Plans: Exploit and analyze high priority foreign threat ordnance items, and develop render-safe procedures for new domestic and foreign ordnance for the EOD community.					
FY 2016 Base Plans: Identify, reverse engineer, analyze and exploit ordnance items for the purpose of developing and or updating EOD render-safe procedures.					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604654N / *JT Service EOD*	**Project (Number/Name)** 1829 / *Expl Ord Disp Proc*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Improvised Nuclear Device (IND) Countermeasures	2.588	2.738	2.510	-	2.510
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Analyzed and exploited IND and WMD threats. Developed EOD procedures to combat those threats.					
FY 2015 Plans: Develop specialized procedures for EOD response elements to stay ahead of the response to IND and WMD threats.					
FY 2016 Base Plans: Analyze and exploit IND and WMD threats. Develop new or updated specialized procedures for EOD response elements and maintain technologies to stay ahead of the evolving IND and WMD threats.					
FY 2016 OCO Plans: N/A					
Title: Foreign Mine Acquisition	2.072	2.410	2.193	-	2.193
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Acquired, analyzed and exploited high priority foreign mines. Supported development of mine countermeasures procedures for acquired foreign mines.					
FY 2015 Plans: Acquire high priority foreign threat naval mines for the purpose of the exploitation and the development of procedures to counter these foreign mines.					
FY 2016 Base Plans: Acquire acquisition high priority foreign threat naval mines for analysis and exploitation to support development of countermeasure procedures.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	8.872	8.985	8.123	-	8.123

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604654N / *JT Service EOD*	**Project (Number/Name)** 1829 / *Expl Ord Disp Proc*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This is a non-acquisition program.

E. Performance Metrics

Analyzed and exploited foreign and domestic ordnance resulting in the development of 114 validated render-safe and disassembly procedures and the development of 2,714 procedures providing ordnance key identification features, safety information and other technical details for the Joint Service EOD community. Also developed and validated 437 IED / WMD countermeasures procedures.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604654N / *JT Service EOD*	Project (Number/Name) 1829 / *Expl Ord Disp Proc*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Foreign Mine Acquisition	WR	NSWCPC : PANAMA CITY, FL	3.553	2.057	Oct 2013	2.420	Oct 2014	2.178	Oct 2015	-		2.178	Continuing	Continuing	Continuing
Special Mission OCO	WR	EODTD : Indian Head, MD	3.500	-		-		-		-		-	-	3.500	-
RSP Development	WR	EODTD : Indian Head, MD	178.472	4.112	Oct 2013	3.575	Oct 2014	3.315	Oct 2015	-		3.315	Continuing	Continuing	Continuing
IND Countermeasures	WR	EODTD : Indian Head, MD	44.716	2.338	Oct 2013	2.475	Oct 2014	2.140	Oct 2015	-		2.140	Continuing	Continuing	Continuing
Foreign Mine Acquisition	WR	ONI : Suitland, MD	23.385	0.015	Oct 2013	0.015	Oct 2014	0.015	Oct 2015	-		0.015	Continuing	Continuing	Continuing
Program Management Personnel	WR	EODTD : Indian Head, MD	3.940	0.250	Oct 2013	0.250	Oct 2014	0.250	Oct 2015	-		0.250	Continuing	Continuing	Continuing
Miscellaneous	WR	EODTD : Indian Head, MD	16.264	0.100	Oct 2013	0.250	Oct 2014	0.225	Oct 2015	-		0.225	Continuing	Continuing	Continuing
		Subtotal	273.830	8.872		8.985		8.123		-		8.123	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	273.830	8.872		8.985		8.123		-		8.123	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604654N / *JT Service EOD*	**Project (Number/Name)** 1829 / *Expl Ord Disp Proc*

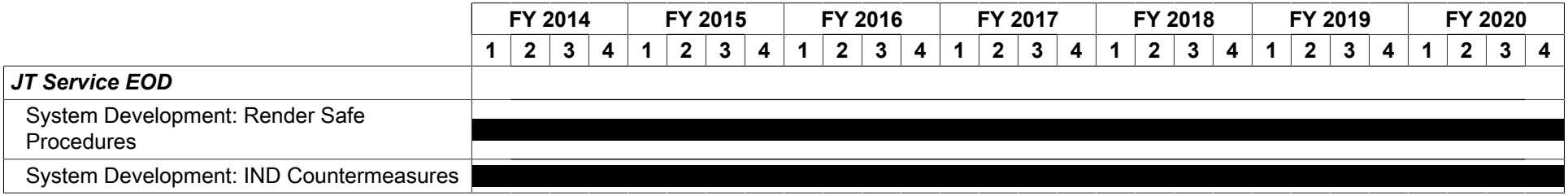


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604654N / *JT Service EOD*	**Project (Number/Name)** 1829 / *Expl Ord Disp Proc*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
JT Service EOD				
System Development: Render Safe Procedures	1	2014	4	2020
System Development: IND Countermeasures	1	2014	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604703N *I Personnel, Trng, Sim, & Human Factors*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	13.224	4.233	7.669	7.686	-	7.686	15.415	8.176	8.150	8.326	Continuing	Continuing
1822: *Manpower Pers & Human Fact System*	13.224	4.233	7.669	7.686	-	7.686	15.415	8.176	8.150	8.326	Continuing	Continuing

A. Mission Description and Budget Item Justification

This non-acquisition category program provides funds for continued (but less risky) R&D for broader application of advanced technologies to transition successful research proof-of-concept demonstrations into operational use. Development of prototype systems to support and/or improve operational requirements of manpower and personnel sponsors is the primary goal of this Engineering Development Program. The R&D Program features the use of a broad range of technologies from cognitive science, human systems integration, learning management, content management & delivery, learning and ability testing techniques, mathematical modeling and optimization, statistical and econometric forecasting, intelligent systems, data visualization, data mining, simulation, decision support systems, and new services oriented architectures to include applications, databases and communications configuration. This non-acquisition category program provides funds for continued R&D for broader application of advanced training technologies and the science of learning to transition successful research proof of concept demonstrations and rapid prototyping of Commercial off the Shelf/Government off the Shelf (COTS/GOTS) technologies into operational use.

B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	4.233	7.669	8.293	-	8.293
Current President's Budget	4.233	7.669	7.686	-	7.686
Total Adjustments	-	-	-0.607	-	-0.607
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-0.607	-	-0.607

Change Summary Explanation

The FY 2016 funding request was reduced by $1.1 million to account for the availability of prior year execution balances.

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604703N / *Personnel, Trng, Sim, & Human Factors*	Project (Number/Name) 1822 / *Manpower Pers & Human Fact System*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1822: *Manpower Pers & Human Fact System*	13.224	4.233	7.669	7.686	-	7.686	15.415	8.176	8.150	8.326	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

L1822/Manpower, Personnel, Training, Sim, and Human Factors. This non-acquisition category program provides funds continued (but less risky) R&D for broader application of advanced technologies to transition successful 6.3 research proof-of-concept demonstrations into operational use. Development of prototype systems to support and/or improve operational requirements of manpower and personnel sponsors is the primary goal of this Engineering Development Program. The 6.5 R&D Program features the use of a broad range of technologies from cognitive science and ability testing techniques, mathematical modeling and optimization, statistical and econometric forecasting, intelligent systems, data visualization, data mining, simulation, decision support systems and new database and communications configuration.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Manpower Pers & Human Fact System	4.233	7.669	7.686	-	7.686
Articles:	7	8	9	-	9
Description: This program is funded under RDT&E operational systems development because it encompasses engineering and development of new end-items prior to production approval decision and the upgrading and enhancement of existing MPTE decision support systems, tools and models.					
FY 2014 Accomplishments: - Continued Training and Supply Chain Management Decision Support Systems integration and transition. - Completed Future Naval Warfighter Capabilities (FNWC) Capable Manpower (CM) products. - Continued transition of Future Naval Warfighter Capabilities (FNWC) Capable Manpower (CM) Refresh of early prototypes. - Continued development of Training Capacity Tradeoff Model. - Continued enhancement of products delivered via World Class Modeling. - Continued CNRC Applicant Relationship Management (ARM). - Small Business Innovative Research (SBIR).					
FY 2015 Plans: - Continue Training and Supply Chain Management Decision Support Systems integration and transition. - Continue transition of Future Naval Warfighter Capabilities (FNWC) Capable Manpower (CM) Refresh of early prototypes.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604703N / *Personnel, Trng, Sim, & Human Factors*	**Project (Number/Name)** 1822 / *Manpower Pers & Human Fact System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Continue development of Training Capacity Tradeoff Model. - Continue enhancement of products delivered via World Class Modeling. - Complete CNRC Applicant Relationship Management (ARM). - Start Enlisted Electronic Advancement Worksheet - Start NWC Web/KM. - Small Business Innovative Research (SBIR). ***FY 2016 Base Plans:*** - Continue Training and Supply Chain Management Decision Support Systems integration and transition. - Complete transition of Future Naval Warfighter Capabilities (FNWC) Capable Manpower (CM) Refresh of early prototypes. - Continue development of Training Capacity Tradeoff Model. - Continue enhancement of products delivered via World Class Modeling. - Complete CNRC Applicant Relationship Management (ARM). - Complete Enlisted Electronic Advancement Worksheet. - Start Intelligent Tutor development. - Start STAMPS Advanced Analytics(MPOT) Transition - Small Business Innovative Research (SBIR). ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	4.233	7.669	7.686	-	7.686

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

This PE provides funding to support the transition of models and decision support tools from RDT&E funded research, Science and Technology (6.2-6.3), to production and into the hands of analysts and program managers throughout the Manpower, Personnel, Training and Education enterprise. The PE also supports the application of proven industry models, tools and methodologies to Navy MPTE problems where GOTS solutions are non-existent. One goal of this PE is to transition 90% of

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604703N / *Personnel, Trng, Sim, & Human Factors*	**Project (Number/Name)** 1822 / *Manpower Pers & Human Fact System*

successful S&T products to production and eventual use within the Navy. An acceptable metric will be to successfully transition 80% of the products. The second goal of the PE is to successfully implement 90% of the industry-standard tools that are attempted to be used in Navy applications.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604703N / *Personnel, Trng, Sim, & Human Factors*	Project (Number/Name) 1822 / *Manpower Pers & Human Fact System*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Allot	NPRST : Millington, TN	5.740	1.500	Mar 2014	1.700	Dec 2014	1.391	Dec 2015	-		1.391	Continuing	Continuing	Continuing
Development Support	Allot	CNP : Washington, DC	3.254	0.683	Dec 2013	3.119	Dec 2014	2.267	Dec 2015	-		2.267	Continuing	Continuing	Continuing
Development Support	Allot	NPC PMW-240 : Millington, TN	1.330	-		-		-		-		-	-	1.330	-
Development Support	Allot	NAWC-TSD : Orlando, FL	0.500	0.300	Dec 2013	0.300	Dec 2014	-		-		-	7.300	8.400	-
Development Support	Allot	SPAWAR : New Orleans, LA	0.000	-		0.750	Dec 2014	1.345	Dec 2015	-		1.345	-	2.095	-
Development Support	Allot	NPC, HP Texas : Millington, TN	1.200	0.250	Dec 2013	-		-		-		-	-	1.450	-
Development Support	Allot	CNRC PMW 240 : Millington, TN	1.200	1.500	Apr 2014	0.800	Mar 2015	-		-		-	-	3.500	-
Development Support	Allot	NAVMAC PMW 240 : Millington, TN	0.000	-		-		2.683	Mar 2016	-		2.683	10.700	13.383	-
Development Support	Allot	NWC : Newport, RI	0.000	-		1.000	Apr 2015	-		-		-	-	1.000	-
		Subtotal	13.224	4.233		7.669		7.686		-		7.686	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Need Item Text	C/BA	Not Specified : Not Specified	0.000	-		-		-		-		-	-	-	-
		Subtotal	0.000	-		-		-		-		-	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	13.224	4.233		7.669		7.686		-		7.686	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604703N / *Personnel, Trng, Sim, & Human Factors*	Project (Number/Name) 1822 / *Manpower Pers & Human Fact System*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

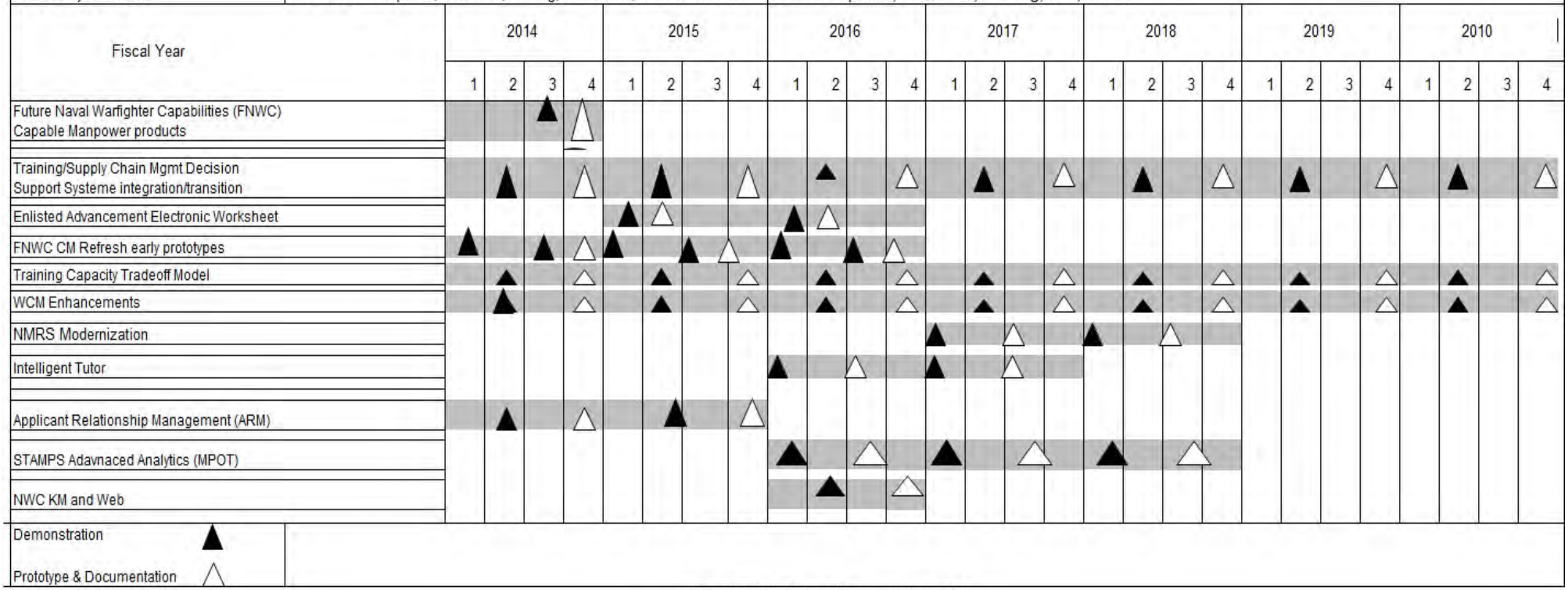
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		**Date:** February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604703N / *Personnel, Trng, Sim, & Human Factors*	**Project (Number/Name)** 1822 / *Manpower Pers & Human Fact System*

CLASSIFICATION:

EXHIBIT R4, Schedule Profile — DATE: July 2014

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N /BA5	0604703N - Manpower,Personnel,Training, Simulation, and Human Fact	L1822/Manpower, Personnel, Training, Sim, and HF



R-1 SHOPPING LIST - Item No. 117

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604703N / *Personnel, Trng, Sim, & Human Factors*	**Project (Number/Name)** 1822 / *Manpower Pers & Human Fact System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 1822				
Future Naval Warfighter Capabilities (FNWC) Capable Manpower Products: Future Naval Warfighter Capabilities (FNWC) Capable Manpower Products	3	2014	4	2014
Future Naval Warfighter Capabilities (FNWC) Capable Manpower Products: FNWC 1	3	2014	3	2014
Future Naval Warfighter Capabilities (FNWC) Capable Manpower Products: FNWC 2	4	2014	4	2014
Future Naval Warfighter Capabilities (FNWC) Capable Manpower Products: FNWC 3	3	2014	3	2014
Future Naval Warfighter Capabilities (FNWC) Capable Manpower Products: Schedule Detail	4	2014	4	2014
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: Training/Supply Chain Mgmt Decision Support Systems Integration/Transition	2	2014	4	2019
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/SCMDS 1	2	2014	2	2014
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/SCMDS 2	4	2014	4	2014
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/SCMDS 3	2	2014	2	2014
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/SCMDS 4	4	2014	4	2014
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/SCMDS 5	2	2015	2	2015
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/SCMDS 6	4	2015	4	2015
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/SCMDS 7	2	2016	2	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604703N / *Personnel, Trng, Sim, & Human Factors*	**Project (Number/Name)** 1822 / *Manpower Pers & Human Fact System*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/ SCMDS 8	4	2016	4	2016
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/ SCMDS 9	2	2017	2	2017
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/ SCMDS I0	4	2017	4	2017
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/ SCMDS I1	2	2018	2	2018
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/ SCMDS I2	4	2018	4	2018
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/ SCMDS I3	2	2019	2	2019
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition: T/ SCMDS I4	4	2019	4	2019
FNWC CM Refresh Early Prototypes: FNWC CM Refresh Early Prototypes	1	2014	4	2019
FNWC CM Refresh Early Prototypes: FNWC CM 1	2	2014	2	2014
FNWC CM Refresh Early Prototypes: FNWC CM 2	4	2014	4	2014
FNWC CM Refresh Early Prototypes: FNWC CM 3	2	2014	2	2014
FNWC CM Refresh Early Prototypes: FNWC CM 4	4	2014	4	2014
FNWC CM Refresh Early Prototypes: FNWC CM 5	2	2015	2	2015
FNWC CM Refresh Early Prototypes: FNWC CM 6	4	2015	4	2015
FNWC CM Refresh Early Prototypes: FNWC CM 7	2	2016	2	2016
FNWC CM Refresh Early Prototypes: FNWC CM 8	4	2016	4	2016
Training Capacity Tradeoff Model: Training Capacity Tradeoff Model	2	2014	4	2019
Training Capacity Tradeoff Model: TCTM 1	2	2014	2	2014
Training Capacity Tradeoff Model: TCTM 2	4	2014	4	2014
Training Capacity Tradeoff Model: TCTM 3	2	2014	2	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604703N / *Personnel, Trng, Sim, & Human Factors*	**Project (Number/Name)** 1822 / *Manpower Pers & Human Fact System*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Training Capacity Tradeoff Model: TCTM 4	4	2014	4	2014
Training Capacity Tradeoff Model: TCTM 5	2	2015	2	2015
Training Capacity Tradeoff Model: TCTM 6	4	2015	4	2015
Training Capacity Tradeoff Model: TCTM 7	2	2016	2	2016
Training Capacity Tradeoff Model: TCTM 8	4	2016	4	2016
Training Capacity Tradeoff Model: TCTM 9	2	2017	2	2017
Training Capacity Tradeoff Model: TCTM 10	4	2017	4	2017
Training Capacity Tradeoff Model: TCTM 11	2	2018	2	2018
Training Capacity Tradeoff Model: TCTM 12	4	2018	4	2018
Training Capacity Tradeoff Model: TCTM 13	2	2019	2	2019
Training Capacity Tradeoff Model: TCTM 14	4	2019	4	2019
WCM Enhancements: WCM Enhancements	2	2014	4	2019
WCM Enhancements: WCM 1	2	2014	2	2014
WCM Enhancements: WCM 2	4	2014	4	2014
WCM Enhancements: WCM 3	2	2014	2	2014
WCM Enhancements: WCM 4	4	2014	4	2014
WCM Enhancements: WCM 5	2	2015	2	2015
WCM Enhancements: WCM 6	4	2015	4	2015
WCM Enhancements: WCM 7	2	2016	2	2016
WCM Enhancements: WCM 8	4	2016	4	2016
WCM Enhancements: WCM 9	2	2017	2	2017
WCM Enhancements: WCM 10	4	2017	4	2017
WCM Enhancements: WCM 11	2	2018	2	2018
WCM Enhancements: WCM 12	4	2018	4	2018
WCM Enhancements: WCM 13	2	2019	2	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604703N / *Personnel, Trng, Sim, & Human Factors*	**Project (Number/Name)** 1822 / *Manpower Pers & Human Fact System*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
WCM Enhancements: WCM 14	4	2019	4	2019
Applicant Relationship Management: Applicant Relationship Management	3	2014	1	2015
Applicant Relationship Management: ARM 1	3	2014	3	2014
Applicant Relationship Management: ARM 2	4	2014	4	2014
Applicant Relationship Management: ARM 3	3	2014	3	2014
Applicant Relationship Management: ARM 4	4	2014	4	2014
Applicant Relationship Management: ARM 5	1	2015	1	2015
NMRS Advanced Analytics: NMRS Advanced Analytics	1	2016	4	2019
NMRS Advanced Analytics: NMRS 3	1	2016	1	2016
NMRS Advanced Analytics: NMRS 4	4	2016	4	2016
NMRS Advanced Analytics: NMRS 5	1	2017	1	2017
NMRS Advanced Analytics: NMRS 6	4	2017	4	2017
NMRS Advanced Analytics: NMRS 7	1	2018	1	2018
NMRS Advanced Analytics: NMRS 8	4	2018	4	2018
NMRS Advanced Analytics: NMRS 9	1	2019	1	2019
NMRS Advanced Analytics: NMRS 10	4	2019	4	2019
NWC KM and Web: NWC KM and Web	2	2015	4	2015
NWC KM and Web: NWC 1	2	2015	2	2015
NWC KM and Web: NWC 2	4	2015	4	2015
Enlisted Advancement Electronic Worksheet: EAEW 1	1	2015	2	2016
Intelligent Tutor: IT	1	2016	3	2017
STAMPS Advanced Analytics (MPOT): STAMPS	1	2016	3	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604727N *I Joint Standoff Weapon Systems*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	892.257	0.434	4.400	0.405	-	0.405	0.429	0.433	0.442	0.451	3.417	902.668
2068: *Joint Standoff Weapon (JSOW)*	892.257	0.434	4.400	0.405	-	0.405	0.429	0.433	0.442	0.451	3.417	902.668
MDAP/MAIS Code: 766												

A. Mission Description and Budget Item Justification

The Joint Standoff Weapon (JSOW) is an air-to-ground weapon designed to attack a variety of targets during day, night, and adverse weather conditions. JSOW will enhance aircraft survivability as compared to current interdiction weapon systems by providing the capability for launch aircraft to standoff outside the range of most target area surface-to-air threat systems. The JSOW launch-and-leave capability will allow several target kills per aircraft sortie. The JSOW program first developed a baseline weapon for use against fixed area targets. JSOW is a Navy led joint Navy/Air Force program.

The JSOW Baseline (AGM-154A) variant includes a kinematically efficient airframe, an integrated Inertial/Global Positioning System navigation capability, and a BLU-97/B or BLU-111 payload. This weapon was designed up front for pre-planned product improvements. Procurement of JSOW-A in the Future Years Defense Plan is deferred pending a fix to the unexploded ordnance issue or a change in the inventory levels. The JSOW BLU-108 (AGM-154B) variant incorporates the sensor fuze weapon submunition (BLU-108) into the baseline vehicle. Planned production of the JSOW/BLU-108 is deferred pending a change in the threat. The JSOW Unitary (AGM-154C) variant has a terminal seeker, autonomous target acquisition capability, and a broach lethal package to enable the attack of blast/fragmentation and penetration type targets. The JSOW Unitary provides increased accuracy and lethality and the capability for aimpoint selection. Operational Testing of the JSOW-C was successfully completed in December 2004. Approval for Milestone-III/Full Rate Production was granted on 20 December 2004. JSOW-C Initial Operational Capability was achieved in February 2005.

FY 2014-2016 includes funding for development, integration, qualification and follow-on developmental and operational test and evaluation of a Network Enabled Weapon moving maritime target capability into the JSOW Unitary weapon (AGM-154C-1). The moving maritime target capability is currently being integrated as an engineering change proposal beginning with FY 2009 procured JSOW-C weapons. The new AGM-154C-1 capability will enable the weapon to be integrated with the network and attack sea moving maritime targets via real-time pre-and post-launch targeting updates. JSOW will continue to conduct analysis and development of solutions to system integration challenges, and continual enhancement of warfighter effectiveness in the employment of the JSOW weapon system. JSOW funding will provide enhancements to include the analysis of extended range and future improvements to the JSOW-C configuration to improve capability. In addition, FY 2014-2016 includes funding to integrate new functionality of the Common Unique Planning Component into the joint mission planning systems and precision guided munitions planning system. In FY 2016, the program will transition to software improvement/integration and interoperability following the completion of efforts associated with Operational Testing in FY 2015.

JSOW utilizes a "common truck" for both AGM-154A and AGM-154C variants. Through adherence to international standards for weapons interfaces, weight, and dimension considerations, JSOW is compatible with Air Force and North Atlantic Treaty Organization aircraft.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604727N *I Joint Standoff Weapon Systems*

This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

Note: Cost To Complete should be 3.943; Total Cost should be 903.194.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	0.442	4.400	0.409	-	0.409
Current President's Budget	0.434	4.400	0.405	-	0.405
Total Adjustments	-0.008	-	-0.004	-	-0.004
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.008	-			
• Rate/Misc Adjustments	-	-	-0.004	-	-0.004

Change Summary Explanation

Integrated Test IT-V and IT-VI were changed from 2QFY14 to 3QFY14 and 4QFY14 , respectively, in order to align the JSOW C-1 with the F/A-18 H10 Operational Flight Program.

JSOW C-1 IOC was moved from 3QFY15 to 2QFY16.

JSOW C-1 OTRR was changed from 4QFY14 to 2QFY15.

JSOW Software Development: Integration and Interoperability was changed from 2QFY16 to 1QFY16.

FRP10 delivery was updated from 3QFY15 to 4QFY15 to reflect contractual delivery schedule.

FRP11 award was changed from 1QFY15 to 2QFY15; first delivery was changed accordingly, from 3QFY16 to 4QFY16.

FRP12 award was removed as a result of production deferral following FY15 procurement.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604727N / *Joint Standoff Weapon Systems*	Project (Number/Name) 2068 / *Joint Standoff Weapon (JSOW)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2068: *Joint Standoff Weapon (JSOW)*	892.257	0.434	4.400	0.405	-	0.405	0.429	0.433	0.442	0.451	3.417	902.668
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Provides funds for the development of a weapon to be employed by aircraft to attack targets during day, night, and adverse weather conditions. The JSOW design will capitalize on aircraft sensor capabilities and minimize individual weapon sophistication, reducing unit cost and provides a significant increase in strike warfare capability. Excludes civilian and military manpower and their related costs and military construction costs which are included in appropriate management and support elements in this program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Network Enabled Weapon (NEW)	0.434	4.199	0.218	-	0.218
Articles:	-	-	-	-	-
Description: Develop and integrate the NEW moving maritime target capability into JSOW-C, termed AGM-154C-1. ***FY 2014 Accomplishments:*** Continued weapon qualification and follow-on OT efforts and continue support for software integration associated with future obsolescence, software improvements, and regression testing on NEW moving maritime target capability. ***FY 2015 Plans:*** Complete weapon qualification and follow-on OT efforts and continue support for software integration associated with future obsolescence, software improvements, and regression testing on NEW moving maritime target capability. ***FY 2016 Base Plans:*** Continue support for software integration associated with future obsolescence, software improvements, and regression testing on NEW moving maritime target capability. ***FY 2016 OCO Plans:*** N/A					
Title: JSOW Common Unique Planning Component (CUPC)	-	0.201	0.187	-	0.187

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604727N / *Joint Standoff Weapon Systems*	**Project (Number/Name)** 2068 / *Joint Standoff Weapon (JSOW)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
Description: Incorporates mission planning into the JSOW maritime CUPC and develop new software releases. Address new mission planning functionality related to the incorporation of the NEW moving target capability into the JSOW-C-1 weapons. ***FY 2014 Accomplishments:*** Continued interoperability efforts for JSOW C-1. ***FY 2015 Plans:*** Continue interoperability efforts for JSOW C-1. ***FY 2016 Base Plans:*** Continue interoperability efforts for JSOW C-1. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.434	4.400	0.405	-	0.405

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• USN WP,N BLI 223000: *JSOW*	117.594	108.159	21.419	-	21.419	2.800	6.400	1.200	-	1,935.627	4,222.110

Remarks

FY15 Office of the Secretary of Defense Minimum Sustaining Rate production deferral beginning FY16 assumes substantial FMS JSOW C buy.

D. Acquisition Strategy

The contracting strategy for JSOW is planned to be sole source for the life of the program. Cost type contracts are utilized for the Engineering and Manufacturing Development and follow-on modification program (i.e., Block II (AGM-154C), AGM-154C-1) efforts. Component breakout is used, when possible, to promote full and open competition.

Fixed price type contracts are utilized for production.

E. Performance Metrics

The JSOW C-1 program is meeting the cost schedule, performance, funding and life cycle sustainment in accordance with the Acquisition Program Baseline.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604727N / *Joint Standoff Weapon Systems*	**Project (Number/Name)** 2068 / *Joint Standoff Weapon (JSOW)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering	MIPR	National Security Agency : Fort Meade, MD	0.995	0.062	Apr 2014	0.109	Jan 2015	0.137	Dec 2015	-		0.137	-	1.303	-
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	802.617	-		-		-		-		-	-	802.617	-
		Subtotal	803.612	0.062		0.109		0.137		-		0.137	-	803.920	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development - JMPS	SS/CPFF	Lockheed Martin Systems Integration : King of Prussia, PA	5.718	-		0.201	Feb 2015	0.187	Dec 2015	-		0.187	5.698	11.804	11.804
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	8.007	-		-		-		-		-	-	8.007	-
		Subtotal	13.725	-		0.201		0.187		-		0.187	5.698	19.811	-

Remarks

(1) Funding in previous years was sent to Raytheon Systems. In FY13 a new contract was awarded with Lockheed Martin Systems Integration.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Int Test and Evaluation	WR	NAWCWD : China Lake, CA	33.662	0.372	Nov 2013	-		-		-		-	-	34.034	-
Oper Test and Evaluation	WR	COMOPTEVFOR : Norfolk, VA	15.754	-		4.090	Oct 2014	0.081	Oct 2015	-		0.081	-	19.925	-
		Subtotal	49.416	0.372		4.090		0.081		-		0.081	-	53.959	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604727N / *Joint Standoff Weapon Systems*	**Project (Number/Name)** 2068 / *Joint Standoff Weapon (JSOW)*

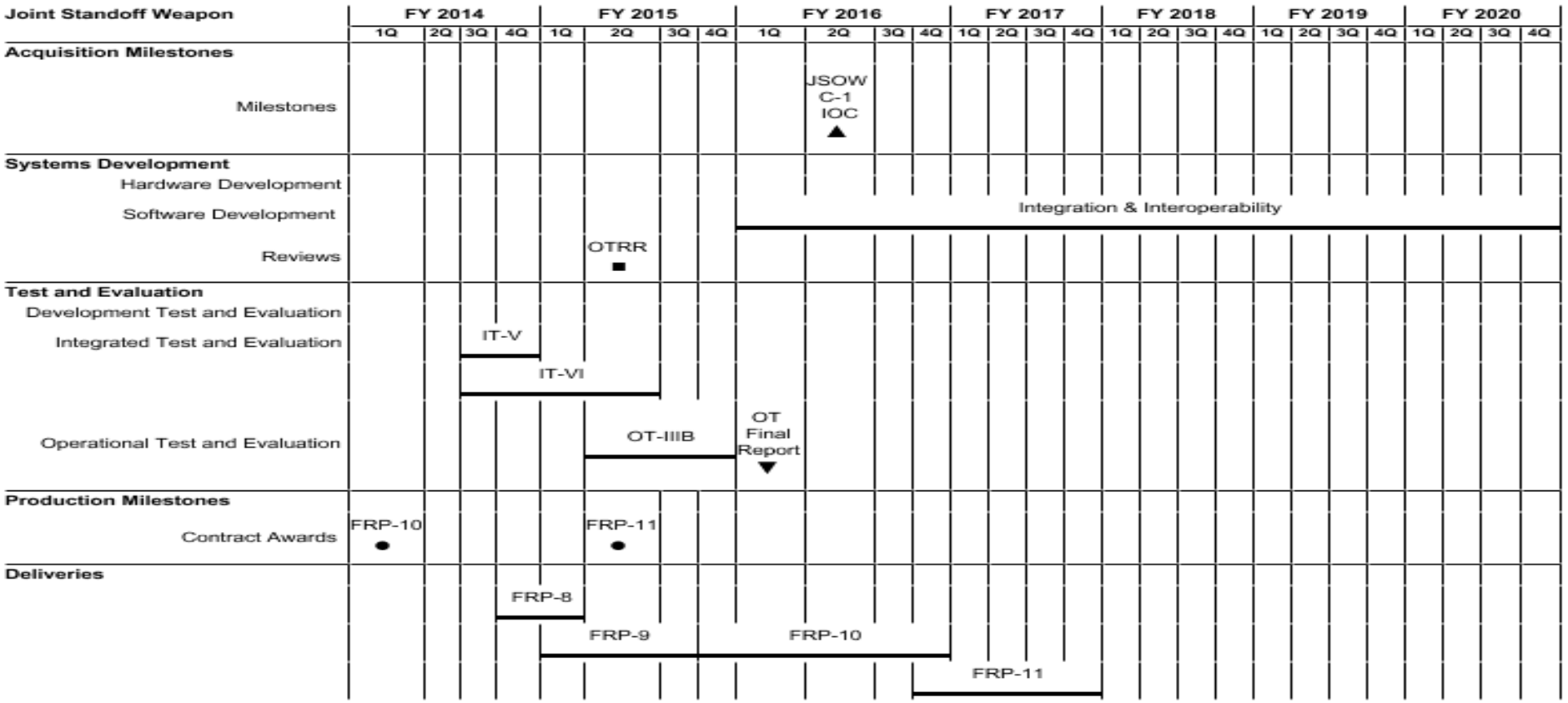
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior year Mgmt cost no longer funded in the FYDP	Various	Various : Various	25.504	-		-		-		-		-	-	25.504	-
		Subtotal	25.504	-		-		-		-		-	-	25.504	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	892.257	0.434		4.400		0.405		-		0.405	5.698	903.194	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604727N / *Joint Standoff Weapon Systems*	**Project (Number/Name)** 2068 / *Joint Standoff Weapon (JSOW)*



2016PB - 0604727N - 2068 OT Final Report refers to AGM-154C-1 Operational Test Agency Follow On Evaluation OT-IIIB Final Report
There is no overlap in deliveries. One FRP ends in 4th Qtr FY14 and the other FRP begins in 1st Qtr FY15.
FRP-9 contract award occurred in June 2013; FRP-10 contract award occurred in December 2013

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604727N / *Joint Standoff Weapon Systems*	**Project (Number/Name)** 2068 / *Joint Standoff Weapon (JSOW)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Joint Standoff Weapon				
Acquisition Milestones: Milestones: Initial Operational Capability C-1	2	2016	2	2016
Systems Development: Software Development: Integration and Interoperability	1	2016	4	2020
Systems Development: Reviews: Operational Test Readiness Review	2	2015	2	2015
Test and Evaluation: Integrated Test and Evaluation: Network Enabled Weapon/ Moving Target/AGM-154C-1 Integrated Test (IT-V)	3	2014	4	2014
Test and Evaluation: Integrated Test and Evaluation: Network Enabled Weapon/ Moving Target/AGM-154C-1 Integrated Test (IT-VI)	3	2014	2	2015
Test and Evaluation: Operational Test and Evaluation: Network Enabled Weapon/ Moving Target/AGM-154C-1 Operational Test (OT-IIIB)	2	2015	4	2015
Test and Evaluation: Operational Test and Evaluation: AGM-154C-1 JSOW Operational Test Agency Follow-On Evaluation Report OT-IIIB Final Report	1	2016	1	2016
Production Milestones: Contract Awards: FRP-10 Award AGM-154C-1	1	2014	1	2014
Production Milestones: Contract Awards: FRP-11 Award AGM-154C-1	2	2015	2	2015
Deliveries: FRP-8 Deliveries- AGM-154C-1	4	2014	1	2015
Deliveries: FRP-9 Deliveries- AGM-154C-1	1	2015	3	2015
Deliveries: FRP-10 Deliveries- AGM-154C-1	4	2015	4	2016
Deliveries: FRP-11 Deliveries- AGM-154C-1	4	2016	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604755N *I Ship Self Def (Detect & Cntrl)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	799.698	98.382	56.884	153.836	-	153.836	136.882	156.316	101.737	98.635	Continuing	Continuing
2178: *QRCC*	771.016	91.201	50.525	145.894	-	145.894	129.553	143.519	91.209	86.825	Continuing	Continuing
3172: *Joint Non-Lethal Weapons*	26.314	5.111	4.213	4.825	-	4.825	4.348	5.158	2.971	3.032	Continuing	Continuing
3306: *Integrated Swimmer Defense (ISD)*	2.368	1.010	1.026	-	-	-	-	-	-	-	-	4.404
3358: *SSDS Training Improvement Program*	0.000	1.060	1.120	3.117	-	3.117	2.981	7.639	7.557	8.778	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element consolidates efforts related to Detect & Control aspects of Ship Self Defense (SSD) to facilitate effective planning and management of these efforts and to exploit the synergistic relationship inherent in each. Analysis and demonstration have established that surface SSD based on single-sensor detection point-to-point control architecture is inadequate against current and projected Anti-Ship Cruise Missile (ASCM) threats. The supersonic seaskimming ASCM reduces the effective battle space to the horizon and the available reaction time-line to less than 30 seconds from first opportunity to detect until the ASCM impacts its target ship. Against such a threat, multi-sensor integration is required for effective detection, and parallel processing is essential to reduce reaction time to acceptable levels and to provide vital coordination/integration of hardkill and softkill assets. These SSD projects address and coordinate the detection and control functions necessary to meet the rigorous SSD requirements.

Quick Reaction Combat Capability (QRCC, PU2178): This project provides multi-sensor integration, parallel processing and the coordination of hard-kill / soft-kill capabilities in an automated, doctrine-based response to the ASCM threats and are the cornerstones of SSDS being developed through QRCC (PU 2178) efforts. In addition, this project provides for the central system engineering management for the integration of advanced sensor, weapon and C4I upgrades and the test and certification of the Integrated Combat System (ICS).

SSDS MK 2 Advance Capability Build (ACB)-16 was delayed 2 years due to the need to prioritize critical SSDS system improvements. ACB-16 was the designation for the next major SSDS baseline for the integration of new sensor, weapon, and C4I capabilities for anti-ship missile defense and strike group interoperability. As a result of the delay, ACB-16 has been re-designated to ACB-20. The SSDS MK 2 ACB-12 capability baseline development, test, and fielding will continue as planned. However, with the delay in development and fielding of ACB-16, an increased number of SSDS MK2 ships will receive ACB-12 capability baseline and specific fire control loop and interoperability improvements, in lieu of ACB-16.

SSDS Training Improvement Program (PU 3358): The SSDS Training Improvement project will provide enhancements and upgrades to the Total Ship Training Capability (TSTC) training components within the combat system to address needs for increased training capability and functionality in conjunction with SSDS MK2 Advanced Capability Builds (ACB)/Fire Control Loop Improvement Project (FCLIP)/ Far-Term Interoperability Improvement Project (FTIIP) and Technical Insertion efforts under PU 2178 (QRCC). These enhancements will address current and future training requirements by implementing new functionality to enable the individual

warfighter to engage in more complex training requirements and distributed battle group events to support fleet required training certification events. Capability Development and integration are related to Integrated Air and Missile Defense, Underwater, Surface, and other warfare areas. Capability enhancements and upgrades include development of re-useable common components that can be leveraged by AEGIS combat systems, and/or integration of re-usable common components developed by the TSTC BFTT Program (PE 0204571/PU1427) and AEGIS TSTC Training Improvement program (PE 0604307/PU 3357)to meet SSDS integrated combat system training requirements.

The Ship Self Defense System (SSDS) is the core combat system control element for the Quick Reaction Combat Capability (QRCC) in aircraft carriers and amphibious assault ships. SSDS integrates a diverse set of fire control loop sensors and weapons, and C4I systems for each ship class (CVN68/78, LHA6, LHD1, LPD17, and LSD41/49). SSDS MK2 provides the capabilities for integrated air and missile defense, multi-warfare situational awareness, combat direction, and joint interoperability via the Cooperative Engagement Capability (CEC) and Tactical Digital Information Link (TADIL)-J (Link 16). SSDS MK2 is being fielded with the new construction carriers (CVN78 class) and amphibious ships (LHA6, LPD17 classes). SSDS MK2 is replacing the Advanced Combat Direction System (ACDS) in the LHD1 class and SSDS MK1 in the LSD 41/49 class as fleet modernization initiatives. In addition, with the decision to replace the Dual Band Radar (DBR) for CVN 80 and L-Class Ships (LHA 8) with an Enterprise Surveillance Suite (ESS) consisting of a new radar (Enterprise Air Search Radar (EASR) and X-Band Illuminator), SSDS will require development of system and software changes.

SSDS MK2 integrates new combat system war-fighting capabilities and improvements on a phased basis via ACB, TI, the Fire Control Loop Improvement Project (FCLIP), Far-Term Interoperability Improvement Project (FTIIP), and the Task Force Cyber Awakening (TFCA) Boundary Defense Capability (BDC) project, and the development requirements imposed by integration of a DBR replacement radar onboard CVN 80 and L-Class (LHA). FTIIP is the second phase of the corrective action plan for the resolution of the strike group interoperability issues, and TFCA BDC will provide Combat Systems-level and element-level cyber-security protection based on System of Systems (SoS) risk assessment. New hardware TI baselines are required every four years to refresh the Commercial-Off-The-Shelf (COTS) assemblies to sustain system production and to support the incorporation of new ACB capabilities. Each individual ship is planned for a TI upgrade on an eight year interval to replace obsolescent COTS hardware and support the fielding of the war-fighting capabilities and improvements.

Integrated Swimmer Defense (ISD, PU3306) scope is to provide the Navy Expeditionary security forces with capabilities of a portable marine integrated swimmer defense system (ISDS) to engage combat swimmers/divers or unknown individuals underwater once they have been detected. There are no funds programmed for PU3306 in FY2016 and out; the program requirement has been cancelled.

Non-Lethal Weapons (PU 3172) provides a long range laser warning and dazzle system, vessel stopping system, and combined effects (light, laser, and sound) system for use in the maritime environment. Optical warning and distraction has been identified by the services as a possible technology solution to mitigate and/or address several known joint non-lethal capability gaps.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604755N *I Ship Self Def (Detect & Cntrl)*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	95.604	56.889	116.837	-	116.837
Current President's Budget	98.382	56.884	153.836	-	153.836
Total Adjustments	2.778	-0.005	36.999	-	36.999
• Congressional General Reductions	-	-0.005			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.996	-			
• SBIR/STTR Transfer	-2.218	-			
• Program Adjustments	-	-	37.828	-	37.828
• Rate/Misc Adjustments	-	-	-0.829	-	-0.829

Change Summary Explanation

FY14 program changes include SBIR Transfer and an increase to PU 2178 in support of SSDS MK2 ACB-12 software development and Integration efforts.

FY16 changes include program adjustment increases to PU 2178 and PU3358 and other rate/miscellaneous adjustments. The FY2016 plan includes a major increase in scope for the SSDS MK2 product development efforts (identified below) to provide mission essential ICS capabilities and meet new ship construction and modernization schedules, as well as the initiation of the systems engineering/analysis for the development of systems and software changes to the SSDS as a result of the Dual Band Radar (DBR) replacement with Enterprise Air Surveillance Radar (EASR) onboard CVN 80 and L-Class (LHA).

The increase in PU 2178 from FY15 to FY16 is required for the following major initiatives:

- Completion of SSDS MK2 ACB12/TI-12 development and integration for the CVN 78 PSA/CSSQT, CVN 72 RCOH and LHD 2 Combat System AAW Capstone Modernization.

- Completion of the development and qualification of the SSDS MK2 TI-16 equipment to support FY16 equipment production and re-host of SSDS ACB-12 software to the TI-16 configuration;

- Start of the full scale development for FCLIP Phase 2, FTIIP and TFCA BDC improvements to resolve priority fleet combat system deficiencies in anti-ship missile defense, strike group interoperability and cyber-security. The overall scope of the multi-year development effort will include systems engineering/analysis, M&S, Hardware and Software Development, Information Assurance (IA)/Cross Domain Solutions, Factory Systems Integration Test (FSIT) with Wrap Around Simulation, and Wallops Island System Integration Test for Fire Control Loop Elements.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604755N *I Ship Self Def (Detect & Cntrl)*

- Start of the system engineering/analysis for the development of system and software changes for the SSDS ICS in order to integrate the ESS (EASR and fire control loop capabilities) in CVN 80 and L-Class ship ICS variants for tracking and missile illumination/uplink. The overall scope of the multi-year development will include systems engineering/analysis, M&S, Hardware and Software development, Information Assurance (IA)/Cross Domain Solutions, Factory System Integration Test (FSIT) and Wrap Around Simulation, and Wallops Island System Integration Test for Fire Control Loop Elements.

- Development of the combat system requirements, capability phasing plan, and concept of integration for ACB-20/TI-20 including ESS.

- Accomplishment of SSDS MK2 integrated combat system integration and certification testing for ship system installation and deployment;

- Accomplishment of the SSDS MK2 test and evaluation requirements in the SSDS Test and Evaluation Master Plan (TEMP);

- T&E and certification efforts that include four new SSDS integrated combat system baselines, LSD SSDS MK2 Mod5C, CVN78 SSDS MK2 Mod 6C, LHD2 SSDS MK2 Mod 3C, and CVN72 SSDS MK2 Mod 1C.

The increase in PU 3358 from FY15 to FY16 is required for the following major initiative:

- Start the software development for the incorporation of TSTC functional requirements into SSDS MK2 Integrated Combat System baseline for FCLIP Phase 2/ FTIIP.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 2178 / *QRCC*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2178: *QRCC*	771.016	91.201	50.525	145.894	-	145.894	129.553	143.519	91.209	86.825	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Ship Self Defense System (SSDS) is the core combat system control element for the Quick Reaction Combat Capability (QRCC) in aircraft carriers and amphibious assault ships. SSDS integrates a diverse set of fire control loop sensors and weapons, and C4I systems for each ship class (CVN68/78, LHA6, LHD1, LPD17, and LSD41/49). SSDS MK2 provides the capabilities for integrated air and missile defense, multi-warfare situational awareness, combat direction, and joint interoperability via the Cooperative Engagement Capability (CEC) and Tactical Digital Information Link (TADIL)-J (Link 16). SSDS MK2 is being fielded with the new construction carriers (CVN78 class) and amphibious ships (LHA6, LPD17 classes). SSDS MK2 is replacing the Advanced Combat Direction System (ACDS) in the LHD1 class and SSDS MK1 in the LSD 41/49 class as fleet modernization initiatives. In addition, with the decision to replace the Dual Band Radar (DBR) for CVN 80 and L-Class Ships (LHA 8) with an Enterprise Surveillance Suite (ESS) consisting of a new radar (Enterprise Air Search Radar (EASR) and X-Band Illuminator, SSDS will require development of system and software changes.

SSDS MK2 integrates new combat system war-fighting capabilities and improvements on phased basis via ACB, TI, the Fire Control Loop Improvement Project (FCLIP), Far-Term Interoperability Improvement Project (FTIIP), and the Task Force Cyber Awakening (TFCA) Boundary Defense Capability (BDC) project, and as a result of the development requirements imposed by integration of a DBR replacement radar onboard CVN 80 and L-Class (LHA).

FCLIP is planned as a phased corrective action plan for system-of-systems deficiencies in SSDS MK2 ships, identified during live-fire testing with stressing anti-ship missile targets. FCLIP Phase 2 is a multi-year development effort (FY16-FY18) that includes: RAM Block 2 Multi-Target processing in the missile; NSSMS MK9 Multi-Target Discrimination & Reporting; ESSM 2T Uplink; Systems engineering to determine the concepts of integration for CEC Engage on Remote Capability and CIWS Integration with SSDS MK2 and CEC and modeling and analysis to ensure optimization and alignment of capabilities into the ICS end-to-end fire control loop.

FTIIP is the second phase of the corrective action plan for the resolution of the strike group interoperability issues. FTIIP includes implementation of Tactical Data Link (TDL) IFF mode 5/S identification capabilities and F/A-18 Digital Air Control.

TFCA BDC will provide Combat Systems-level and element-level cyber-security protection based on system of systems risk assessment. TFCA BDC is a multi-year development (FY16-FY18) to define, develop, and integrate enterprise Combat System cyber-security solutions. These solutions will provide a set of boundary defense capabilities for the SSDS MK2 ICS, a set of centralized Combat Systems-level cyber-security capabilities, and a set of element-level cyber-security protections. The boundary defense capabilities will protect and detect threats entering and leaving the Combat System. The centralized Combat System-level cyber-security capabilities will provide cyber situational awareness and management of various (e.g. malware detection, file integrity verification, etc.) cyber-security protection and detection capabilities. Element-level cyber-security protections will provide additional measures to ensure system integrity. Development of enterprise Combat System risk management processes will occur, to include a system of systems risk assessment methodology to support Combat System execution of the Risk Management Framework.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 2178 / *QRCC*

New hardware TI baselines are required every four years to refresh the Commercial-Off-The-Shelf (COTS) assemblies to sustain system production and to support the incorporation of new ACB capabilities. Each individual ship is planned for a TI upgrade on an eight year interval to replace obsolescent COTS hardware and support the fielding of the war-fighting capabilities and improvements.

The QRCC project implements an evolutionary acquisition of improved ship self-defense capabilities against Anti-Ship Cruise Missiles (ASCMs) for selected ships. The SSDS is the integrating element of QRCC. The design integrates several existing stand-alone Anti-Air Warfare (AAW) systems that do not individually provide the complete detection, control, and engagement capabilities needed against low flying, high speed ASCMs with low radar cross sections. The SSDS integration concept fulfills the need for an automated detection, quick reaction and multi-target engagement capability emphasizing performance in the littoral environment. SSDS replaces manual control of several self-defense systems with a single integrated capability under the computer-aided control of ship operators. System design emphasizes use of non-developmental items, commercial standards, commercial processors, computer program reuse and open system architecture. SSDS is a physically distributed, open system architecture computer network consisting of commercially available or previously developed hardware. It includes the Navy's standard computers (Common Processor System) and displays (AN/UYQ-70 and Common Display System) and command table for human-system interface, commercially based network switching and interface units, and commercially available fiber optic cabling.

SSDS MK1 integrates the SPS-49A(V)1 radar, SPS-67(V)1 radar, AN/SLQ-32A/B electronic warfare system, Combat Identification Friend or Foe-Self Defense (CIFF-SD), Rolling Airframe Missile (RAM) and Phalanx Close-In Weapon System (CIWS) and is installed on LSD41/49 class ships. SSDS MK1 successfully completed Operational Evaluation in June 1997. SSDS received Milestone III Approval for Full Rate Production (Mar 98) and authority to integrate with ACDS and Cooperative Engagement Capability (CEC) on CVN, LPD-17, LHD and LHA ship classes.

SSDS MK2 facilitates the incremental evolution and implementation of follow-on modifications. Development of SSDS MK2 leveraged critical experiments and re-use of technology and software from SSDS MK1. SSDS MK2 integrates other ship self-defense elements, such as AN/SPQ-9B radar, NATO Sea-sparrow system, CEC and Tactical Data Links for joint interoperability. SSDS MK2 provides enhanced capabilities for Self-Defense against air and surface threats using both ownship and remote data to address AAW Capstone requirements. SSDS MK2 becomes the integrated, coherent real time Command and Control System for Aircraft Carriers and Amphibious ships. It will increase operational capabilities; improve combat readiness and Strike Group/Expeditionary Strike Group Interoperability; and promote standardization. It introduces new shipboard tactical displays and support equipment via Technology Insertion and warfighting capability improvements via Advanced Capability Builds (ACB). ACBs integrate advanced systems such as Dual Band Radar (DBR), Evolved Sea-Sparrow Missile (ESSM), RAM Block 2 missile, SLQ-32 SEWIP Block 2 and MH-60R Helicopter to implement the warfighting capability improvements and Total Ship Training Capability (TSTC) improvements.

In order to meet the Navy's warfighting capabilities and modernization concepts described in SEA POWER 21, Navy Open Architecture (OA) is being introduced in conjunction with SSDS Commercial off the Shelf (COTS) Technology Refresh initiatives. This is the first step in unifying a set of war fighting functions into a common architecture shared among many ship classes. This principle of commonality is a major mechanism for cost control and avoidances in the Navy's future war fighting systems. Starting in 2008, SSDS MK 2 re-hosted existing tactical computer program applications into the Open Architecture Computing Environment (OACE) specifications with equipment suites concurrent with COTS Technology Insertion (TI) cycles, prior to migration and integration with other Navy OA applications for implementation on future new construction ships or during future ship modernization. TI cycles and equipment technology refreshes are driven by COTS obsolescence.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 2178 / *QRCC*

In FY09, system development was initiated for SSDS MK1 technology refresh for the LSD 41/49 class ships. The effort will transition these ships to an SSDS MK OACE and SSDS MK 2 single source library. The new system designation is SSDS MK2 Mod 5C. The system development effort encompasses TI of new OA computing and display equipment (Common Processor System (CPS) and Common Display System (CDS)), modifications and additions to the SSDS MK 2 software for an upgraded interface with the Phalanx Closed-In-Weapon System (CIWS) Block 1B Baseline 2 and Battle Force Tactical Trainer (BFTT), and other unique LSD SSDS interfaces and functionality. The first LSD SSDS MK 2 Mod 5C was installed in LSD-50 in FY14 after land-based Combat System Integration and Certification Testing with an IOC in FY15.

In FY10, SSDS MK 2 system development commenced for the first phase of migration to the Navy OA objective functional architecture designated as SSDS MK 2 ACB-12/TI-12. ACB-12/TI-12 encompasses: implementation of common product line software components for System Track Management; integration of the product line System Track Management components and associated data model with other SSDS software components and Combat System interfaces (e.g. CEC, DBR, ESSM and Joint Universal Waveform Link (JUWL) up-link, RAM Block 2 and CV-TSC); integration of new interfaces with SEWIP Block 2 Electronic Support (ES),and MH-60R; integration of CPS and CDS; and expansion of SSDS MK 2 Local Area Network (LAN) to OA Combat System LAN, and implementation of information assurance boundary defense capabilities. ACB-12 is planned for IOC in the CVN 78, CVN 72 in FY16, and LHD 2 in FY17.

In FY12, planning, analysis, and top level requirements definition was initiated for SSDS MK 2 ACB-16 (now designated as ACB-20). In addition to the integration of the Enterprise Surveillance Suite (EASR and X-Band TI), ACB-20 warfighting improvement integration candidates include fire control loop improvements beyond FCLIP Phase 2 for precision tracking, weapon scheduling, soft kill / hard kill coordination, and engagement control; SEWIP Block 2 with automated radar designation decoy launch; SEWIP Block 3 with Electronic Attack; Terminator; ESSM Block 2 missile; Solid State Laser, sensor / track data from multiple MH-60R Helicopters; interoperability with Joint Strike Fighter, UCLASS and USMC systems; GCCS-M Data Exchange via CANES; and Total Ship Training Capability (TSTC) enhancements.

Funds were added in FY13 for the integration and test of SSDS MK2 Tactical Data Link (TDL) 16 interoperability improvements to address critical Strike Group interoperability issues under the AEGIS Wholeness Initiative, designated AMIIP. In FY13, software defect corrections were implemented as Phase 1 of the Fire Control Loop Improvement Project (FCLIP) to correct specific anti-ship missile defense deficiencies identified during live-fire testing. In FY16, FCLIP Phase 2 and FTIIP will be initiated as follow on efforts for fire control loop and strike group interoperability improvements.

TI-16 will include common enterprise COTS hardware products for computing, storage, display, and network switching devices to support system and equipment modernization driven by COTS obsolescence.

SSDS MK 2 Product Development includes integration of government furnished hardware and software to provide Warfighting Capability Improvements via ACB, and OACE improvements and COTS obsolescence refresh via TI. Product development encompasses studies and analysis, modeling and simulation, system requirements engineering, critical experiments, hardware and software design, software code development, EDM units, hardware/software integration, factory system integration testing, factory qualification testing, and system pre and post certification support during Combat System Integration Testing, Combat System Certification testing, and DT&E (land-based and at-sea).

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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SSDS MK2 Development Test and Evaluation (DT&E) provides for comprehensive testing of SSDS MK2-based Combat System hardware/software upgrades for the CVN, LPD 17, LHD, LHA 6 and LSD ship classes. This includes Land Based testing at Wallops Island and At-Sea testing for the lead ships in each specific ship class Combat System configuration and Live Fire testing on the SDTS. The DT&E encompasses test preparation, integration, engineering and development tests, data collection and analysis, and resolution and verification of deficiency corrections. The SSDS MK 2 T&E supports Integrated Combat System certification, the SSDS Test and Evaluation Master Plan (TEMP) and the Air Warfare Ship Self Defense CAPSTONE Enterprise TEMP.

The initial DT&E and Follow on Operational Test and Evaluation (FOT&E) for SSDS MK 2 was conducted with the CVN 76 SSDS MK 2 Mod 1 configuration in FY05. In FY07, the SSDS MK 2 FOT&E requirements were linked with the Air Warfare Ship Self Defense Enterprise T&E initiative to combine At-Sea Combat System element DT&E and OT&E requirements to synergize the resources required for testing in the SSDS MK 2 ships and the SDTS. The LPD-17 class SSDS MK 2 Mod 2 FOT&E was conducted in FY07/FY08 as part of the Enterprise T&E initiative. Live fire, Combat System end-to-end testing was conducted against Anti-Ship Cruise Missile (ASCM) targets on the SDTS in FY07/08/09 with the CVN/LHD/LPD configurations. FOT&E of ESSM integration with SSDS MK 2 was initiated on the CVN 68 class in FY08 and will extend through FY15. FOT&E for the CVN class SSDS MK 2 Mod 1B OACE COTS TI was conducted in FY09. FY14/FY15 FOT&E includes the LHA 6 SSDS MK 2 Mod 4B configuration with the RAM Block 2 missile, ESSM, AMIIP and FCLIP. Future FOT&E includes the LSD SSDS MK 2 Mod 5C configuration with the Phalanx CIWS 1B Baseline 2 system and RAM Block2; and CVN 78 SSDS MK 2 Mod 6C configuration with the DBR, SEWIP Block 2 ES, ESSM with JUWL up-link, and RAM Block 2.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SSDS MK2 Development Test & Evaluation	21.992	17.127	26.265	-	26.265
Articles:	-	-	-	-	-
FY 2014 Accomplishments: For CVN/LPD24/LHA6 SSDS MK2 Mod 1B/2B/4B Configurations with RAM Block 2 integration, Linux OACE, and AMIIP / FCLIP phase 1: - Conduct Land Based Development Test at Wallops Island (WI) and CST at ICSTF for CVN 68/71/75/76 and LHA6 for certification objective quality evidence (OQE). For CVN/LHD/LPD SSDS MK2 MOD 1A/2A/3A configurations with AMIIP/FCLIP phase 1: - Conduct Land Based system integration and engineering test at WI, and CST at ICSTF for CVN 73, LHD 7/8 and LPD 21/22/23 for certification OQE. For LSD SSDS MK2 Mod 5C configuration with the Phalanx CIWS Block 1B Baseline 2, RAM Block 2 and CPS/ CDS equipment: - Conduct Engineering Tests, Development Test / Development Test Assist, and CST at WI for LSD50 for authorization OQE.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
For CVN78 SSDS MK2 Mod 6C configuration with DBR, CEC, TPX-42, PL STM, UPX-29, ESSM, MK29 launcher, RAM Block2, and TPX-42. - Conduct Land Based system integration and engineering tests for CVN78 SSDS MK2 Engineering Software Releases at WI for the fire control loop including DBR, CEC, UPX-29, ESSM, MK-29 launcher, and RAM Block 2. This includes missile integration testing of ESSM X-Band JUWL uplink/downlink with the SSDS MK2 MOD6C and DBR / DBR radar equipment simulator. The testing will also include integration test with TPX-42, TADIL and Air Control.					
FY 2015 Plans: For CVN/LPD24/LHA6 SSDS MK2 Mod 1B/2B/4B Configurations with RAM Blk 2 integration, Linux OACE, and AMIIP/FCLIP phase 1: - Complete Live Fire At Sea Testing for LHA6 configuration in SDTS-Enterprise Test 05 Phase 2. - Conduct DT/OT (IIIH Phase2 / ET06) and CSSQT on LHA6. For LSD SSDS MK2 Mod 5C configuration with the Phalanx CIWS Block 1B Baseline 2, RAM Block 2 and CPS/ CDS equipment: - Conduct CST at WI for LSD 50, LSD 52, and LSD 45 for certification OQE. For CVN78 SSDS MK2 Mod 6C configuration with DBR, CEC, TPX-42, PL STM, UPX-29, ESSM, MK29 launcher, and RAM Block2. - Conduct Land Based system integration and engineering tests for CVN78 SSDS MK2 Engineering Software Releases at WI for the fire control loop including DBR, CEC, UPX-29, ESSM, MK-29 launcher, and RAM Block 2. This will also include missile integration testing of ESSM X-Band JUWL uplink/downlink with the SSDS MK2 MOD6C, and DBR / DBR Radar Equipment Simulator. The testing will also include integration test with TPX-42, TADIL with AMIIP, and Air Control. - Conduct Combat System Assessment (CSA) Test at WI to deliver an integrated Combat System software package for CVN78 Combat System Light-off during construction. For CVN72 SSDS MK2 ACB-12/TI-12 configuration with SPS-48G, SPS-49A, SPQ-9B, CEC, PL STM, UPX-29, ESSM, NSSMS MK57 MOD13, RAM Block2, SLQ-32(V)4, NULKA, CV-TSC (with MH-60R link) and BFTT, conduct CSA at WI to deliver integrated Combat System software package for CSLO during RCOH.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
The T&E and certification efforts include four new SSDS integrated combat system baselines, LSD SSDS MK2 Mod5C, CVN78 SSDS MK2 Mod 6C, LHD2 SSDS MK2 Mod 3C, and CVN72 SSDS MK2 Mod 1C. For LSD SSDS MK2 Mod 5C configuration with the Phalanx CIWS Block 1B Baseline 2, RAM Block 2 and CPS/ CDS equipment: - Complete DT/OT-III(I) Phase 2 / ET14 and Combat System Ship Qualification Trials (CSSQT) on LSD50 and LSD52. - Complete Live Fire At Sea Testing for LSD MOD 5C on SDTS - Enterprise Test 12. For CVN78 SSDS MK2 Mod 6C configuration with DBR, CEC, TPX-42, PL STM, UPX-29, ESSM, MK29 launcher, and RAM Block2. - Continue Land Based system integration and engineering tests for CVN78 SSDS MK2 Engineering Software Releases at WI for the fire control loop including CEC, UPX-29, ESSM, MK-29 launcher, and RAM Block 2. This will also include missile integration testing of ESSM X-Band JUWL uplink/downlink with the SSDS MK2 MOD6C, and DBR Radar Equipment Simulator. The testing will also include integration test with TPX-42, TADIL with AMIIP, and Air Control. For CVN72 SSDS MK2 ACB-12/TI-12 configuration with SPS-48G, SPS-49A, SPQ-9B, CEC, PL STM, UPX-29, ESSM, NSSMS MK57 MOD13, RAM Block2, SLQ-32(v)4, NULKA, CV-TSC (with MH-60R link) and BFTT, conduct CST at WI to provide certification OQE for integrated Combat System software package for CIA and deployment. For LHD2 SSDS MK2 ACB-12/TI-12 configuration with SPS-48G, SPS-49A, SPQ-9B, CEC, PL STM, UPX-29, ESSM, NSSMS MK57 MOD14 (Objective Configuration Phase 2), RAM Block2, SLQ-32(V)3, and BFTT, conduct CST at WI to provide certification OQE for integrated Combat System software package for CSLO. ***FY 2016 OCO Plans:*** N/A					
Title: SSDS MK2 Product Development-Advanced Capability Builds (ACB)/Technology Insertion	69.209	33.398	119.629	-	119.629
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
For LSD SSDS MK2 MOD 5C Tech Insertion, accomplish pre and post certification support for Land Based engineering tests, development tests, and Combat System certification test. This includes data analysis, resolution of software trouble reports and technical support. For CVN 78 SSDS MK 2 Mod 6C, continue SSDS MK2 software design, code, test, and integration for the software for the CVN78 Combat System Light-off baseline. (The SSDS software development for integration of SEWIP Block2 and CV-TSC are in the FY15/16 plans for post construction delivery to CVN78.) Initiate Functional System Integration Test(FSIT) 1 and support for Land Based integration and engineering tests. Initiate development of operator and maintenance training courses for SSDS MK 2 Mod 6C ACB-12/TI-12. For LHD2 SSDS MK2 MOD 3C ACB-12/TI-12, initiate system engineering to define system architecture, generate requirements documents/specifications, for modification of the CVN ACB-12/TI-12 software for Capstone modernization and integration of NSSMS MK57 MOD14 with Objective Configuration Phase 2. For SSDS MK2 AMIIP / FCLIP 1 for designated in-service carriers, provide software support for Combat System interoperability and certification testing and shipboard integration and testing. For SSDS MK2 ACB20, continue engineering analysis, formulate top level requirements and initiate Integrated Combat System CDD for the mission essential Combat System Capability improvements. For SSDS MK2 TI-16, initiate full scale development of specific TI-16 equipment. Conduct IPR for SSDS MK2 TI-16 physical architecture and initiate equipment design. ***FY 2015 Plans:*** For CVN 78 SSDS MK 2 Mod 6C, complete SSDS MK2 software design, code, test, and integration for the CVN78 CSLO baseline including AMIIP and information assurance boundary defense capabilities. Complete delta FSIT for boundary defense capabilities and provide support for Land Based integration and engineering tests. Initiate SSDS MK2 software design, code, and test for integration of SEWIP Block 2 for PSA / CSSQT (with FY14 reprogramming action in Sep 2014). Continue development of operator and maintenance training courses for SSDS MK 2 Mod 6C ACB-12/TI-12.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
For CVN72 SSDS MK2 ACB-12/TI-12 configuration with SPS-48G, SPS-49A, SPQ-9B, CEC, PL STM, UPX-29, ESSM, NSSMS MK57 MOD13, RAM Block2, SLQ-32(v)4, NULKA, and BFTT, accomplish FSIT/SIT and provide support for Land Based integration, engineering and CSA tests for RCOH CSLO baseline. For LHD 2 SSDS MK2 MOD 3C ACB12 / TI12, complete the SSDS MK2 software modifications and integration for Capstone modernization and integration of NSSMS MK57 MOD14 with Objective Configuration Phase 2. For SSDS MK2 ACB-20, continue CDD development and develop Capability Phasing Plan and Concept of Integration for the mission essential Combat System Capability improvements. For SSDS MK2 TI-16, conduct Preliminary Design Review (PDR) for full scale development of equipment and equipment software operating environment. ***FY 2016 Base Plans:*** The FY2016 plans include a major increase in scope for the SSDS MK2 product development efforts identified below to meet ship new construction and modernization schedules. - For CVN78 SSDS MK2 Mod 6C, complete SSDS MK2 software design, code, test, and integration for the CVN78 PSA/CSSQT baseline including SEWIP Block 2 and CV-TSC interfaces. Conduct FSIT and FQT for this baseline and provide support for Land Based integration, and engineering and certification tests. Continue development of operator and maintenance training courses for SSDS MK 2 Mod 6C ACB-12/TI-12. - For CVN72 SSDS MK2 Mod 1C ACB-12/TI-12 configuration with SPS-48G, SPS-49A, SPQ-9B, CEC, PL STM, UPX-29, ESSM, NSSMS MK57 MOD13, RAM Block2, SLQ-32(v)4, NULKA, CV-TSC (with MH-60R link) and BFTT, provide support for Land Based integration, engineering and certification tests. - For LHD 2 SSDS MK2 Mod 3C ACB12 / TI12, provide support for Land Based integration, and engineering and certification tests. - For SSDS MK2 TI 16, complete the development of the SSDS MK2 TI-16 equipment to support FY16 equipment production, and accomplish SSDS ACB-12 software re-host to the TI-16 configuration; This includes equipment software operating envirnoment, conduct of Critical Design Review (CDR), environmental qualification testing, Production Readiness Review and Test Readiness Review for system FQT.					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- For FCLIP Phase 2 / FTIIP / TFCA BDC baseline, define and allocate Combat System functional requirements for FCLIP Phase 2 and initiate software requirements specifications and design for SSDS (and ICS elements) for capabilities for RAM Block 2 multi-targeting processing in the missile, NSSMS multi-target dissemination and reporting, and ESSM 2T Uplink. Accomplish modeling and analysis to ensure optimization and alignment of capabilities into the ICS end-to-end fire control loop. Conduct studies and analysis define capability phasing, concepts of integration and scope for follow on FCLIP capabilities for CEC engage on remote with CEC and SSDS MK2. - For FTIIP, define and allocate Combat System functional requirements and initiate software requirements specifications and design for SSDS (and ICS elements) for TDL capabilities for IFF Mode 5/S and F/A-18 Digital Air Control. - For TFCA BDC, define and allocate Combat System functional requirements and initiate software requirements specifications and design for SSDS (and ICS elements) for cyber-security protections. The boundary defense capabilities will protect and detect threats entering and leaving the Combat System. The centralized Combat System-level cyber-security capabilities will provide cyber situational awareness and management of various (e.g. malware detection, file integrity verification, etc.) cyber-security protection and detection capabilities. Element-level cyber-security protections will provide additional measures to ensure system integrity. - For ESS, start the systems engineering / analysis for the development of system and software changes to the Ship Self Defense System (SSDS) ICS for CVN 80 and L-Class ships ICS variants in order to integrate the EASR and fire control capabilities for tracking and missile illumination/uplink. The overall scope of the multi-year development will include Systems Engineering/Analysis, M&S, Hardware and Software development, Information Assurance (IA)/Cross Domain Solutions, Factory System Integration Test (FSIT) and Wrap Around Simulation, and Wallops Island System Integration Test for Fire Control Loop Elements. - For SSDS MK2 ACB-20, define the Combat System architecture and allocate Combat System Functional Requirements for ACB-20 including the integration of ESS (EASR and X-Band TI) to support the full scale development of the ACB-20 / ESS ICS baseline. ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	91.201	50.525	145.894	-	145.894

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/5231: *SSDS*	51.858	19.766	61.409	-	61.409	53.902	55.453	56.678	57.814	Continuing	Continuing
• RDTEN/0603658N: *Cooperative Engagement*	52.539	37.310	76.247	-	76.247	81.475	81.489	85.265	81.253	Continuing	Continuing

Remarks

D. Acquisition Strategy

The first SSDS MK 2 system procurements took place under a Cost Plus Award Fee (CPAF) contract in FY99 for the CVN 76, LPD 17, LPD 18 and CVN 69. Follow-on equipment procurements for additional ships of the CVN, LPD and LHD classes were awarded on Firm Fixed Price (FFP) contracts. For those ships that will be receive P3I OACE COTS tech Refresh hardware suites, the initial system Tech Refresh Development occurred under a CPAF type contract, with ship COTS conversion equipment/kits procured on FFP contracts.

A system engineering/design agent and Life Cycle Maintenance Cost Plus Fixed Fee (CPFF) contract was awarded in FY05 and a follow-on CPFF/CPAF contract, N00024-08-C-5122, was awarded on 30 Sept 2008, to support SSDS MK 2 system/software maintenance and system upgrades through FY13 including the TI-12 COTS Tech Insertion.

A follow on CPIF LOE contract, N00024-14-C-5128, was awarded 18 December, 2013 on a sole source basis for FY14-FY17 for the completion of the development, test, certification of SSDS MK2 (ACB12/TI12) for CVN78, CVN72, LHD2, and the software migration of ACB12 to TI16 for CVN68, LHD1, LPD17 ship classes. For SSDS MK2 TI-16 equipment, the SSDS program will use competitive build to print production contracts, and leverage common enterprise COTS Open Architecture Computing Environment (OACE) products for computing, storage, display, network, conversion, and information assurance. A competitive Combat System Engineering Agent (CSEA) / SSDS MK2 Design Agent (DA) contract is planned for FY2018-FY2022 with RFP preparation efforts commencing early in FY16.

E. Performance Metrics

Requirement Documents
- Capability Development Document (CDD) for Ship Self Defense System (SSDS) MK2 approved 19 December 2013.
- Test and Evaluation Master Plan (TEMP No. 1400) For Ship Self Defense System (SSDS) Revision B, 5 Mar 2008.

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Background
- SSDS MK1 OPEVAL was successfully completed June 1997 with a Milestone III approval in March 1998
- SSDS MK2 MOD 1 FOT&E was conducted on CVN 76 in 2005. All KPP thresholds were met. However, the system was assessed as not suitable and not effective by COMOPTEVFOR based on the identification of SSDS MK2 and Combat Systems deficiencies (24major, 37 minor deficiencies).
- SSDS MK 2 Mod 2 FOT&E was conducted in LPD 17-19 in 2007/2008. All KPPs thresholds were met and the system was assessed OPERATIONALLY EFFECTIVE and OPERATIONALLY SUITABLE by COMOPTEVFOR in the 12 Feb 2010 report. 10 major and minor deficiencies were identified against SSDS MK 2. (Also, major Warfare effects deficiencies were identified against the LPD 17 class Combat System).
- SSDS MK 2 Mod 3A FOT&E was conducted in LHD 8 in Feb 2010. All KPPs thresholds were met and the system was assessed OPERATIONALLY EFFECTIVE and OPERATIONALLY SUITABLE by COMOPTEVFOR in the 13 Dec 2010 report. 10 major deficiencies were identified against SSDS MK 2. (Also, major Warfare effects deficiencies were identified against the LHD 8 Combat System).
- SSDS MK2 FOT&E with ESSM and RAM Block 1 was conducted in the SDTS Oct-Dec 2011 as part of Enterprise Test - 03. Combat System (system-of-system) deficiencies identified during MSLEX with stressing targets has resulted in a phased corrective action plan, designated as Fire Control Loop Improvement Project (FCLIP).
- SSDS MK2 FOT&E with RAM Block 2 DT&E was conducted in the SDTS Dec 2014 as part of Enterprise Test - O5 Phase 2. Low altitude, supersonic, maneuvering targets were successfully engaged with RAM Block 2 missiles.

Status
- The Director, Operational Test and Evaluation (DOT&E) Annual Reports have identified ship self-defense mission deficiencies based on operational testing. The report is a compilation of multiple reports from Commander, Operational Test Force (COTF) including shipboard testing on the CVN 76, CVN 70, LPD 17, LPD 18, LPD 19, LHD 8; and enterprise testing on the SDTS and in the Probability of Raid Annihilation (PRA) test-bed.
- SSDS was assessed Operationally Effective and Operationally Suitable for the LPD 17 Class and LHD 8. The Combat Systems (CVN, LPD, LHD) were assessed Not Operationally Effective against several Anti-Ship Cruise Missiles (ASCM). There are system of systems performance issues and design limitations. The issues are divided into four categories: detect, engage, test resources, and threat representation.
- All of the major training deficiencies have been addressed and are pending Verification of Correction of Deficiency (VCD) by COTF. Revised SSDS NTSP was signed 30 Jul 2012.

- OPNAV N96 is working with PEO IWS, DASN, and COTF to address the shortfalls in performance testing with the

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following initiatives:

a. Continue to develop, test and field combat system improvements through the Fire Control Loop Improvement Project (FCLIP) with SSDS MK2 integration of: High Diver improvements to SPS-48E and CEC; RAM Blk 2; SPQ-9B tracking improvements; SEWIP Blk 2 integration; Evolved Sea Sparrow Missile (ESSM) and North Atlantic Treaty Organization (NATO) Seasparrow Surface Missile System (NSSMS) MK 9 Target Illuminator improvements; and NULKA improvements.

b. Expand the use of Modeling and Simulation.

c. Develop FCLIP Phase 2 capabilities for RAM Block 2 multi-Target processing, NSSMS MK9 TI Multi-Target discrimination and reporting, and ESSM 2T Uplink.

d. Consider follow on high return self-defense improvements through the POM process with FCLIP and Advanced Capability Builds (ACB).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ACB-12 / LSD / AMIIP PSEA	SS/CPIF	RSC IDS (5128) : San Diego, CA	0.000	34.317	Dec 2013	19.534	Nov 2014	35.319	Nov 2015	-		35.319	Continuing	Continuing	Continuing
ACB-12 / LSD / AMIIP PSEA	SS/CPAF	RSC IDS (5122) : San Diego, CA	32.024	6.392	Nov 2013	-		-		-		-	-	38.416	-
ACB-12 / LSD / AMIIP SE	SS/CPFF	JHU/APL : Laurel, MD	58.580	4.833	Jan 2014	3.493	Dec 2014	4.550	Dec 2015	-		4.550	Continuing	Continuing	Continuing
ACB-12 - SW Dev/PL-STM	SS/CPAF	Gen. Dyn. (5100) : Fairfax, VA	2.828	0.800	Jan 2014	-		-		-		-	-	3.628	-
ACB-12 / LSD / AMIIP SE	WR	NSWC DD : Dalhgren, VA	58.900	7.448	Nov 2013	3.682	Nov 2014	5.108	Nov 2015	-		5.108	Continuing	Continuing	Continuing
ACB-12 / LSD / AMIIP SE / ILS	WR	CDSA DN : Dam Neck, VA	19.971	1.795	Nov 2013	0.526	Nov 2014	1.401	Nov 2015	-		1.401	Continuing	Continuing	Continuing
ACB-12 / LSD / AMIIP - Training Dev	WR	NSWC PHD : Pt Hueneme, CA	22.801	2.050	Nov 2013	1.139	Nov 2014	3.000	Nov 2015	-		3.000	Continuing	Continuing	Continuing
TI-16 HW Dev / ILS / EDM Proc (DN)	WR	CDSA DN : Dam Neck, VA	0.600	4.761	Nov 2013	0.884	Nov 2014	6.229	Nov 2015	-		6.229	Continuing	Continuing	Continuing
TI-16 HW Engr	WR	NSWC DD : Dalhgren, VA	0.000	0.108	Mar 2014	0.239	Nov 2014	0.931	Nov 2015	-		0.931	Continuing	Continuing	Continuing
TI-16 for ACB-12 SW Migration PSEA	SS/CPIF	RSC IDS (5128) : San Diego, CA	0.677	0.671	Apr 2014	0.570	Dec 2014	10.295	Dec 2015	-		10.295	Continuing	Continuing	Continuing
TI-16 - Training	WR	NSWC-PHD : Pt Hueneme, CA	0.000	-		-		1.650	Nov 2015	-		1.650	Continuing	Continuing	Continuing
FCLIP Phase 2 - PSEA	SS/CPIF	RSC IDS (5128) : San Diego, CA	0.000	0.333	Jan 2014	-	Nov 2014	13.432	Dec 2015	-		13.432	Continuing	Continuing	Continuing
FCLIP Phase 2 / SE	SS/CPFF	JHU/APL : Laurel, MD	0.000	1.221	Jan 2014	0.342	Dec 2014	7.240	Dec 2015	-		7.240	Continuing	Continuing	Continuing
FCLIP Phase 2 / SE	WR	NSWC-DD : Dahlgren, VA	0.000	0.215	Jan 2014	0.239	Nov 2014	1.620	Nov 2015	-		1.620	Continuing	Continuing	Continuing
FCLIP Phase 2 / SE	WR	NSWC PHD : Pt Hueneme, CA	0.000	-		0.228	Nov 2014	0.280	Nov 2015	-		0.280	Continuing	Continuing	Continuing
FCLIP Phase 2 / SE & I	C/CPIF	RSC IIS (4112) : Suffolk, VA	0.000	-		-		3.400	Dec 2015	-		3.400	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 2178 / *QRCC*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FCLIP Phase 2 / SE	WR	NAWC : China Lake	0.000	-		-		1.080	Nov 2015	-		1.080	Continuing	Continuing	Continuing
FCLIP Phase 2 / SE	SS/CPFF	RSC(5432/5410) : Tuscon, AZ	0.000	-		-		4.460	Dec 2015	-		4.460	Continuing	Continuing	Continuing
FCLIP Phase 2 / SE	WR	NSWC : Crane, IN	0.000	-		-		0.180	Nov 2015	-		0.180	Continuing	Continuing	Continuing
FCLIP Phase 2 / SE	SS/CPAF	RSC (5202) : St. Pete, FL	0.000	-		-		3.190	Dec 2015	-		3.190	Continuing	Continuing	Continuing
FTIIP - PSEA	SS/CPIF	RSC IDS (5128) : San Diego, CA	0.000	-		-		1.200	Nov 2015	-		1.200	Continuing	Continuing	Continuing
FTIIP / SE	WR	NSWC-DD : Dahlgren, VA	0.000	-		-		0.600	Nov 2015	-		0.600	Continuing	Continuing	Continuing
FTIIP / SE	WR	CDSA DN : Dam Neck, VA	0.000	-		-		0.500	Nov 2015	-		0.500	Continuing	Continuing	Continuing
FTIIP (SE&I)	C/CPIF	RSC IIS (4112) : Suffolk, VA	0.000	-		-		0.800	Nov 2015	-		0.800	Continuing	Continuing	Continuing
ACB-20 / ICS SE - PSEA	SS/CPIF	RSC IDS (5128) : San Diego, CA	0.000	0.333	Jan 2014	0.199	Dec 2014	-		-		-	-	0.532	-
ACB-20 / ICS SE (SE&I)	C/CPIF	RSC (IIS) : Suffolk, VA	0.000	1.368	Jan 2014	0.399	Nov 2014	2.000	Dec 2015	-		2.000	Continuing	Continuing	Continuing
ACB-20 / ICS SE	SS/CPFF	JHU/APL : Laurel, MD	0.000	0.677	Mar 2014	0.342	Dec 2014	1.250	Dec 2015	-		1.250	Continuing	Continuing	Continuing
ACB-20 / ICS SE	WR	NSWC DD : Dalhgren, VA	1.200	0.431	Mar 2014	0.262	Nov 2014	1.250	Nov 2015	-		1.250	Continuing	Continuing	Continuing
ACB-20 / ICS SE	WR	CDSA DN : Dam Neck, VA	0.000	-		0.237	Nov 2014	0.589	Nov 2015	-		0.589	Continuing	Continuing	Continuing
ESS SE	SS/CPIF	RSC IDS (5128) : San Diego, CA	0.000	-		-		-	Nov 2015	-		-	-	-	-
ESS SE	SS/CPFF	JHU/APL : Laurel, MD	0.000	-		-		1.300	Dec 2015	-		1.300	Continuing	Continuing	Continuing
ESS SE	WR	NSWC DD : Dalhgren, VA	0.000	-		-		0.500	Nov 2015	-		0.500	Continuing	Continuing	Continuing
ESS (SE&I)	C/CPIF	RSC IIS (4112) : Suffolk, VA	0.000	-		-		-	Nov 2015	-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 2178 / *QRCC*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ESS SE/Analysis	C/BA	IWS 7.0 : Washington DC	0.000	-		-		0.700	Nov 2015	-		0.700	Continuing	Continuing	Continuing
TFCA - BDC PSEA	SS/CPIF	RSC IDS (5128) : San Diego, CA	0.000	-		-		0.900	Dec 2015	-		0.900	Continuing	Continuing	Continuing
TFCA - BDC SE	SS/CPFF	JHU/APL : Laurel, MD	0.000	-		-		0.700	Dec 2015	-		0.700	Continuing	Continuing	Continuing
TFCA - BDC SE	WR	NSWC-DD : Dalhgren, VA	0.000	-		-		0.700	Nov 2015	-		0.700	Continuing	Continuing	Continuing
TFCA - BDC SE	WR	CDSA DN : Dam Neck, VA	0.000	-		-		0.800	Nov 2015	-		0.800	Continuing	Continuing	Continuing
TFCA - BDC SE&I	C/CPIF	RSC (IIS) : Suffolk, VA	0.000	-		-		0.500	Dec 2015	-		0.500	Continuing	Continuing	Continuing
TFCA - BDC SE	SS/CPAF	Gen. Dyn. (5100) : Fairfax, VA	0.000	-		-		0.400	Dec 2015	-		0.400	Continuing	Continuing	Continuing
HQ Travel	Various	PEO IWS : Washington DC	0.000	0.050	Oct 2013	0.050	Oct 2014	0.075	Nov 2015	-		0.075	Continuing	Continuing	Continuing
SE/Dev/Integrate	SS/CPAF	Rayth(5412) (RIDS) : Portsmouth, RI	83.451	-		-		-		-		-	-	83.451	-
Misc - Prior Year Cum Cost	C/BA	SEA 05C (FY14) : Washington DC	278.700	0.139	Mar 2014	-		-		-		-	-	278.839	-
		Subtotal	559.732	67.942		32.365		118.129		-		118.129	-	-	-

Remarks

The increase in PU 2178 from FY15 to FY16 is required for the following major initiatives:
*Completion of SSDS MK2 ACB12/TI-12 development & integration for CVN78 and LHD2.
*Completion of the development of the SSDS MK2 TI-16 equipment to support FY16 equipment production, and accomplishment of SSDS ACB-12 S/W re-host to the TI-16 configuration.
*Start development of FCLIP Phase 2 / FTIIP improvements.
*Development of the combat system requirements, capability phasing plan, and concept of integration of ACB-20/ESS.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 2178 / *QRCC*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DT&E (PHD)	WR	NSWC PHD : Port Hueneme, CA	86.469	4.663	Nov 2013	2.995	Nov 2014	5.178	Nov 2015	-		5.178	Continuing	Continuing	Continuing
DT&E (SCSC-WI)	WR	SCSC-WI : Wallops Is, VA	50.716	5.638	Nov 2013	5.027	Nov 2014	10.064	Nov 2015	-		10.064	Continuing	Continuing	Continuing
DT&E (JHU)	SS/CPFF	JHU/APL : Laurel, MD	17.192	1.505	Jan 2014	1.069	Dec 2014	2.126	Dec 2015	-		2.126	Continuing	Continuing	Continuing
DT&E (Corona)	WR	NSWC Corona : Corona, CA	6.168	1.383	Nov 2013	0.963	Nov 2014	1.442	Nov 2015	-		1.442	Continuing	Continuing	Continuing
DT&E (Raytheon - St. Pete)	SS/CPAF	RSC (5202) : St. Pete, FL	2.500	1.170	Mar 2014	0.963	Dec 2014	-		-		-	Continuing	Continuing	Continuing
DT&E (RAM & ESSM)	WR	NAWC : China Lake, CA	1.150	-	Mar 2014	-	Dec 2014	-		-		-	Continuing	Continuing	Continuing
DT&E (RAM & ESSM) (RSC)	SS/CPFF	RSC(5432/5410) : Tucson, AZ	2.980	0.173	Feb 2014	-	Dec 2014	-		-		-	Continuing	Continuing	Continuing
DT&E (Raytheon - SE&I)	C/CPIF	Rayth - IIS : Sofolk, Va.	0.000	0.571	Jan 2014	0.246	Dec 2014	-		-		-	-	0.817	-
DT&E Raytheon - PSEA	SS/CPIF	RSC (5128) : San Diego, CA	0.000	-		0.160	Nov 2014	-		-		-	-	0.160	-
DT&E (GD/AIS - IWS 1.0)	SS/CPAF	GD/AIS : Fairfax Va.	0.000	0.266	Jan 2014	-		-		-		-	-	0.266	-
DT&E/CST (DD - CST)	WR	NSWC DD : Dahlgren, VA	7.267	3.946	Nov 2013	4.011	Nov 2014	5.105	Nov 2015	-		5.105	Continuing	Continuing	Continuing
DT&E (COTF)	WR	OPTEVFOR : Norfolk, VA	3.707	0.053	Nov 2013	0.053	Nov 2014	0.055	Nov 2015	-		0.055	Continuing	Continuing	Continuing
DT&E (CDSA-DN)	WR	CDSA DN : Dam Neck, VA	2.452	0.894	Nov 2013	0.753	Nov 2014	1.217	Nov 2015	-		1.217	Continuing	Continuing	Continuing
DT&E (Raytheon - RIDS)	SS/CPAF	RSC (5412) : Portsmouth, RI	1.050	0.852	Feb 2014	-	Oct 2014	-		-		-	Continuing	Continuing	Continuing
DT&E (SPAWAR-SD)	WR	SPAWAR : San Diego, CA	5.546	0.078	Jan 2014	0.074	Dec 2014	0.078	Oct 2015	-		0.078	-	5.776	-
		Subtotal	187.197	21.192		16.314		25.265		-		25.265	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

The increases in PU 2178 from FY15 to FY16 is required for the following major initiatives:
*Accomplishment of SSDS MK2 integrated combat system integration and certification testing for ship system installation and deployment;
*Accomplishment of the SSDS MK2 test and evaluation in accordance with the SSDS Test and Evaluation Master Plan (TEMP)
*In FY16, the T&E and certification efforts include four new SSDS integrated combat system baselines, LSD SSDS MK2 Mod5C, CVN78 SSDS MK2 Mod 6C, LHD2 SSDS MK2 Mod 3C, and CVN72 SSDS MK2 Mod 1C (see R-4 exhibit)

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPAF	Various : Various	24.087	2.067	Dec 2013	1.846	Dec 2014	2.500	Dec 2015	-		2.500	Continuing	Continuing	Continuing
		Subtotal	24.087	2.067		1.846		2.500		-		2.500	-	-	-

Remarks

For FY14, Program Management Support includes two SEAPORT contractors, Alion and TASC. For FY15 and FY16, TASC will continue to provide program management support for T&E. New contracts have been established on a competitive basis with Tech Marine for financial management support, and with CACI for Acquisition/Logistics support.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	771.016	91.201		50.525		145.894		-		145.894	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 2178 / *QRCC*

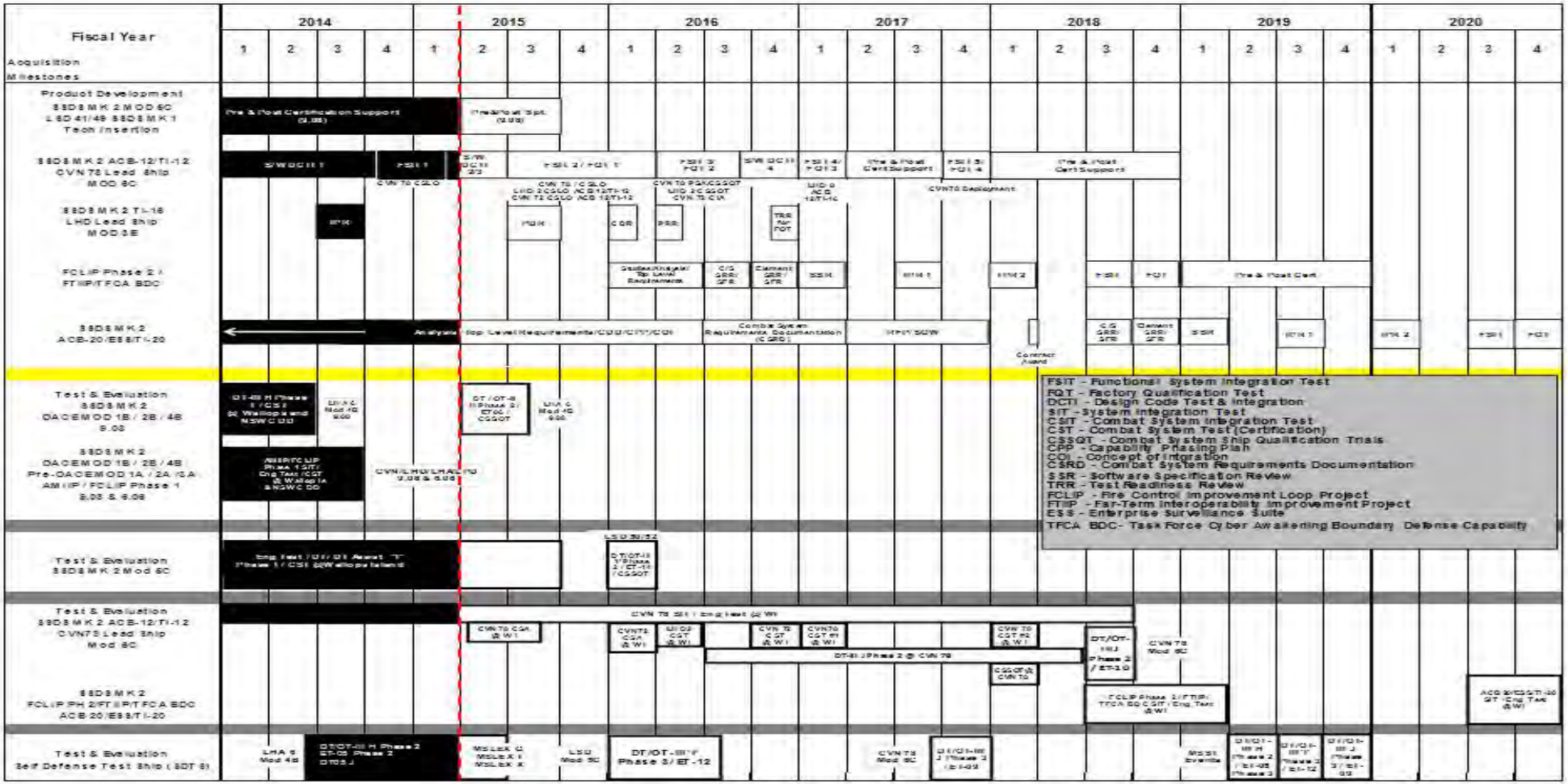


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 2178 / *QRCC*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2178				
SSDS MK 2 MOD 5C (LSD) - PRE&POST CERT SUPPORT (9.08)	1	2014	3	2015
SSDS MK 2 MOD 5C (LSD) - T&E - ENG TEST/DT/DT ASSIST "I" PHASE 1/Combat System Test (CST) @WI	1	2014	3	2015
SSDS MK 2 MOD 5C (LSD) - T&E - LSD 50/52 DT/OT III "I" PHASE 2/ET14/CSSQT	1	2016	1	2016
SDTS-SSDS MK 2 MOD 5C (LSD) - T&E DT/OT III I/PHASE 3/ET12	1	2016	3	2016
SSDS MK2 MOD 6C - CVN 78 ACB12/TI12 - S/W DCTI 1	1	2014	4	2014
SSDS MK2 MOD 6C - CVN 78 ACB12/TI12 - T&E - SIT/ET @ WALLOPS	1	2014	3	2018
SSDS MK2 MOD 6C - CVN 78 ACB12/TI12 - FSIT 1	4	2014	1	2015
SSDS MK 2 MOD 6C - CVN 78/LHD2/ACB12/TI12-S/W DCTI 2/3	1	2015	2	2015
SSDS MK2 MOD 6C - CVN 78 ACB12/TI12 - T&E - CSA @ WALLOPS	2	2015	3	2015
SSDS MK2 MOD 6C - CVN 78/CVN72/LHD 2/ACB12/TI12 - FSIT 2/FQT 1	3	2015	1	2016
SSDS MK 2 MOD 1C - CVN 72 ACB12/TI12 - T&E - CSA @ WI	1	2016	1	2016
SSDS MK2 MOD 3C - LHD 2 ACB12/TI12 - T&E - CST @ WALLOPS	2	2016	2	2016
SSDS MK 2 MOD 6C - CVN 78/CVN 72/LHD2 SSDS MK 2 ACB12/TI12 - FSIT 3 / FQT 2	2	2016	3	2016
SSDS MK 2 MOD 6C - CVN 78/LHD 8/ACB12/TI12/TI16 - S/W DCTI 4	3	2016	4	2016
SSDS MK 2 MOD 6C - CVN 78 ACB12/TI12-T&E DT III J PHASE 2 @ CVN 78	3	2016	2	2018
SSDS MK 2 MOD 1C - CVN 72 / ACB12/TI12 - T&E - CST @ WALLOPS	4	2016	4	2016
SSDS MK 2 MOD 6C - CVN 78 ACB12/TI12 -T&E CST #1 @ WALLOPS	1	2017	1	2017
SSDS MK 2 MOD 3E - LHD 8 / ACB12/TI16 - FSIT 4/FQT 3	1	2017	1	2017
CVN 78/CVN 72/LHD 2/LHD 8/SSDS MK 2 ACB12/TI12/TI16 - PRE & POST CERT SPT	2	2017	3	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SDTS - SSDS MK 2 MOD 6C - CVN 78 ACB12/TI12 - T&E - DT/OT III J/PHASE 3/ ET09	3	2017	4	2017
SSDS MK 2 MOD 6C - CVN 78 ACB12/TI12 - FSIT5 / FQT4	4	2017	4	2017
SSDS MK 2 MOD 6C - CVN 78 ACB12/TI12 CSSQT	1	2018	1	2018
SSDS MK 2 MOD 6C - CVN 78 ACB12/TI12 - T&E - CST #2 @ WALLOPS	1	2018	1	2018
SSDS MK 2 MOD 6C - CVN 78 / LHD 8 / SSDS MK2 ACB12 / TI-12 / TI-16 - PRE & POST CERT SPT	1	2018	4	2018
SSDS MK 2 MOD 6C - CVN 78 ACB12/TI12 - T&E -DT/OT III J PHASE 2/ ET10	3	2018	3	2018
SSDS MK 2 TI 16 - HW IPR	3	2014	3	2014
SSDS MK 2 TI 16 - PDR	3	2015	3	2015
SSDS MK2 TI 16 - CDR	1	2016	1	2016
SSDS MK2 TI 16 - PRR	2	2016	2	2016
SSDS MK 2 TI 16 - TRR for FQT	4	2016	4	2016
SSDS MK 2 FCLIP PHASE 2 / FTIIP / TFCA BDC - STUDIES/ANALYSIS/Top Level Requirements	1	2016	2	2016
SSDS MK 2 FCLIP PHASE 2 / FTIIP / TFCA BDC - Combat System SRR/SFR	3	2016	3	2016
SSDS MK 2 FCLIP PHASE 2 / FTIIP / TFCA BDC - Element SRR/SFR	4	2016	4	2016
SSDS MK 2 FCLIP PHASE 2 / FTIIP / TFCA BDC - SSR	1	2017	1	2017
SSDS MK 2 FCLIP PHASE 2 / FTIIP / TFCA BDC - IPR 1	3	2017	3	2017
SSDS MK 2 FCLIP PHASE 2 / FTIIP / TFCA BDC - IPR 2	1	2018	1	2018
SSDS MK 2 FCLIP PHASE 2 / FTIIP / TFCA BDC - FSIT	3	2018	3	2018
SSDS MK 2 FCLIP PHASE 2 / FTIIP / TFCA BDC - T&E - SIT/ET/CST	3	2018	1	2019
SSDS MK 2 FCLIP PHASE 2 / FTIIP / TFCA BDC - FQT	4	2018	4	2018
SSDS MK 2 FCLIP PHASE 2 / FTIIP / TFCA BDC - Pre and Post Certification	1	2019	4	2019
AMIIP / FCLIP PH 1 (CVN/LHD/LHA/LPD) - T&E - SIT/ET/CST @WI & NSWC DD	1	2014	3	2014
SSDS MK 2 OACE MOD 4B T&E - DT-III H Phase 1 / CST at WI & NSWC DD	1	2014	2	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SSDS MK 2 ACB 20/ESS/TI-20 - ANALYSIS / TOP LEVEL REQUIREMENTS / CDD/ CPP/COI	1	2014	2	2016
SSDS MK 2 ACB 20/ESS/TI-20 - CSRD	3	2016	1	2017
SSDS MK 2 ACB 20/ESS/TI-20 - RFP/SOW	2	2017	4	2017
SSDS MK 2 ACB 20/ESS/TI-20 - CONTRACT AWARD	1	2018	1	2018
SSDS MK 2 ACB 20/ESS/TI-20 - Combat System SRR/SFR	3	2018	3	2018
SSDS MK 2 ACB 20/ESS/TI-20 - ELEMENT SRR/SFR	4	2018	4	2018
SSDS MK 2 ACB 20/ESS/TI-20 - SSR	1	2019	1	2019
SSDS MK 2 ACB 20/ESS/TI-20 - IPR 1	3	2019	3	2019
SSDS MK 2 ACB 20/ESS/TI-20 - IPR 2	1	2020	1	2020
SSDS MK 2 ACB 20/ESS/TI-20 - FSIT	3	2020	3	2020
SSDS MK 2 ACB 20/ESS/TI-20 - T&E - SIT/ET @ WI	3	2020	4	2020
SSDS MK 2 ACB 20/ESS/TI-20 - FQT	4	2020	4	2020
SDTS-SSDS MK 2 OACE MOD 4B - T&E - DT/OT III H/ET05 PHASE 2	2	2014	2	2015
SSDS MK 2 OACE MOD 4B - T&E - DT/OT III H/ET06 PHASE 2/CSSQT	2	2015	3	2015
SDTS - SSDS MK2 OACE MOD 4B - T&E - DT/OT III H/ET05 PHASE 3	2	2019	2	2019
SDTS - SSDS MK 2 - T&E - DT/OT III I / PHASE 3/ET12	3	2019	3	2019
SDTS - SSDS MK 2 - T&E - DT/OT III J / PHASE 3/ET09	4	2019	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 3172 / *Joint Non-Lethal Weapons*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3172: *Joint Non-Lethal Weapons*	26.314	5.111	4.213	4.825	-	4.825	4.348	5.158	2.971	3.032	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Develop non-lethal weapon systems in support of anti-terrorism/force protection missions. Example technologies include, but are not limited to, ocular interrupters, ship entanglement systems, and audible hailing devices. Current efforts are focused on the Rapid Deployment of Long-Range Ocular Interrupter (LROI) and Program of Record transition. The LROI is intended to provide the U.S. Navy with the capability to deliver a bright light producing a dazzling or glare effect on a closing target to warn and/or suppress potential threats through increasing levels of visual degradation. The planned LROI will generate controlled, high-intensity output, providing warning and suppression effects. The extended range capability of LROI will effectively increase tactical decision-making time in support of escalation of force (EoF) tactics, techniques and procedures (TTP) across a broad range of military operations (ROMO). Further, the LROI will enhance Joint Force operations in assessing the intent of personnel and controlling the potential threat as early as possible.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Joint Non-Lethal Weapons Development	5.111	4.213	4.825	-	4.825
Articles:	-	8	-	-	-
FY 2014 Accomplishments: Completed preliminary design and development for LROI Rapid Acquisition effort. Performed Preliminary Hazard Assessment and Safety Hazard Analysis. The increase in FY 2014 funding was driven by the higher-cost engineering and design activities such as refining concept designs, procuring/ manufacturing hardware, manufacturing Rapid Acquisition Systems (RAS), conducting engineering assessments of RAS, and conducting performance evaluations of RAS. Concurrently, we are developing LROI program of record transition strategy and documentation in accordance with Department of Defense statutory and regulatory requirements.					
FY 2015 Plans: Complete LROI RAS design and development, manufacture two test systems, conduct Developmental Testing and Quick Reaction Assessment (QRA), produce 8 systems (6 to be fielded and 2 spares) to Navy Expeditionary Combat Command (NECC) and complete developmental Technical Data Package (TDP). Conduct Laser Safety Review Board, develop training manuals, and Operations & Maintenance Guide for the Rapid Acquisition effort. Continue program of record documentation development. Complete Capability Development Document (CDD)/					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3172 / *Joint Non-Lethal Weapons*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Capability Production Document (CPD) and start JCIDS staffing process. Complete the program of record transition strategy and begin preparation for contract award. ***FY 2016 Base Plans:*** Complete JCIDS staffing of CDD/CPD. Award an initial contract to further develop the developmental TDP into a production-level TDP and start preparing for an LRIP contract award. Finalize program of record documentation and begin approval process. Begin development effort of other emerging non-lethal technologies for vessel stopping and hostile intent determination (i.e. Hailing Acoustic Laser Light Tactical Systems (HALLTS)). ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	5.111	4.213	4.825	-	4.825

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/8128: *NCW Forces Active*	0.505	1.236	-	-	-	5.940	6.418	8.061	8.061	Continuing	Continuing

Remarks

D. Acquisition Strategy

The initial LROI systems are being designed, developed, and deployed as a Rapid Acquisition and will be transitioned to a Program of Record (PoR). A developmental Technical Data Package (TDP) will be developed as part of the Rapid Acquisition effort. The developmental TDP will be included in the Request for Proposal (RFP) to the industry to be further refined for a production-level TDP to be used for PoR. The RFP including the production-level TDP will be provided to the industry to solicit offers for the LRIP production and subsequently for full rate production for a total of 290 LROI systems.

E. Performance Metrics

Successfully conduct LROI QRA and transition to a PoR.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3172 / *Joint Non-Lethal Weapons*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering	WR	NSWC Dahlgren : Dahlgren VA	8.914	2.111	Feb 2014	1.613	Feb 2015	2.234	Feb 2016	-		2.234	Continuing	Continuing	Continuing
System Engineering	WR	NSWC Port Hueneme : Port Hueneme CA	0.628	-		-		-		-		-	Continuing	Continuing	Continuing
System Engineering	WR	NSWC Crane : Crane IN	0.580	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	10.122	2.111		1.613		2.234		-		2.234	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Services (NSWC)	WR	NSWC Dahlgren : Dahlgren, VA	1.000	1.000	Feb 2014	1.000	Feb 2015	1.000	Feb 2016	-		1.000	-	4.000	-
Program Management	WR	NUWC Newport : Newport, RI	2.857	-		-		-		-		-	Continuing	Continuing	Continuing
Engineering Services (NSWC)	WR	NSWC Panama City : Panama City, FL	1.200	-		-		-		-		-	-	1.200	-
		Subtotal	5.057	1.000		1.000		1.000		-		1.000	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NSWC Dahlgren : Dahlgren VA	1.300	0.500	Feb 2014	0.500	Feb 2015	0.500	Feb 2016	-		0.500	-	2.800	-
Test and Evaluation	MIPR	Military Sealift Command : Washington DC	2.200	-		-		-		-		-	-	2.200	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3172 / *Joint Non-Lethal Weapons*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	COMOPTEVFOR : Norfolk VA	3.425	0.500	Feb 2014	0.500	Feb 2015	0.500	Feb 2016	-		0.500	Continuing	Continuing	Continuing
		Subtotal	6.925	1.000		1.000		1.000		-		1.000	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	WR	NSWC Dahlgren : Dahlgren VA	4.192	1.000	Feb 2014	0.600	Feb 2015	0.591	Feb 2016	-		0.591	Continuing	Continuing	Continuing
DAWDF	Various	Not Specified : Not Specified	0.018	-		-		-		-		-	-	0.018	-
		Subtotal	4.210	1.000		0.600		0.591		-		0.591	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	26.314	5.111		4.213		4.825		-		4.825	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3172 / *Joint Non-Lethal Weapons*

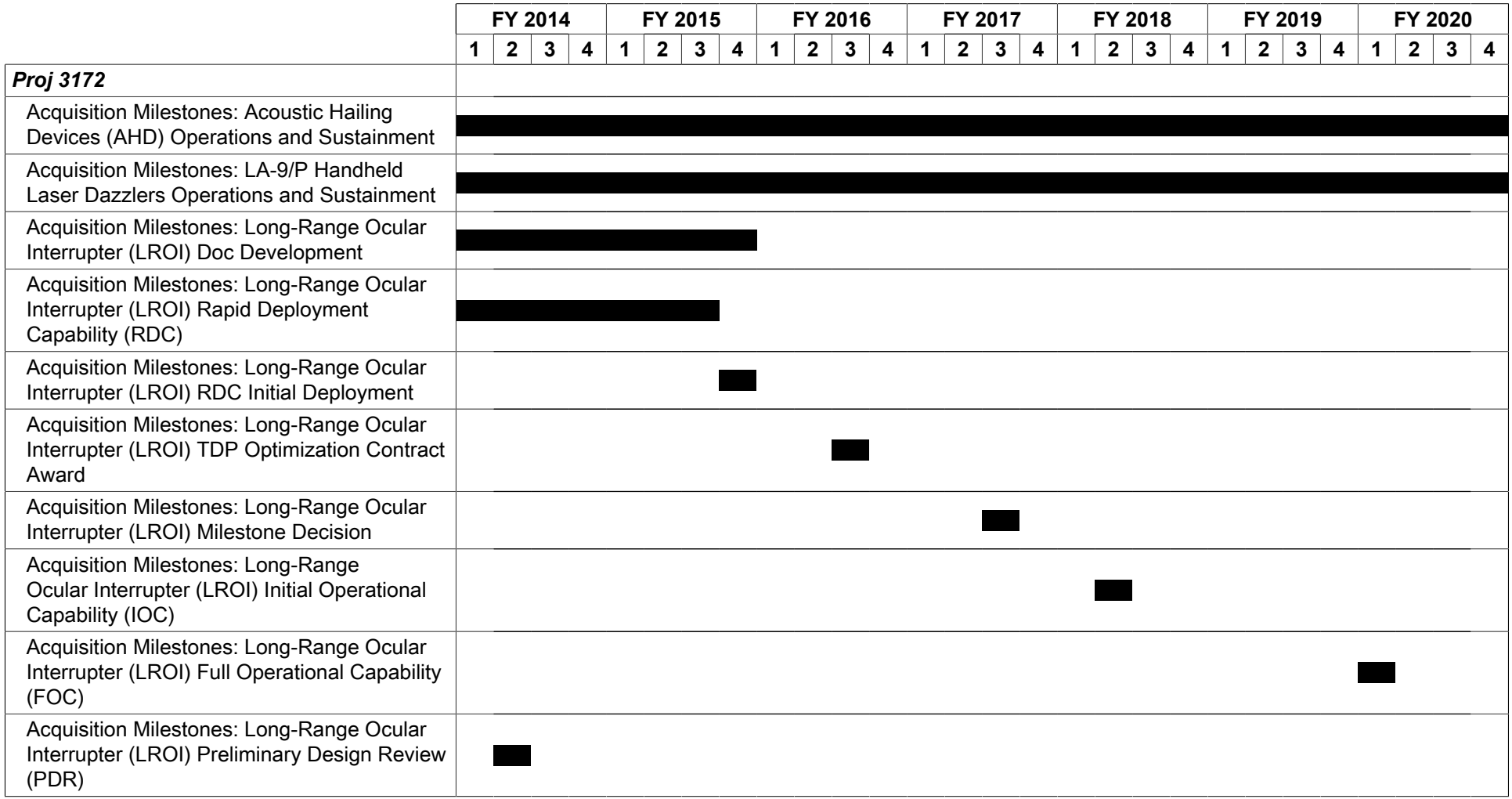


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3172 / *Joint Non-Lethal Weapons*

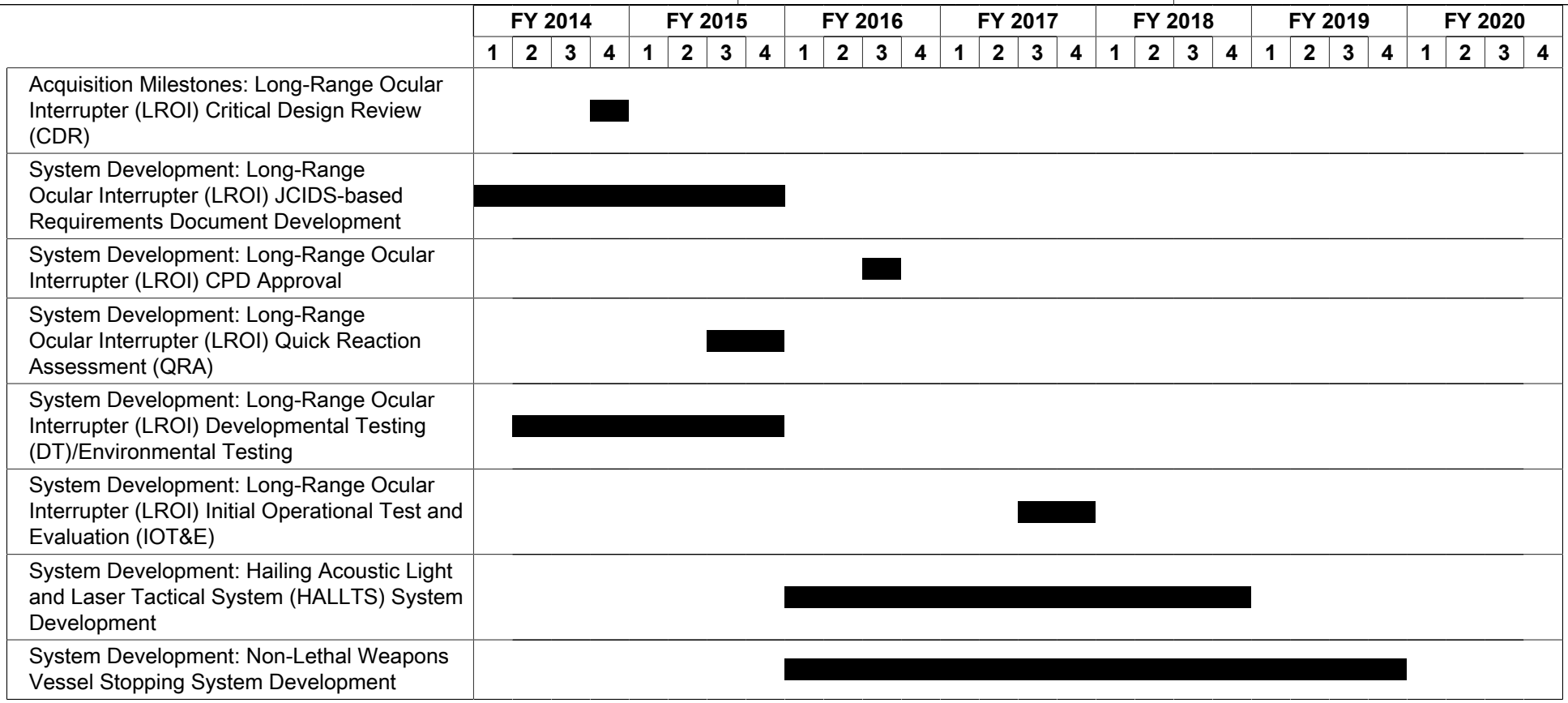


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3172 / *Joint Non-Lethal Weapons*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3172				
Acquisition Milestones: Acoustic Hailing Devices (AHD) Operations and Sustainment	1	2014	4	2020
Acquisition Milestones: LA-9/P Handheld Laser Dazzlers Operations and Sustainment	1	2014	4	2020
Acquisition Milestones: Long-Range Ocular Interrupter (LROI) Doc Development	1	2014	4	2015
Acquisition Milestones: Long-Range Ocular Interrupter (LROI) Rapid Deployment Capability (RDC)	1	2014	3	2015
Acquisition Milestones: Long-Range Ocular Interrupter (LROI) RDC Initial Deployment	4	2015	4	2015
Acquisition Milestones: Long-Range Ocular Interrupter (LROI) TDP Optimization Contract Award	3	2016	3	2016
Acquisition Milestones: Long-Range Ocular Interrupter (LROI) Milestone Decision	3	2017	3	2017
Acquisition Milestones: Long-Range Ocular Interrupter (LROI) Initial Operational Capability (IOC)	2	2018	2	2018
Acquisition Milestones: Long-Range Ocular Interrupter (LROI) Full Operational Capability (FOC)	1	2020	1	2020
Acquisition Milestones: Long-Range Ocular Interrupter (LROI) Preliminary Design Review (PDR)	2	2014	2	2014
Acquisition Milestones: Long-Range Ocular Interrupter (LROI) Critical Design Review (CDR)	4	2014	4	2014
System Development: Long-Range Ocular Interrupter (LROI) JCIDS-based Requirements Document Development	1	2014	4	2015
System Development: Long-Range Ocular Interrupter (LROI) CPD Approval	3	2016	3	2016
System Development: Long-Range Ocular Interrupter (LROI) Quick Reaction Assessment (QRA)	3	2015	4	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3172 / *Joint Non-Lethal Weapons*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
System Development: Long-Range Ocular Interrupter (LROI) Developmental Testing (DT)/Environmental Testing	2	2014	4	2015
System Development: Long-Range Ocular Interrupter (LROI) Initial Operational Test and Evaluation (IOT&E)	3	2017	4	2017
System Development: Hailing Acoustic Light and Laser Tactical System (HALLTS) System Development	1	2016	4	2018
System Development: Non-Lethal Weapons Vessel Stopping System Development	1	2016	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 3306 / *Integrated Swimmer Defense (ISD)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3306: *Integrated Swimmer Defense (ISD)*	2.368	1.010	1.026	-	-	-	-	-	-	-	-	4.404
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The scope of this project is to provide the fleet Expeditionary (specifically the Maritime Expeditionary Security Force) units with the capability of a portable maritime Integrated Swimmer Defense (ISD) system to engage combat swimmers/divers or unknown individuals underwater once they have been detected. The ISD program combines the detection and engagement operations in order to complete the swimmer defense picture for the fleet. The objective of the integrated swimmer defense system (ISD) is the development and deployment of an integrated system capable of being deployed by the expeditionary harbor security units (primarily the Maritime Expeditionary Security Force). ISD will be designed to detect, track, classify, warn, deter and neutralize divers' and swimmers' threats. ISD is important to protecting high value assets within harbors from the increasing threat of waterborne terrorist or combatant attacks. This program has been cancelled.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Integrated Swimmer Defense	1.010	1.026	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Performance Specification delivered. Completed test plan.					
FY 2015 Plans: Award contract for Test Articles. Receive Test Articles and begin integrated Test & Evaluation.					
FY 2016 Base Plans: Not Applicable. Program cancelled by OPNAV Resource Sponsor after FY15.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.010	1.026	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/8128: *ISD*	-	0.461	-	-	-	-	-	-	-	-	0.461

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3306 / *Integrated Swimmer Defense (ISD)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

The acquisition strategy includes the integration of swimmer/diver detection sensors and using software to fuse the sensor track data thereby creating an end to end combat system capability for swimmer/diver defense. The ISD program of record system configuration will be produced through an Acquisition Category (ACAT) program to procure component systems needed to bring the performance of the UOES prototypes up to the full production requirements.

The Department has cancelled this program after FY15.

E. Performance Metrics

User Operational Evaluation Systems (UOES) will culminate defined set of system capabilities and limitations. Define level specifications and technical data packages.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 3306 / *Integrated Swimmer Defense (ISD)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware/Software Development	WR	NUWC Keyport : Keyport	0.443	0.254	Feb 2014	0.289	Feb 2015	-		-		-	-	0.986	-
Hardware/Software Development - FNC	WR	NUWC Newport : Newport RI	0.100	-		-		-		-		-	-	0.100	-
Hardware/Software Development - FNC Detection and Targeting	WR	NUWC Newport : Newport RI	0.125	-		-		-		-		-	-	0.125	-
		Subtotal	0.668	0.254		0.289		-		-		-	-	1.211	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Services	WR	NUWC : Keyport	0.879	0.246	Feb 2014	0.250	Feb 2015	-		-		-	-	1.375	-
		Subtotal	0.879	0.246		0.250		-		-		-	-	1.375	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	NUWC : Keyport	0.490	0.254	Feb 2014	0.250	Feb 2015	-		-		-	-	0.994	-
		Subtotal	0.490	0.254		0.250		-		-		-	-	0.994	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	WR	NUWC : Keyport	0.331	0.256	Feb 2014	0.237	Feb 2015	-		-		-	-	0.824	-
		Subtotal	0.331	0.256		0.237		-		-		-	-	0.824	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 3306 / *Integrated Swimmer Defense (ISD)*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2.368	1.010		1.026		-		-		-	-	4.404	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3306 / *Integrated Swimmer Defense (ISD)*

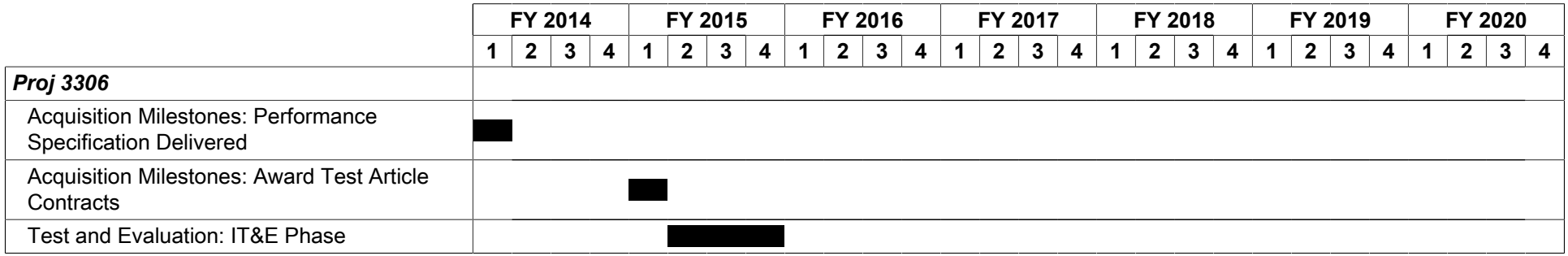


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3306 / *Integrated Swimmer Defense (ISD)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3306				
Acquisition Milestones: Performance Specification Delivered	1	2014	1	2014
Acquisition Milestones: Award Test Article Contracts	1	2015	1	2015
Test and Evaluation: IT&E Phase	2	2015	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604755N / *Ship Self Def (Detect & Cntrl)*	Project (Number/Name) 3358 / *SSDS Training Improvement Program*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3358: *SSDS Training Improvement Program*	-	1.060	1.120	3.117	-	3.117	2.981	7.639	7.557	8.778	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The SSDS Training Improvement project will provide enhancements and upgrades to the Total Ship Training Capability (TSTC) training components within the combat system to address needs for increased training capability and functionality in conjunction with SSDS MK2 Advanced Capability Builds (ACB)/Fire Control Loop Improvement Project (FCLIP), Far-Term Interoperability Improvement Project (FTIIP) and Technical Insertion efforts under PU 2178 (QRCC). These enhancements will address current and future training requirements by implementing new functionality to enable the individual warfighter to engage in more complex training requirements and distributed battle group events to support fleet required training certification events. Capability Development and integration are related to Integrated Air and Missile Defense, Underwater, Surface, and other warfare areas. Capability enhancements and upgrades include development of re-useable common components that can be leveraged by AEGIS combat systems, and/or integration of re-usable common components developed by the TSTC BFTT Program (PE 0204571/PU1427) and AEGIS TSTC Training Improvement program (PE 0604307/PU 3357) to meet SSDS integrated combat system training requirements.

PU 3358 funds the development and/or integration of TSTC improvements into the SSDS MK2 FCLIP Phase 2 / FTIIP and ACB-20/ESS (Enterprise Surveillance Suite) baselines and TI-12/TI-16/TI-20 configurations. The integrated SSDS MK2 TSTC improvements will be included in the SSDS MK2 baseline documentation, testing and certification. The planning schedule for the SSDS MK2 baselines are documented in QRCC Project (PU 2178). The TSTC improvements encompass physical and functional upgrades to the existing SSDS MK2 onboard training capabilities and configuration implemented with Battle Force Tactical Trainer (BFTT). Planned TSTC improvements include the use of SSDS MK2 TI-12/TI-16/TI-20 Open Architecture Computing Environment (OACE) for TSTC integration.

TSTC provides realistic joint warfare training across the spectrum of armed conflict, realistic unit level team training in all warfare areas. TSTC provides ships' Commanding Officers and Battle Group/Battle Force Commanders with the ability to conduct coordinated realistic, high stress, combat system level team training as an integral part of the Afloat Training Organization, the Tactical Training Groups and C2F/C3F FSTs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: New Accomplishment/Planned Program Entry	1.060	1.120	3.117	-	3.117
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Initiated systems engineering efforts for the development of TSTC capabilities to support improved Anti-Air Warfare (AAW) training, MH-60R, Identification Friend or Foe (IFF) Simulator Development, Cooperative Engagement Capability (CEC) Training Enhancements Integration, Dual Band Radar Training Integration, and					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Integration of upgraded on-board Electronic Warfare and Carrier Tactical Support Center (CV-TSC) trainer upgrades for SSDS MK2. Developed Concepts of integration and conducted requirements analysis on planned TSTC improvements. ***FY 2015 Plans:*** Continue Integrated Combat System engineering to define and allocate TSTC functional requirements to the training system, SSDS MK2, and other Combat System elements. Define Integrated Combat System software architecture including common software components for SSDS and AEGIS integrated combat systems, and physical architecture including SSDS MK2 TI-16 physical architecture to integrate TSTC. ***FY 2016 Base Plans:*** Start the incorporation of TSTC functional requirements into SSDS Integrated Combat System Requirements Documentation for FCLIP Phase 2 / FTIIP baseline with the initiation of system engineering and development of documentation to support Combat System SRR/SFR, Combat System element SRRs/SFRs, and Software Specification Reviews. Initiate development of requirements to support TSTC capability improvements to support tactical training requirements of SSDS ACB 20 / ESS. Initiate study to determine method of simulating real world environments within SSDS MK2 shipboard sensors for Anti-Area / Area Denial (A2AD) training. Investigate options to integrate of Full Motion Video capability to provide required realism/fidelity for Surface Warfare Training. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.060	1.120	3.117	-	3.117

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTEN / PE 0204571N: *Surface Tactical Team Trainer (PU 1427)*	10.849	16.768	9.954	-	9.954	13.893	11.764	10.631	10.851	Continuing	Continuing
• RDT&E / PE 0604307N: *AEGIS Training Improv. Prog. (PU 3357)*	3.733	8.994	14.677	-	14.677	10.843	7.838	6.582	5.082	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

D. Acquisition Strategy

For the SSDS MK2 software development, including the integration of TSTC software improvements and the TI-16 Open Architecture Computing Environment, the acquisition strategy identified for SSDS MK2 for QRCC Project (PU 2178) (R-2A exhibit) applies.

E. Performance Metrics

Performance metrics for SSDS MK2 for QRCC Project (PU 2178) apply (R-2A exhibit). The milestones for SSDS MK2 FCLIP Phase 2/FTIIP and ACB-20/ESS baselines in QRCC Project (PU 2178) apply and are listed in the R-4A exhibits for PU 3358.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TSTC Sys Eng / Safety	WR	DD : Dahlgren, VA	0.000	0.072	Mar 2014	-		0.225	Nov 2015	-		0.225	Continuing	Continuing	Continuing
TSTC Sys Eng / ILS	WR	DN : Dam Neck, VA	0.000	0.156	Mar 2014	0.250	Nov 2014	0.278	Nov 2015	-		0.278	Continuing	Continuing	Continuing
TSTC Sys Eng / IFF / Veh. Cntrl SIM	WR	NAVAIR : PMA 213	0.000	0.306	Mar 2014	-		0.856	Nov 2015	-		0.856	Continuing	Continuing	Continuing
TSTC Sys Eng / Integration	C/CPIF	RSC IIS (4112) : Suffolk, VA	0.000	0.401	Mar 2014	0.720	Dec 2014	0.981	Nov 2015	-		0.981	Continuing	Continuing	Continuing
TSTC Sys Eng / PSEA	SS/CPIF	RSC (5128) : San Diego, CA	0.000	-		-		0.333	Nov 2015	-		0.333	Continuing	Continuing	Continuing
TSTC Sys Eng	WR	Keyport (NUWC) : Keyport, RI	0.000	0.125	Mar 2014	0.150	Dec 2014	0.444	Nov 2015	-		0.444	Continuing	Continuing	Continuing
		Subtotal	0.000	1.060		1.120		3.117		-		3.117	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	1.060		1.120		3.117		-		3.117	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

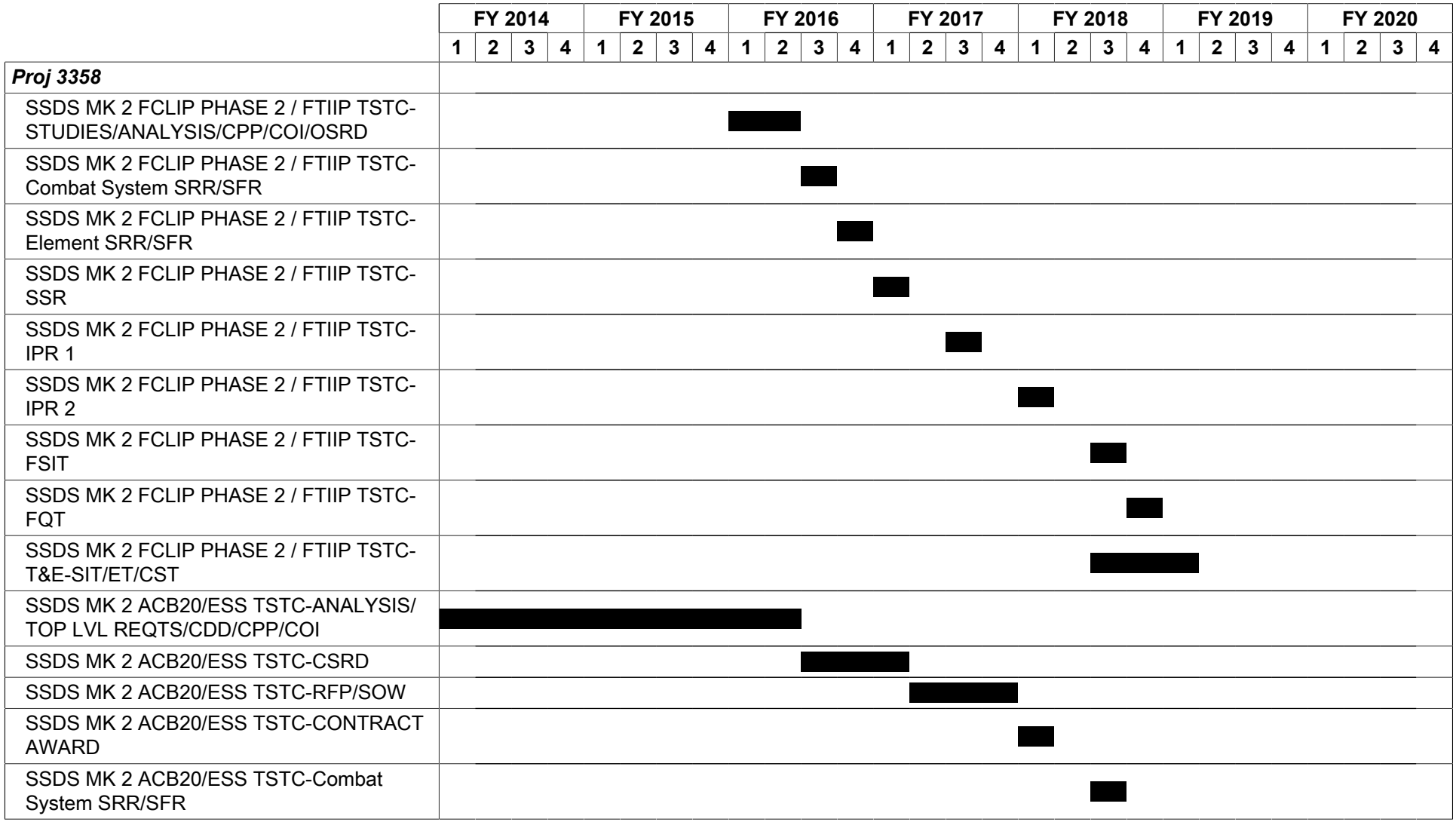


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

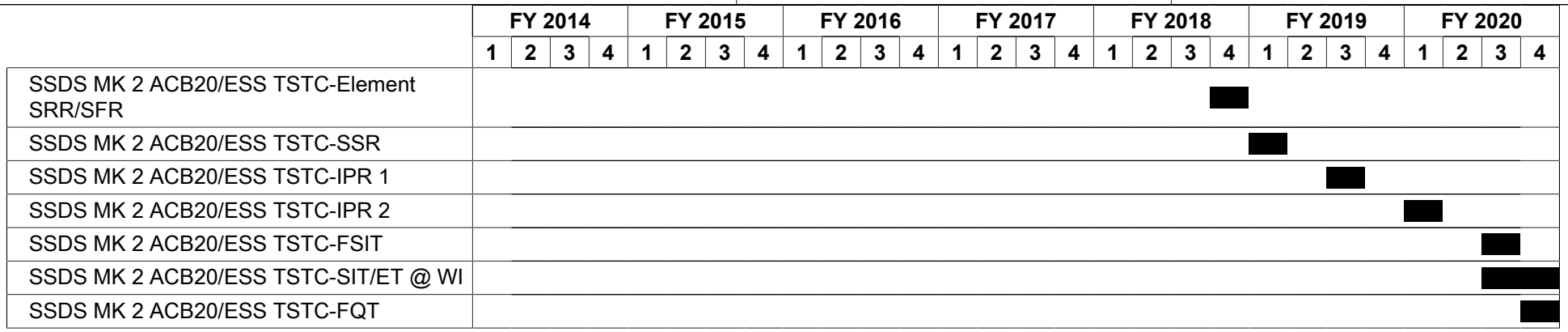


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604755N / *Ship Self Def (Detect & Cntrl)*	**Project (Number/Name)** 3358 / *SSDS Training Improvement Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3358				
SSDS MK 2 FCLIP PHASE 2 / FTIIP TSTC-STUDIES/ANALYSIS/CPP/COI/OSRD	1	2016	2	2016
SSDS MK 2 FCLIP PHASE 2 / FTIIP TSTC-Combat System SRR/SFR	3	2016	3	2016
SSDS MK 2 FCLIP PHASE 2 / FTIIP TSTC-Element SRR/SFR	4	2016	4	2016
SSDS MK 2 FCLIP PHASE 2 / FTIIP TSTC-SSR	1	2017	1	2017
SSDS MK 2 FCLIP PHASE 2 / FTIIP TSTC-IPR 1	3	2017	3	2017
SSDS MK 2 FCLIP PHASE 2 / FTIIP TSTC-IPR 2	1	2018	1	2018
SSDS MK 2 FCLIP PHASE 2 / FTIIP TSTC-FSIT	3	2018	3	2018
SSDS MK 2 FCLIP PHASE 2 / FTIIP TSTC-FQT	4	2018	4	2018
SSDS MK 2 FCLIP PHASE 2 / FTIIP TSTC-T&E-SIT/ET/CST	3	2018	1	2019
SSDS MK 2 ACB20/ESS TSTC-ANALYSIS/TOP LVL REQTS/CDD/CPP/COI	1	2014	2	2016
SSDS MK 2 ACB20/ESS TSTC-CSRD	3	2016	1	2017
SSDS MK 2 ACB20/ESS TSTC-RFP/SOW	2	2017	4	2017
SSDS MK 2 ACB20/ESS TSTC-CONTRACT AWARD	1	2018	1	2018
SSDS MK 2 ACB20/ESS TSTC-Combat System SRR/SFR	3	2018	3	2018
SSDS MK 2 ACB20/ESS TSTC-Element SRR/SFR	4	2018	4	2018
SSDS MK 2 ACB20/ESS TSTC-SSR	1	2019	1	2019
SSDS MK 2 ACB20/ESS TSTC-IPR 1	3	2019	3	2019
SSDS MK 2 ACB20/ESS TSTC-IPR 2	1	2020	1	2020
SSDS MK 2 ACB20/ESS TSTC-FSIT	3	2020	3	2020
SSDS MK 2 ACB20/ESS TSTC-SIT/ET @ WI	3	2020	4	2020
SSDS MK 2 ACB20/ESS TSTC-FQT	4	2020	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604756N *I Ship Self Def (Engage: Hard Kill)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	609.719	42.551	96.937	99.619	-	99.619	107.920	156.846	151.251	104.765	Continuing	Continuing
0167: *5in Rolling Airframe Missile*	204.839	1.280	12.705	14.275	-	14.275	13.175	5.932	0.720	0.745	Continuing	Continuing
0173: *NATO Sea Sparrow*	404.880	41.271	79.232	84.344	-	84.344	94.245	132.914	109.189	81.311	Continuing	Continuing
9081: *Phalanx CIWS SEARAM*	0.000	-	5.000	1.000	-	1.000	0.500	18.000	41.342	22.709	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides funding for the development of systems that fulfill a portion of the third phase of the Ship Self Defense: Engage Hard Kill. Development in this line will focus on hard kill capabilities in which missiles are used to intercept incoming Anti-Ship Cruise Missiles (ASCM). Missile and system improvements necessary to meet their requirements are being addressed via NATO SEASPARROW Missile System (NSSMS) (0173), Rolling Airframe Missile (RAM) (0167), Phalanx Close-In Weapon System (CIWS) SeaRAM (9853A), Griffin, Javelin and Spike missile (3342). Missile improvements include improved kinematic performance plus advanced seeker and low elevation fusing/warhead capability improvements. CIWS System improvements include Technology Refresh for current fleet population and Next Generation CIWS. New system developments include integration of Griffin missile into Patrol Coastal (PC) and Littoral Combat Ship Missile Module, and development and/or qualification of shoulder launched missile system.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	43.303	96.937	120.542	-	120.542
Current President's Budget	42.551	96.937	99.619	-	99.619
Total Adjustments	-0.752	-	-20.923	-	-20.923
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	5.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.750	-			
• SBIR/STTR Transfer	-1.502	-			
• Program Adjustments	-	-	-20.000	-	-20.000
• Rate/Misc Adjustments	-	-	-0.923	-	-0.923

Change Summary Explanation

FY14 funding decrease due to SBIR/STTR Transfer assessment

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604756N *I Ship Self Def (Engage: Hard Kill)*

FY16 funding decrease due to a rephasing of ESSM Block 2 funding into FY17 to account for funding being provided by other International Block 2 contributing Nations.

FY16-FY18 funding increase for RAM supports the implementation of RAM changes identified in the Integrated Combat System Failure Review Board (CSFRB) report known as the Fire Control Loop Improvement Project (FCLIP). These funds support RAM systems engineering, design analysis and testing of the combat system in support of the FCLIP process. Funding will deliver software baseline changes to the RAM Block 2 missiles, launcher software updates and updated interface to the combat system.

Changes to RAM Initial Operational Test and Evaluation (IOT&E) milestones which also impact declaration of RAM Block 2 Initial Operational Capability (IOC) and planned Full Rate Production (FRP) Decision have been driven by several factors outside the control of the program office. All flight testing was disrupted by the NAVAIR issued national moratorium on usage of BQM targets imposed after the 16 November 2013 testing incident where a BQM-74 drone impacted USS Chancellorsville (CG 62). RAM flight testing was reinstated in June 2014. In addition to the BQM flight test moratorium, a successful demonstration of Combat System (CS) enhancements implemented as a result of the Fire Control Loop Improvement Project (FCLIP) was required to ensure proper RAM designation for stream raid engagement. IT-C2 is comprised of three test events: G,I and J. Test events G and I are scheduled to be completed in January 2015 and J, as a combined enterprise test event, has been moved to the right to align to another programs schedule. The shift in start and end dates for IT-C4 Multi-Stage Supersonic Target (MSST) was caused by a delay in the MSST program to provide viable targets.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	Project (Number/Name) 0167 / *5in Rolling Airframe Missile*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0167: *5in Rolling Airframe Missile*	204.839	1.280	12.705	14.275	-	14.275	13.175	5.932	0.720	0.745	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The RAM program is an international cooperative program with the government of the Federal Republic of Germany. The purpose of this program is to develop, test, and field a surface-to-air self-defense system utilizing a dual mode, passive radio frequency/infrared RAM. The baseline system (Block 0) provides a self-defense system to counter ASCMs. RAM Block 0/1 provide defense capability against active and passive anti-ship missiles, very low altitude missiles, and maneuvering missiles through the utilization of passive radio frequency and infrared seekers and a maritime optimized fuse. The RAM Block 1A software update and the Mk 49 MOD 3 launcher upgrade program provide an additional asymmetric capability against helicopters, aircraft and surface craft. The RAM Block 2 upgrade program is a cooperative requirement of the U.S. and Federal Republic of Germany, as agreed to in an international Memorandum of Understanding (MOU), and allows RAM to counter emerging highly maneuverable ASCM threats utilizing advanced seekers while maintaining all the proven capabilities of RAM Block 0/1/1A's accurate terminal guidance, proven lethality, and no shipboard post launch dependence. Funding supports formal Developmental and Operational Testing (DT/OT) scheduled through FY20, data analysis, operational/test driven studies, support of combat system performance analysis, identification of operationally relevant improvements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Rolling Airframe Missile Block 2 Development and Test	1.148	12.634	14.211	-	14.211
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Funded ongoing integrated OT&E (Development and Operational) IT-C2 testing, analysis, incorporation of any changes and associated efforts to achieve Initial Operational Capability (IOC) decision and support a Full Rate Production (FRP) decision.					
FY 2015 Plans: Funds ongoing Integrated OT&E (Development and Operational) IT-C2 testing, analysis, incorporation of any changes and associated efforts to achieve IOC decision and support a FRP decision. Funds also support RAM Systems Engineering, design analysis and testing of the combat system changes in support of the Fire Control Loop Improvement Project (FCLIP) process. Funding will deliver software baseline changes to the RAM Block 2 Missiles, launcher software updates and updated interface to the combat system.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0167 / *5in Rolling Airframe Missile*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Funds ongoing Integrated OT&E (Development and Operational) OT-C5 testing, analysis, incorporation of any changes and associated efforts to support a FRP decision. Funds also support RAM systems engineering, design analysis and testing of the combat system changes in support of the FCLIP process. Funding will deliver software baseline changes to the RAM Block 2 Missiles, launcher software updates and updated interface to the combat system. Funds support additional engineering efforts to transition from gap analysis/system requirements generation into preliminary design and simulation culminating in a Preliminary Design Review (PDR) in FY16. ***FY 2016 OCO Plans:*** N/A					
Title: Rolling Airframe Missile Block 2 Travel	0.132	0.071	0.064	-	0.064
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Funded program office travel to support program/testing as required by program schedule and in accordance with travel reduction mandate. ***FY 2015 Plans:*** Funds program office travel to support program/testing as required by program schedule and in accordance with travel reduction mandate. ***FY 2016 Base Plans:*** Funds program office travel to support program/testing as required by program schedule and in accordance with travel reduction mandate. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.280	12.705	14.275	-	14.275

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN 5238: *RAM GMLS*	0.491	-	-	-	-	-	-	-	-	Continuing	Continuing
• WPN 2242: *RAM*	65.943	76.792	80.826	-	80.826	82.465	81.713	83.740	85.885	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0167 / *5in Rolling Airframe Missile*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN 5231: *Ship Missile Support Equipment*	-	4.373	9.799	-	9.799	8.092	7.828	6.448	3.251	Continuing	Continuing

Remarks

D. Acquisition Strategy

The RAM Program uses directed sole source contracts with Raytheon Missile Systems Company, Tucson, AZ.

E. Performance Metrics

Successfully complete DT/OT.
Achieve IOC decision and support a FRP decision.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	Project (Number/Name) 0167 / *5in Rolling Airframe Missile*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 2 Upgrade	C/CPAF	Various : Various	154.650	-		-		-		-		-	-	154.650	-
Primary Hardware Dev/Blk 1	Various	Various : Various	10.081	-		-		-		-		-	-	10.081	-
FCLIP	WR	PHD : CA	0.000	-		0.425	Jan 2015	0.420	Nov 2015	-		0.420	-	0.845	-
FCLIP	SS/CPFF	Raytheon : Tucson/ Louisville	0.000	-		10.389	Jan 2015	10.560	Nov 2015	-		10.560	-	20.949	-
FCLIP	WR	China Lake : CA	0.000	-		0.544	Nov 2014	1.742	Nov 2015	-		1.742	-	2.286	-
FCLIP	SS/CPFF	JHU/APL : MD	0.000	-		0.118	Jan 2015	0.365	Dec 2015	-		0.365	-	0.483	-
		Subtotal	164.731	-		11.476		13.087		-		13.087	-	189.294	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analysis	Various	Various : Various	1.210	-		-		-		-		-	-	1.210	-
		Subtotal	1.210	-		-		-		-		-	-	1.210	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	C/CPFF	Raytheon : Tucson	15.323	0.621	Nov 2013	0.684	Jan 2015	0.380	Nov 2015	-		0.380	-	17.008	-
Test Support	WR	China Lake/PHD : CA/CA	11.540	0.478	Nov 2013	0.373	Nov 2014	0.444	Nov 2015	-		0.444	Continuing	Continuing	Continuing
FOT&E	WR	China Lake : PHD, CA	4.674	0.027	Nov 2013	-		-		-		-	-	4.701	-
Miscellaneious	Various	Various : Various	5.733	0.022	Apr 2014	0.020	Jan 2015	-		-		-	-	5.775	-
Test Support	SS/CPFF	JHU/APL : MD	0.282	-		0.075	Jan 2015	0.300	Dec 2015	-		0.300	-	0.657	-
		Subtotal	37.552	1.148		1.152		1.124		-		1.124	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	Project (Number/Name) 0167 / *5in Rolling Airframe Missile*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Allot	Program Office : VA	1.199	0.132	Oct 2013	0.077	Oct 2014	0.064	Oct 2015	-		0.064	Continuing	Continuing	Continuing
Defense Acquisition Workforce Development Fund	Various	various : various	0.147	-		-		-		-		-	-	0.147	-
		Subtotal	1.346	0.132		0.077		0.064		-		0.064	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	204.839	1.280		12.705		14.275		-		14.275	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0167 / *5in Rolling Airframe Missile*

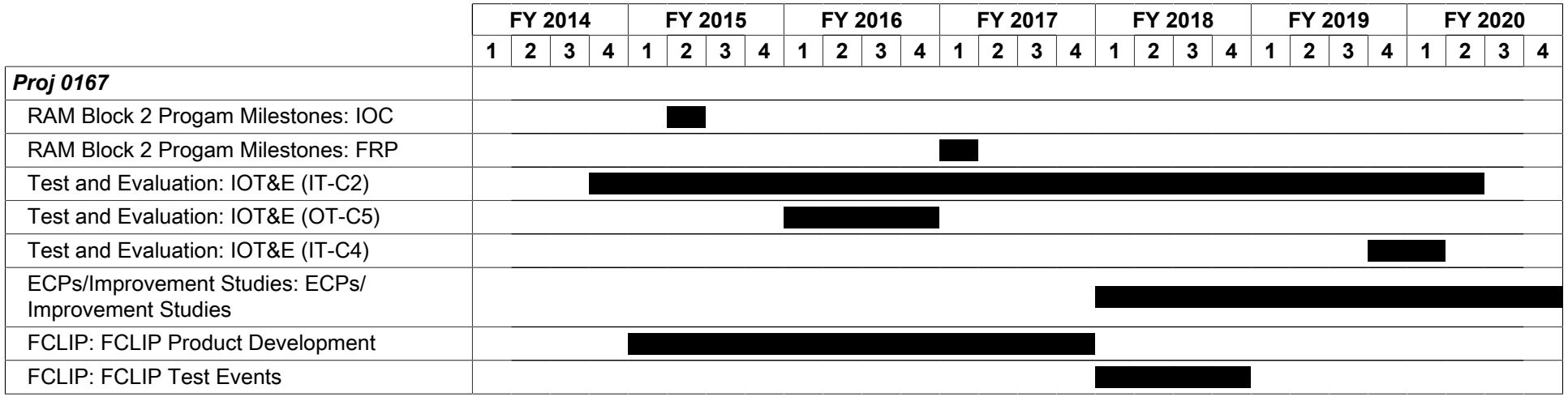


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0167 / *5in Rolling Airframe Missile*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0167				
RAM Block 2 Progam Milestones: IOC	2	2015	2	2015
RAM Block 2 Progam Milestones: FRP	1	2017	1	2017
Test and Evaluation: IOT&E (IT-C2)	4	2014	2	2020
Test and Evaluation: IOT&E (OT-C5)	1	2016	4	2016
Test and Evaluation: IOT&E (IT-C4)	4	2019	1	2020
ECPs/Improvement Studies: ECPs/Improvement Studies	1	2018	4	2020
FCLIP: FCLIP Product Development	1	2015	4	2017
FCLIP: FCLIP Test Events	1	2018	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	Project (Number/Name) 0173 / *NATO Sea Sparrow*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0173: *NATO Sea Sparrow*	404.880	41.271	79.232	84.344	-	84.344	94.245	132.914	109.189	81.311	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project encompasses six (6) primary efforts to enhance ship self defense:

1. Evolved SEASPARROW Missile (ESSM) Testing: A cooperative effort among 10 NATO SEASPARROW Nations and the U.S., to improve the capability of the SEASPARROW Missile to counter the low altitude, highly maneuverable ASCM threat. The program consists of evolving the SEASPARROW Missile through the development of a new rocket motor with tail control; thrust vector control and ordnance (warhead) upgrade; modifications to the MK 41 Vertical Launch System (VLS) to fire from a single cell with 4 ESSM (QuadPack); and modifications to the NATO SEASPARROW Surface Missile System (NSSMS) to provide ESSM capability.

2. NATO SEASPARROW Objective Configuration (OC). The OC Program consists of segmenting and automating the existing MK 57 NSSMS radars (MK 9 Track Illuminator System) and launchers (MK 29 Guided Missile Launching System). The program eliminates all MK 57 watch stations, reduces the required system hardware.

3. NATO SEASPARROW Technical Direction Agent - MK 91 Rearchitecture: The MK 91 rearchitecture program integrates NSSMS into the SSDS architecture to provide ship missile defense utilizing an open architected system technical design agent.

4. STALKER LONG RANGE Electro Optic (EO)/Infra Red (IR)/Laser Range Finder (LRF) System: Detects, acquires, classifies, identifies and determines intent of conventional,asymmetrical and advanced threats supporting Anti-Air Warefare (AAW), Anti-Surface Warefare (ASUW), Anti-terrorism/Force Protection (AT/FP) and Overseas Contingency Operations (OCO). Long Range Visible/Infra Red Sensors and Laser Range Finder provide multi-spectral target imagery and accurate range data in non-benign environments. Classification to the horizon, visual resolution of 1ft @ 10 nm and range resolution/rate within 1 ft/1kt/nm. This effort is in response to the NAVCENT Counter Swarm Urgent Operational Need (UON) to combat Fast Attack Craft/Fast Inshore Attack Craft (FAC/FIAC).

5. ESSM Block 2 Risk Reduction/ESSM Block 2 Engineering, Manufacturing, and Development (EMD): ESSM Block 2 upgrade is a cooperative effort between U.S Navy and NATO SEASPARROW Consortium Nations. ESSM Block 2 upgrade replaces the largely obsolete guidance section with a dual mode Active/Semi-Active X-Band seeker capable of defeating future threat capabilities within the existing envelope, including; smaller signatures, increased raid sizes, and adverse environments including countermeasures. Threat types include; advanced ASCMs, Anti-Ship Ballistic Missiles (ASBMs), surface and asymmetrical. The U.S. RDT&E funding accounts for 40% of the overall ESSM Block 2 Development Program. Year-to-year fluctuations in funding levels are due to the variations in contributions provided by the other eleven Nations.

6. Dual-Band Transceiver (DBT). The ESSM Block 2 missile will utilize a DBT for in-flight data communications. This two-way datalink enables control and management of the missile during flight. This DBT leverages the new DDG-1000/CVN-78 X-Band Transceiver (XBT) to incorporate the functions to support S-Band Aegis data link (i.e. a Dual Band Transceiver). This solves the S-band obsolescence issues and gives one common transceiver across the ESSM inventory.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Evolved SEASPARROW Missile (ESSM) testing	8.310	9.800	8.305	-	8.305
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted US-unique Developmental Test/Operational Testing (DT/OT) firings from CVN 71: successful long range intercept of sea-skimming BQM-74. Conducted ESSM Aegis integration testing and DT/OT firings on Cruisers and Destroyers and SDTS (DT/OT-D4, DT/OT-D5, DT/OT-D6) in support of Aegis Modernization Program/Aegis Baseline 9 verification testing. Began missile integration testing for Zumwalt and CVN-78 Combat Systems at Wallops Island. Provided for the U.S. share of cooperative efforts associated with ESSM engineering studies and other development initiatives. ***FY 2015 Plans:*** Begin integration testing on Zumwalt Combat System installed on the Self-Defense Test Ship. Conduct waterfront integration testing on DDG 1000 lead ship. Continue SSDS integration testing on LHA 6 class lead ship and SDTS. Continue ESSM Aegis Baseline 9 Integration verification testing on cruisers and destroyers. This provides for the U.S. share of cooperative efforts associated with ESSM engineering studies and other development initiatives. ***FY 2016 Base Plans:*** Continue integration testing and begin live-fire testing on the Zumwalt Combat System on the Self Defense Test Ship, conduct Waterfront Integration Testing activities and live fire testing on DDG 1000 lead ship. Perform Waterfront Integration Test activities and live-fire testing on CVN 78 combat system installed on the Self Defense Test Ship and conduct Aegis Baseline 9 firings. Participate in LHD 8 Combat System Ship Qualification Trial (CSSQT) planning and execution. ***FY 2016 OCO Plans:*** N/A					
Title: NATO SEASPARROW Objective Configuration (OC)	4.260	-	-	-	-
Articles:	-	-	-	-	-
Description: NATO SEASPARROW OC. The OC program consists of segmenting and automating the existing Mk57 Mk9 TIS and the GMLS Mk29 Mod 5. The program eliminates all Mk57 watch stations, and reduces the required system hardware and passes control directly to SSDS Mk2 Mod (3C). ***FY 2014 Accomplishments:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
The OC FY14 RDTE funding was allocated to complete the system engineering, software design and development activity associated with the NSSMS Mk9 TIS Radar Segmentation and Automation, including associated SSDS engineering and software development efforts. Completed the FY14 SSR/PDR and CDR SETR events. Software code and unit test proceeded from CDR culminating in initial OCP2 software FQT/ delivery in 3Q14. ***FY 2015 Plans:*** NA ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: NATO Sea Sparrow Combat System Integraton Technical Direction Agent (TDA)	0.272	0.282	0.293	-	0.293
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Performed TDA functions for NSSMS/Mk91 system. ***FY 2015 Plans:*** Continue as TDA for NSSMS/Mk91 system. Provide engineering support and support risk mitigation with the development of the solid state Mk9 Tracker Illuminator System (TIS) power upgrade and digital receiver. ***FY 2016 Base Plans:*** Continue as TDA for NSSMS/Mk91 system. Provide engineering support and support risk mitigation with the development of the solid state Mk9 TIS power upgrade and digital receiver. ***FY 2016 OCO Plans:*** N/A					
Title: STALKER LONG RANGE EO/IR/LRF SYSTEM	2.429	-	-	-	-
Articles:	-	-	-	-	-
Description: STALKER LONG RANGE EO/IR/LRF System: Detects, acquires, classifies, identifies and determines intent of conventional,asymmetrical and advanced threats supporting AAW, ASUW, (AT)/(FP) and OCO. Long Range Visible/IR Sensors and LRF provide multi-spectral target imagery and accurate range data in non-benign environments. Classification to the horizon, visual resolution of 1ft @ 10 nm and range resolution/					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
rate within 1 ft/1kt/nm. This effort is in response to the NAVCENT Counter Swarm UON to combat (FAC/FIAC). Stalker will replace the Lowlight Level Television (LLTV) in the fleet. ***FY 2014 Accomplishments:*** Transitioned Active/Passive Dual Imaging Sensor (AP/DIS IR) improvement to Stalker to improve environmetal performance via active/passive Short Wave Infra Red. System improved maritime target identification with increased range and resolution at night and through haze penetration/clutter reduction. Development completed. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Evolved SEASPARROW Blk 2 Risk Reduction/ESSM Blk 2 EMD	26.000	65.800	73.400	-	73.400
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted critical experiments and analysis required to mature the design to support and conduct PDR; procured laboratory and test assets; Hardware (H/W) and Software (S/W) development; and released the E&MD RFP to prepare for entry into the Engineering, Manufacturing, and Development (E&MD) phase of the program in FY15 with a planned IOC of FY2020. ***FY 2015 Plans:*** Complete the risk reduction phase and enter into the E&MD phase of the program with a planned IOC of FY2020. Tasks include completing Milestone B; continuing critical experiments and analysis required to further mature the design to support CDR in FY16; continuing H/W and S/W development; procuring long lead material to support flight test; planning and initiating ground based test program. ***FY 2016 Base Plans:*** Continue maturing the ESSM Blk2 design during the E&MD phase of the program focusing on S/W and H/D development. Tasks include completing CDR; initiating ground based testing to include E3, CiL, and HiL;					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
execution of captive carry flight testing; maturation of the Models & Simulations supporting performance predictions; and completing design modifications to the Mk 21 Canister ***FY 2016 OCO Plans:*** N/A					
Title: Dual Band Transceiver (DBT)	-	3.350	2.346	-	2.346
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** FY15 DBT development efforts will go towards requirements generation and flowdown; initiate critical item development specification and conducting critical experiments to mature the technology and design. ***FY 2016 Base Plans:*** The DBT effort will transition from the Critical Design Review in FY 15 to design verification testing, including qualification testing, and development of a Technical Data Package (TDP). ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	41.271	79.232	84.344	-	84.344

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• WPN 2307: *ESSM*	76.749	116.934	44.440	-	44.440	110.298	146.491	133.329	136.039	Continuing	Continuing
• OPN 5237: *NATO SEA SPARROW*	58.368	-	-	-	-	-	-	-	-	Continuing	Continuing
• OPN 5231: *Ship Missile Defense*	-	23.520	41.850	-	41.850	42.180	44.851	39.780	30.958	Continuing	Continuing

Remarks

Starting in FY15, funding realigned from OPN 5237 to OPN 5231.

D. Acquisition Strategy

ESSM is a directed sole source contract to Raytheon Missile Systems Company. The MK 29 ESSM Launcher Upgrade and Rearchiture (REARC)/Ship Self Defense Syste (SSDS) Integration effort was a directed sole source contract to Raytheon Company Integrated Defense System.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

E. Performance Metrics

Successfully complete Developmental Test/Operational testing.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ESSM Systems Engineering/Firing Spt	WR	Corona : CA	7.854	0.893	Oct 2013	0.945	Oct 2014	0.973	Oct 2015	-		0.973	-	10.665	-
NATO OC System Engineering	C/ FFPLOE	Raytheon : RI	0.668	1.287	Nov 2013	-		-		-		-	-	1.955	-
NATO OC - Software	C/ FFPLOE	Raytheon : RI	5.835	2.219	Nov 2013	-		-		-		-	-	8.054	-
Stalker System Engineering	SS/CPAF	Ball : CO	3.211	1.571	Jul 2014	-		-		-		-	-	4.782	-
Stalker Hardware Engineering	SS/CPAF	Ball : CO	14.350	-		-		-		-		-	-	14.350	-
Stalker Software Engineering	SS/CPAF	Ball : CO	2.225	0.500	Jul 2014	-		-		-		-	-	2.725	-
ESSM Primary Hardware Development	C/CPAF	Raytheon : Tuscon	193.941	-		-		-		-		-	-	193.941	-
ESSM Ancillary Hardware	Various	Various : Various	71.324	-		-		-		-		-	-	71.324	-
ESSM Blk 2 EMD	TBD	Raytheon : Tuscon	0.000	-		44.122	Jan 2015	61.392	Oct 2015	-		61.392	-	105.514	-
ESSM Blk 2 Risk reduction	SS/ FFPLOE	Raytheon : Tuscon	8.000	26.000	Oct 2013	10.150	Nov 2014	-		-		-	-	44.150	-
NATO OC Systems Engineering SPT	WR	NSWC PHD : CA	0.700	-		-		-		-		-	-	0.700	-
Dual Band Tranceiver	SS/FFP	Raytheon : Tuscon	0.000	-		2.750	Feb 2015	1.746	Dec 2015	-		1.746	-	4.496	-
		Subtotal	308.108	32.470		57.967		64.111		-		64.111	-	462.656	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NATO System TDA	SS/FP	APL : MD	1.638	0.272	Dec 2013	0.282	Dec 2014	0.293	Dec 2015	-		0.293	Continuing	Continuing	Continuing
NATO OC	SS/FFP	APL : MD	0.000	-	Nov 2013	-		-		-		-	-	-	-
Stalker -ISEA/TDA/RM&A	SS/FFP	various : various	0.397	0.353	Jul 2014	-		-		-		-	-	0.750	-
ILS/Engineering Support	Various	Various : Various	15.543	-		-		-		-		-	-	15.543	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ESSM Blk 2 EMD	WR	APL : MD	0.000	-		3.880	Nov 2014	3.976	Nov 2015	-		3.976	-	7.856	-
ESSM Blk 2 EMD	WR	NSWC CL : CA	0.000	-		5.379	Nov 2014	5.574	Nov 2015	-		5.574	-	10.953	-
ESSM Blk 2 EMD	Various	Various : Various	0.000	-		2.269	Jan 2015	2.458	Jan 2016	-		2.458	-	4.727	-
NATO OC Support	WR	Dahlgren : VA	1.600	0.574	Nov 2013	-		-		-		-	-	2.174	-
Dual Band Transceiver	WR	APL : MD	0.000	-		0.200	Jan 2015	0.200	Dec 2015	-		0.200	-	0.400	-
Dual Band Tranceiver	WR	NSWC CL : CA	0.000	-		0.400	Feb 2015	0.400	Dec 2015	-		0.400	-	0.800	-
		Subtotal	19.178	1.199		12.410		12.901		-		12.901	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ESSM Developmental Test & Evaluation	WR	NSWC CL : CA	18.483	1.598	Nov 2013	1.764	Nov 2014	1.120	Nov 2015	-		1.120	Continuing	Continuing	Continuing
ESSM OPEVAL/ TECHEVAL/Test Firings	WR	Corona, IHD, Dahlgren, SNSWC, PHD) : various	13.988	1.645	Nov 2013	2.485	Nov 2014	2.072	Nov 2015	-		2.072	-	20.190	-
ESSM Developmental Test & Evaluation	SS/FFP	APL : MD	4.148	0.789	Oct 2013	0.845	Oct 2014	0.870	Oct 2015	-		0.870	Continuing	Continuing	Continuing
ESSM Test & Evaluation	C/CPAF	Raytheon : Tuscon	12.682	2.473	Nov 2013	2.678	Nov 2014	2.388	Nov 2015	-		2.388	Continuing	Continuing	Continuing
ESSM Test & Evaluation	WR	Dahlgren/PHD : VA/ CA	1.103	0.592	Nov 2013	0.647	Nov 2014	0.666	Nov 2015	-		0.666	-	3.008	-
Developmental Test & Evaluation	WR	Dahlgren : VA	0.418	-		-		-		-		-	-	0.418	-
		Subtotal	50.822	7.097		8.419		7.116		-		7.116	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ESSM-Support and Performing Activity	Allot	PHD/NAWC CL/ APL : CA/MD	14.207	0.220	Oct 2013	0.336	Oct 2014	0.116	Oct 2015	-		0.116	Continuing	Continuing	Continuing
ESSM-Travel	Allot	Program Office : VA	3.027	0.100	Oct 2013	0.100	Oct 2014	0.100	Oct 2015	-		0.100	Continuing	Continuing	Continuing
ESSM-Misc	Various	various : various	2.149	-		-		-		-		-	-	2.149	2.065
NATO Travel/Misc	Various	Program Office : various	1.931	0.180	Oct 2013	-		-		-		-	-	2.111	-
Engineering Support	Various	Various : Various	5.458	-		-		-		-		-	-	5.458	-
Stalker Travel	Allot	Program Office : VA	0.000	0.005	Oct 2013	-		-		-		-	-	0.005	-
		Subtotal	26.772	0.505		0.436		0.216		-		0.216	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	404.880	41.271		79.232		84.344		-		84.344	-	-	-

Remarks

Various used for multiple vendors and location under threshold.

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

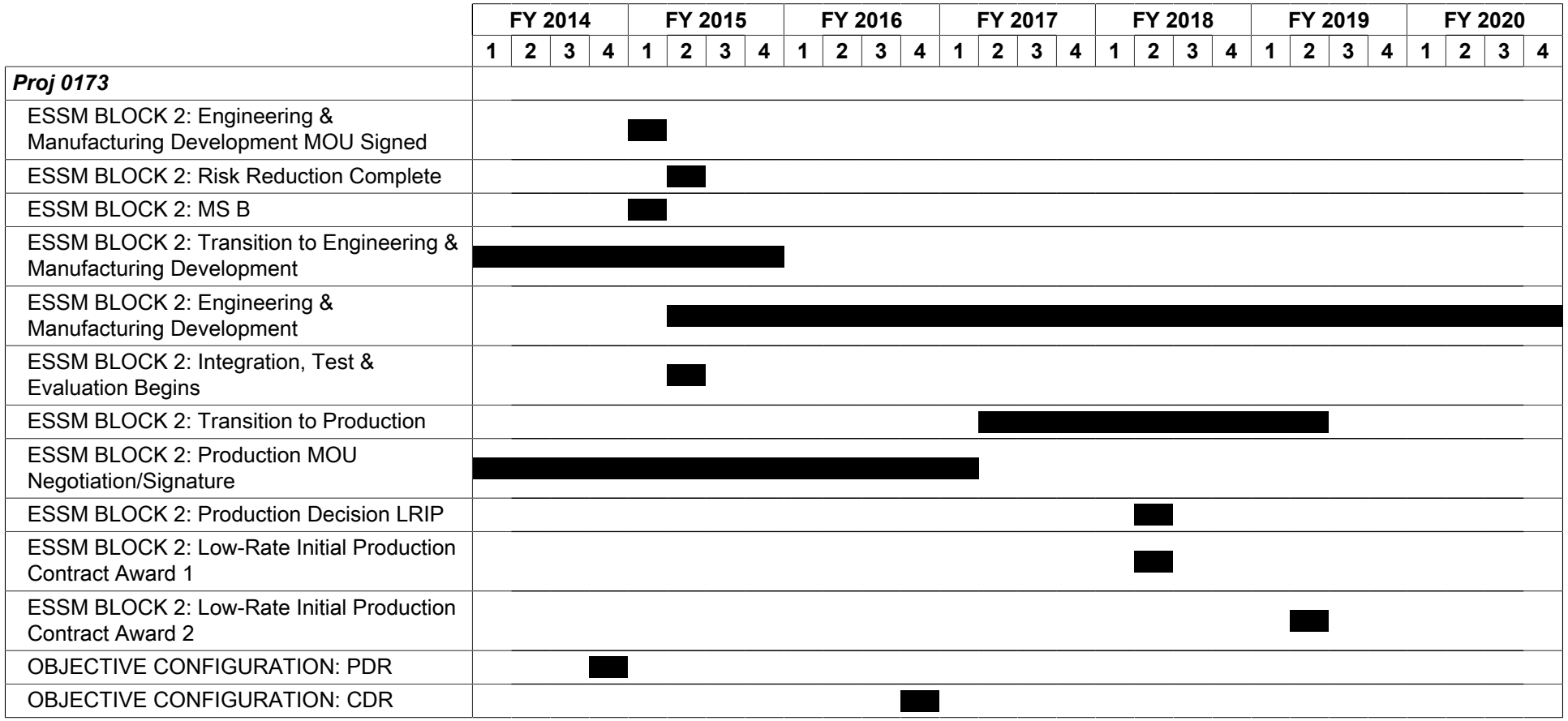


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 0173 / *NATO Sea Sparrow*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0173				
ESSM BLOCK 2: Engineering & Manufacturing Development MOU Signed	1	2015	1	2015
ESSM BLOCK 2: Risk Reduction Complete	2	2015	2	2015
ESSM BLOCK 2: MS B	1	2015	1	2015
ESSM BLOCK 2: Transition to Engineering & Manufacturing Development	1	2014	4	2015
ESSM BLOCK 2: Engineering & Manufacturing Development	2	2015	4	2020
ESSM BLOCK 2: Integration, Test & Evaluation Begins	2	2015	2	2015
ESSM BLOCK 2: Transition to Production	2	2017	2	2019
ESSM BLOCK 2: Production MOU Negotiation/Signature	1	2014	1	2017
ESSM BLOCK 2: Production Decision LRIP	2	2018	2	2018
ESSM BLOCK 2: Low-Rate Initial Production Contract Award 1	2	2018	2	2018
ESSM BLOCK 2: Low-Rate Initial Production Contract Award 2	2	2019	2	2019
OBJECTIVE CONFIGURATION: PDR	4	2014	4	2014
OBJECTIVE CONFIGURATION: CDR	4	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	Project (Number/Name) 9081 / *Phalanx CIWS SEARAM*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9081: *Phalanx CIWS SEARAM*	-	-	5.000	1.000	-	1.000	0.500	18.000	41.342	22.709	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Close in Weapon System (CIWS) Technology Refresh and Next Generation CIWS: CIWS fleet population exceeds 250 systems onboard nearly every USN surface combatant. In addition, CIWS continues to be installed on new construction surface ships with life expectancies of 25+ years. Basic system architecture is 20+ years old and is in need of technology refresh in order to avoid hardware obsolescence, maintain/improve reliability, and provide affordable spare parts to achieve acceptable Operational Availability for the next 20+ years. In conjunction with Technology Refresh, a Next Generation CIWS effort (trade studies and initial requirements definition) is planned in order to define the follow-on CIWS system for future ships (and potentially backfit on newer fleet units) that can defeat the emerging anti-ship cruise missile threats at a lower overall life cycle cost. Given the sheer number of CIWS system deployed across the fleet and the amount of time it would take to upgrade existing installations to any Next Generation CIWS configuration, both Technology Refresh efforts (fielded to the fleet through overhauled CIWS Systems) and Next Generation CIWS efforts are required to be executed at same time in order to maintain existing CIWS capability while Next Generation CIWS is developed and begins fielding.

SeaRAM CIWS is to be deployed onboard DDG 64, 71, 75, and 78 in order to provide additional capability to meet emerging threats. Efforts include development, qualification, and testing of software and hardware modifications in order to support fielding on these AEGIS class ships.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Tech Refresh & Next Gen CIWS / SeaRAM on DDG Class	-	5.000	1.000	-	1.000
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: Conduct trade studies and initial requirements definition for CIWS Technology Refresh (for fielding via retrofit kit and overhaul) and Next Generation CIWS with goal of improving system operational availability and performance.					
FY 2016 Base Plans: Non-recurring engineering efforts for integration/fielding of SeaRAM CIWS onboard DDG 64, 71, 75, and 78.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	-	5.000	1.000	-	1.000

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 9081 / *Phalanx CIWS SEARAM*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The MK 15 Close-In Weapons System (CIWS) is a fast reaction, rapid fire, computer controlled radar system utilizing either a 20mm gun (Phalanx) or a Rolling Airframe Missile (RAM) to meet its primary mission of providing Anti-Ship Missile (ASM) defense. Funding provides support for efforts related to Technology Refresh (for current fleet population) and Next Generation CIWS (for future and retrofit installations) as well as efforts related to the integration/installation of SeaRAM CIWS in DDG 64, 71, 75, and 78. This work will be completed via sole source contracts to the CIWS Design Agent (Raytheon Missile Systems).

E. Performance Metrics

Successfully complete trade studies and initial requirements definition for Technology Refresh/Next Generation CIWS and efforts related integration/installation of SeaRAM CIWS in DDG class ships.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 9081 / *Phalanx CIWS SEARAM*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Tech Refresh & Next Generation CIWS	SS/CPFF	Raytheon Missile Systems : Tucson, AZ	0.000	-		4.500	Feb 2015	-		-		-	-	4.500	4.500
SeaRAM CIWS on DDG Class	SS/CPFF	Raytheon Missile Systems : Various	0.000	-		-		1.000	Nov 2015	-		1.000	0.500	1.500	1.500
		Subtotal	0.000	-		4.500		1.000		-		1.000	0.500	6.000	6.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Analysis - Tech Refresh & Next Generation CIWS	Various	Various : Various	0.000	-		0.500	Feb 2015	-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.000	-		0.500		-		-		-	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		5.000		1.000		-		1.000	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 9081 / *Phalanx CIWS SEARAM*

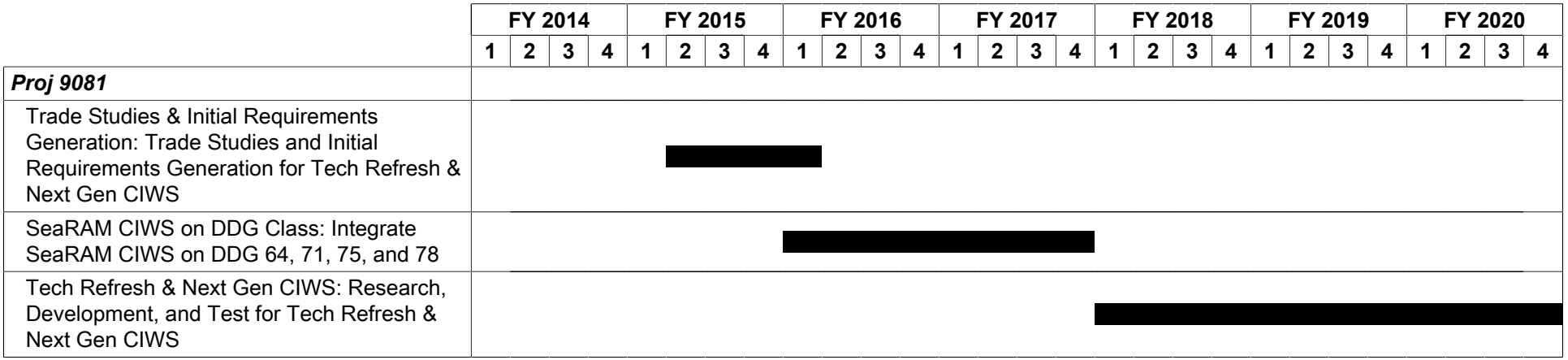


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604756N / *Ship Self Def (Engage: Hard Kill)*	**Project (Number/Name)** 9081 / *Phalanx CIWS SEARAM*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9081				
Trade Studies & Initial Requirements Generation: Trade Studies and Initial Requirements Generation for Tech Refresh & Next Gen CIWS	2	2015	1	2016
SeaRAM CIWS on DDG Class: Integrate SeaRAM CIWS on DDG 64, 71, 75, and 78	1	2016	4	2017
Tech Refresh & Next Gen CIWS: Research, Development, and Test for Tech Refresh & Next Gen CIWS	1	2018	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604757N *I Ship Self Def (Engage: Soft Kill/EW)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	931.849	112.901	116.904	116.798	-	116.798	132.627	114.969	140.781	144.085	Continuing	Continuing
0954: *Shipboard EW Improvement Program*	452.776	17.606	8.986	14.543	-	14.543	14.978	15.328	15.784	16.111	Continuing	Continuing
2190: *NULKA Decoy*	54.575	4.472	4.651	1.860	-	1.860	2.032	2.139	7.099	7.240	Continuing	Continuing
3227: *SEWIP Block 2*	206.790	10.654	0.400	0.412	-	0.412	0.424	0.435	0.448	0.457	Continuing	Continuing
3316: *Advanced Offboard EW*	47.740	23.521	43.131	39.881	-	39.881	48.662	59.502	79.630	81.646	Continuing	Continuing
3321.: *SEWIP Block 3*	169.968	56.635	59.736	60.102	-	60.102	66.531	37.565	37.820	38.631	Continuing	Continuing
3362: *E-NULKA*	0.000	0.013	-	-	-	-	-	-	-	-	-	0.013
MDAP/MAIS Code: 582												

A. Mission Description and Budget Item Justification

0954 - The Surface Electronic Warfare Improvement Program (SEWIP) Block 1 provides enhanced Electronic Warfare (EW) capabilities to existing and new ship combat systems to improve Anti-Ship Missile Defense (ASMD), counter-targeting and counter surveillance capabilities, as well as improved situational awareness. The SEWIP Block 1 employs an evolutionary acquisition and incremental development strategy to upgrade surface EW capabilities via a series of block upgrades to the AN/SLQ-32(V) system, and field EW improvements to counter the ASMD threat. SEWIP Block 1 will provide required EW capabilities and will incorporate technology advances as they become available to provide incremental upgrades and improvements in performance.

2190 - The Offboard Active Decoy (NULKA) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. NULKA is designed to counter a wide variety of present and future radar guided Anti-Ship Missiles (ASMs) by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. Future efforts involve development of the capability for high value unit protection.

3227 - SEWIP Block 2 is developing an upgraded antenna, receiver, and combat system interface for SLQ-32. The upgrades are necessary in order to pace the threat, improving detection, accuracy, and mitigation of Electromagnetic Interference (EMI).

3316 - The Advanced Offboard EW (AOEW) program is for the development of long duration off-board decoys integrated with onboard systems for EW coordination to counter identified EW gaps (additional details classified) in response to an urgent operational need from the Fleet that has been approved by the CNO for execution. Currently no counter to the threat exists. The program consists of a Rapid Response Effort (RRE) to provide an initial, limited decoy capability to the Fleet by 2014 and a Decoy Development Effort (DDE) culminating in the delivery of a fully supported, full capability system. The RRE (FY12-FY14) consists of the evaluation and integration of commercially available decoys. The DDE (commenced in FY12) consists of the development and evaluation of a long duration, active electronic offboard decoy

system (payload only) integrated on an existing flight vehicle and an onboard/offboard EW coordinator fully able to counter the threat. FY14 funding was also used for fabrication, installation and testing of a Quick Reaction Capability in response to a Fleet Urgent Operational Needs Statement (UONS).

3321 - SEWIP Block 3 is developing an Electronic Attack (EA) capability improvement required for the AN/SLQ-32(V) system to keep pace with the threat. SEWIP Block 3 is developing a common EA capability to all surface combatants (CVN, CG, DDG, LHD) outfitted with the active variant of the AN/SLQ-32, mainly the (V)3 and (V)4, as well as select new-construction platforms.

The SEWIP Block 3 Acquisition leverages technology developed under the Office of Naval Research's (ONR) Integrated Topside (InTop) Science and Technology (S&T) effort. SEWIP Block 3 will continue to expand the integrated shipboard combat system by providing a new integrated Electronic Attack (EA) transmitter, array, and associated EA techniques. The program builds on the EW Support (ES) capability delivered by SEWIP Blocks 1 and 2. SEWIP Block 3 includes a government software development effort for a SoftKill Coordinator (SKC) to manage EA engagements.

SEWIP Block 3 includes development and initial, limited interim capability by 2014 of a focused application of the Naval Research Lab (NRL) Transportable EW Module (TEWM) systems to support CNO Urgent Operational Needs (UON). Block 3T is the TEWM system supporting the 7th fleet UON. TEWM Speed to Fleet (STF) is the TEWM system supporting the 6th fleet UON.

3362 - E-Nulka is an upgrade to the Nulka decoy to expand frequency coverage to counter an emerging class of Anti-Ship Missiles (ASMs) for which no active countermeasure currently exists. The Program supports the engineering development of the payload receiver, signal processor and transmitter, construction of complete payloads, integration of the completed payload with the Nulka vehicle, and subsequent technical and operational assessment. The program has been delayed until FY15 at which time the program will transfer to a classified portion of the budget due to changes in the security classification guidance.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	114.799	134.564	97.478	-	97.478
Current President's Budget	112.901	116.904	116.798	-	116.798
Total Adjustments	-1.898	-17.660	19.320	-	19.320
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-17.660			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.899	-			
• Program Adjustments	-	-	20.000	-	20.000
• Rate/Misc Adjustments	0.001	-	-0.680	-	-0.680

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604757N *I Ship Self Def (Engage: Soft Kill/EW)*

Change Summary Explanation

FY 2014 reductions are due to SBIR/STTR transfer and rate/misc adjustments.

FY 2016 changes reflects increase to accelerate SEWIP Block 3 IOC and rate/misc adjustments.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 0954 / *Shipboard EW Improvement Program*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0954: *Shipboard EW Improvement Program*	452.776	17.606	8.986	14.543	-	14.543	14.978	15.328	15.784	16.111	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

SEWIP Block 1 provides enhanced EW capabilities to existing and new ship combat systems to improve ASMD, counter-targeting and counter surveillance capabilities, as well as improved situational awareness. SEWIP Block 1 employs an evolutionary acquisition and incremental development strategy to upgrade surface EW capabilities via a series of block upgrades to the AN/SLQ-32(V) system, and field EW improvements to counter the ASMD threat. SEWIP Block 1 will provide required EW capabilities and will incorporate technology advances as they become available to provide incremental upgrades and improvements in performance.

SEWIP Block 1 is segmented into Block 1A, and Block 1B, ALQ-210 integration, and EW Rapid Capability Insertion Process (RCIP). Block 1A upgrades the AN/SLQ-32 pulse-processing computers and the display console allowing the system to more quickly identify threats and better display the information to the operator. Block 1A Electronic Surveillance Enhancements (ESE) pulse-processing computers and the Improved Control and Display (ICAD) Human System Interface (HSI) console partially open the electronic warfare system architecture to support subsequent EW capability upgrades. Block 1B adds adjunct sensors for special signal intercept, including Specific Emitter Identification (SEI), and High Gain High Sensitivity (HGHS) (Block 1B3), a critical improvement for threat correlation, situational awareness, and extending the battle space. ALQ-210 integration will develop capability to use and integrate Electronic Warfare Support (ES) controls and data between AN/SLQ-32 and the ALQ-210 on the MH60R. EW Rapid Capability Insertion Program (RCIP) identifies joint force ASM capability gaps by analyzing EW baseline and fleet requirements, prioritizes those gaps based on fleet input and critical technology maturity, and develops upgrades to the AN/SLQ-32(V) product line for fielding to address those gaps. EW RCIP will identify and select candidate technologies based on technical maturity and ability to meet the gaps within programmatic (lifecycle cost, schedule, risk) constraints.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Block 1B3	8.084	0.600	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed integration and testing of EDMs. Conducted At-Sea testing.					
FY 2015 Plans: Analyze and correct deficiencies.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 OCO Plans:*** N/A					
Title: EW RCIP	9.522	8.386	14.543	-	14.543
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Identifed EW technology shortfalls based on the current and emerging ASM threats and fleet requirements. Solicited industry, University Affiliate Research Centers, and government activities for technical solutions. Evaluated and selected RCIP technology candidates. Awarded RCIP #3 contract to ensure scalability of the SEWIP system to address the self-defense gap on additional platforms. Awarded RCIP #3 contract for SEWIP training upgrades. Evaluated RCIP technologies production readiness. Successfully demonstrated and validated RCIP capabilities.					
FY 2015 Plans: Perform RCIP #2 Testing and Software Certification for HGHS threat libraries. Continue RCIP #3 contract to ensure scalability of the SEWIP system to address the self-defense gap on additional platforms. Initiate RCIP #4 joint contractor /government effort to integrate SEWIP capabilities into Aegis Baseline 9.C2 to address the Aegis platform gaps for automatic and semi-automatic engagements using NULKA and Chaff decoys; commence actions to address classification and tracking gaps through software changes and certification activities. Identify additional EW technology shortfalls based on the current and emerging ASM threats and fleet requirements, Solicit industry, University Affiliate Research Centers, and government activities for technical solutions; Evaluate and select RCIP technology candidates; Evaluate RCIP technologies production readiness.					
FY 2016 Base Plans: Investigate and finalize EW cost saving improvement initiatives to reduce life-cycle costs to SEWIP. Deliver the RCIP #2 HGHS software/firmware upgraded loads using load and threat libraries. Complete RCIP #3 contract to ensure scalability of the SEWIP system to address the self-defense gap on additional platforms.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue RCIP #4 Aegis Baseline 9.C2 integration efforts to address platform gaps for automatic and semi-automatic engagements using NULKA and Chaff decoys and to perform radar cued engagements; Initiate software development and software coding activities in accordance with approved critical design and begin system integration and testing of the technology for increased performance in the host platform; achieve technology improvements for classification and tracking gaps. Award RCIP #5 contract to address Electro Optics/Infrared (EO/IR) EW capabilities gap and supporting documentation. Identify additional EW technology shortfalls based on the current and emerging ASM threats and fleet requirements, Solicit industry, University Affiliate Research Centers, and government activities for technical solutions; Evaluate and select RCIP technology candidates; Evaluate RCIP technologies production readiness. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	17.606	8.986	14.543	-	14.543

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0204228N/2312: *OPN BA-2 AN/SLQ-32(V)*	150.353	195.082	324.726	-	324.726	412.526	427.934	443.407	546.733	Continuing	Continuing
• 24575N & 72827N/1C2C: *OMN BA-1 AN/SLQ-32(V)*	7.527	6.943	7.113	-	7.113	8.104	7.989	8.104	8.265	Continuing	Continuing

Remarks

D. Acquisition Strategy

SEWIP will develop Block upgrades to SLQ-32 based on integrating technology advances and adding functional capabilities in an incremental fashion. Each Block and Sub-Block will be developed and contracted in an individual yet coordinated and overlapping fashion.

E. Performance Metrics

Successfully achieve Block 1B3 Milestone C / Low Rate Initial Production (LRIP) Decision Review (DR).
Successfully complete Block 1B3 Initial Operational Test & Evaluation (IOT&E).
Successfully achieve Block 1B3 Full Rate Production (FRP) DR.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*

Successfully identify RCIP capabilities.
Successfully identify and assess RCIP Science & Technology candidates.
Award development contract for RCIP #1.
Successfully demonstrate and validate RCIP capabilities.
Award development contract for RCIP #2.
Award development contract for RCIP #3.
Award development contract for RCIP #4.
Award development contract for RCIP #5.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 0954 / *Shipboard EW Improvement Program*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Ancillary Hardware Development	Various	Various : Various	151.420	-		-		-		-		-	-	151.420	-
ESE Development	SS/CPFF	Northrop Grumman : Goleta, CA	13.037	-		-		-		-		-	-	13.037	-
ICAD Development	SS/CPFF	GD-AIS : Fairfax, VA	11.747	-		-		-		-		-	-	11.747	-
ESE Development (Block 1A)	SS/CPFF	Northrop Grumman : Goleta, CA	0.471	-		-		-		-		-	-	0.471	-
System Integrator	C/CPAF	GD-AIS : Fairfax, VA	13.798	-		-		-		-		-	-	13.798	-
1B Development	SS/CPIF	GD-AIS : Fairfax, VA	86.292	-		-		-		-		-	-	86.292	-
Q-70 Mods	C/CPFF	LM-EAGAN : Eagan, MN	3.491	-		-		-		-		-	-	3.491	-
Block 2 Study/ Development	C/CPIF	BAE : Nashua, NH	0.336	-		-		-		-		-	-	0.336	-
ALQ210 Integration	WR	NSWC Dahlgren : Dahlgren, VA	10.345	-		-		-		-		-	-	10.345	-
Rapid Capability Insertion Process (RCIP) #1	C/CPIF	Lockheed Martin : Syracuse, NY	2.000	-		-		-		-		-	-	2.000	-
RCIP #1	WR	NSWC Dahlgren : Dahlgren, VA	0.650	-		-		-		-		-	-	0.650	-
RCIP #2	SS/CPFF	Northrop Grumman : Goleta, CA	2.514	-		-		-		-		-	-	2.514	-
RCIP #2	SS/FFP	GD-AIS : Fairfax, VA	0.734	-		-		-		-		-	-	0.734	-
RCIP #3	SS/CPFF	EWA-GSI : Fairmont, WV	0.000	1.978	Mar 2014	-		-		-		-	Continuing	Continuing	Continuing
RCIP #3	WR	ONR/ACI : Washington, DC	0.000	1.530	Mar 2014	0.800	Feb 2015	0.900	Oct 2015	-		0.900	Continuing	Continuing	Continuing
RCIP #4 & #5	TBD	TBD : TBD	0.000	-		0.209	Mar 2015	6.251	Mar 2016	-		6.251	Continuing	Continuing	Continuing
		Subtotal	296.835	3.508		1.009		7.151		-		7.151	-	-	-

Remarks

Product Development for RCIP #4 and #5 will be competitively awarded.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 0954 / *Shipboard EW Improvement Program*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 1 Integrated Logistics Support	WR	NSWC Crane, DD, NRL, APL : Crane, IN; Dahlgren, VA; Washington, DC; Laurel,MD	9.912	-		-		-		-		-	-	9.912	-
Block 1 Integrated Logistics Support	WR	NSWC Crane : Crane, IN	2.770	0.648	Nov 2013	-		-		-		-	-	3.418	-
Block 1 Integrated Logistics Support	WR	NSWC DD : Dahlgren, VA	0.293	-		-		-		-		-	-	0.293	-
Block 1 Government Engineering Support	WR	NSWC Crane, DD, NRL, APL : Crane, IN; Dahlgren, VA; Washington, DC; Laurel,MD	34.783	-		-		-		-		-	-	34.783	-
Block 1 Government Engineering Support	WR	NSWC Dahlgren : Dahlgren, VA	2.449	0.999	Nov 2013	1.169	Oct 2014	1.502	Nov 2015	-		1.502	Continuing	Continuing	Continuing
Block 1 Government Engineering Support	WR	NSWC Crane : Crane, IN	2.577	0.650	Nov 2013	2.424	Nov 2014	1.950	Nov 2015	-		1.950	Continuing	Continuing	Continuing
Block 1 Government Engineering Support	WR	NRL : Washington, DC	1.483	0.650	Nov 2013	0.156	Nov 2014	0.950	Nov 2015	-		0.950	Continuing	Continuing	Continuing
Block 1 Government Engineering Support	SS/CPFF	APL : Laurel, MD	1.034	0.650	Nov 2013	0.859	Feb 2015	0.500	Nov 2015	-		0.500	-	3.043	-
Block 1 SIPRNET Access	WR	ARL : Adelphi, MD	0.092	-		0.086	Feb 2015	-		-		-	-	0.178	-
Block 1 Government Engineering Support	WR	SWRMC : San Diego, CA	0.000	-		0.300	Feb 2015	0.275	Nov 2015	-		0.275	-	0.575	-
Block 2 Integrated Logistics Support	WR	NSWC Crane, DD, NRL : Crane, IN; Dahlgren, VA; Washington, DC	0.540	-		-		-		-		-	-	0.540	-
Block 2 Government Engineering Support	WR	NSWC Crane, DD, NRL : Crane, IN; Dahlgren, VA; Washington, DC	2.496	-		-		-		-		-	-	2.496	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 1B3 Install on test ship	WR	NSSA Norfolk : Norfolk, VA	0.000	0.857	Feb 2014	-		-		-		-	-	0.857	-
Block 1B3 Integration	WR	Lockheed Martin : Syracuse, NY	0.000	1.000	Feb 2014	-		-		-		-	-	1.000	-
		Subtotal	58.429	5.454		4.994		5.177		-		5.177	-	-	-

Remarks

The $3.662M increase to Block I Government Engineering support since PB 15 is to perform engineering assessments to ensure the scalability of the SEWIP system on additional platforms, to support test planning and execution, and to execute software certification events.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 1 Integration and Test	WR	NSWC Crane, DD, NRL : Crane, IN; Dahlgren, VA; Washington, DC	0.853	-		-		-		-		-	-	0.853	-
Developmental Test & Evaluation	Various	Various : Various	8.958	-		-		-		-		-	-	8.958	-
Block 1A Test Planning/ T&E Events	WR	NSWC Crane, DD, NRL : Crane, IN; Dahlgren, VA; Washington, DC	11.036	-		-		-		-		-	-	11.036	-
Block 1B Test Planning/ T&E Events	WR	NSWC Crane, DD, NRL, NAVAIR, OPTEVFOR, NSWC PHD : Crane, IN; Dahlgren, VA; Washington, DC; MD; CA	9.567	-		-		-		-		-	-	9.567	-
Block 1B Test Planning/ T&E Events	WR	NSWC Dahlgren : Dahlgren, VA	1.338	1.893	Nov 2013	-		-		-		-	-	3.231	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 0954 / *Shipboard EW Improvement Program*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 1B Test Planning/ T&E Events	WR	NSWC Crane : Crane, IN	1.911	1.115	Nov 2013	-		-		-		-	-	3.026	-
Block 1B Test Planning/ T&E Events	WR	NRL : Washington, DC	3.321	2.044	Nov 2013	-		-		-		-	-	5.365	-
Block 1B Test Planning/ T&E Events	WR	OPTEVFOR : Norfolk, VA	0.269	0.107	Nov 2013	0.045	Nov 2014	-		-		-	-	0.421	-
Block 1B Test Planning/ T&E Events	WR	JITC : Indian Head, MD	0.116	0.172	Nov 2013	-		-		-		-	-	0.288	-
(V)4 ESE Test Planning/ T&E Events	WR	NSWC Crane, DD, NRL : Crane, IN; Dahlgren, VA; Washington, DC	0.686	-		-		-		-		-	-	0.686	-
(V)4 ESE Test Planning/ T&E Events	WR	NSWC Dahlgren : Dahlgren, VA	0.609	-		-		-		-		-	-	0.609	-
(V)4 ESE Test Planning/ T&E Events	WR	NSWC Crane : Crane, IN	1.153	-		-		-		-		-	-	1.153	-
(V)4 ESE Test Planning/ T&E Events	WR	NRL : Washington, DC	1.808	-		-		-		-		-	-	1.808	-
(V)4 ESE Test Planning/ T&E Events	WR	OPTEVFOR : Norfolk, VA	0.192	-		-		-		-		-	-	0.192	-
RCIP Test Planning/T&E Events	WR	NSWC Dahlgren : Dahlgren, VA	0.593	0.459	Nov 2013	0.350	Oct 2014	0.400	Nov 2015	-		0.400	Continuing	Continuing	Continuing
RCIP Test Planning/T&E Events	WR	NSWC Crane : Crane, IN	0.120	0.426	Nov 2013	0.643	Nov 2014	0.400	Nov 2015	-		0.400	Continuing	Continuing	Continuing
RCIP Test Planning/T&E Events	WR	NRL : Washington, DC	0.057	0.484	Nov 2013	0.679	Nov 2014	0.100	Nov 2015	-		0.100	Continuing	Continuing	Continuing
RCIP Test Planning/T&E Events	SS/CPFF	APL : Laurel, MD	0.000	-		-		0.100	Nov 2015	-		0.100	Continuing	Continuing	Continuing
Block 2 Test Planning/T&E Events	WR	NSWC Crane, DD, NRL : Crane, IN; Dahlgren, VA; Washington, DC	0.941	-		-		-		-		-	-	0.941	-
		Subtotal	43.528	6.700		1.717		1.000		-		1.000	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 0954 / *Shipboard EW Improvement Program*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Development Test & Evaluation included several activities from the original development of the SLQ-32 system. This line has been left on the exhibit to track Prior year costs of this PU.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 1 Program Management	C/CPIF	SPA (SEAPORT) : Washington, D.C.	31.748	0.954	Nov 2013	0.113	Feb 2015	1.175	Nov 2015	-		1.175	Continuing	Continuing	Continuing
Block 1 Program Management Support	WR	NSWC Crane, DD, NRL : Crane, IN; Dahlgren, VA; Washington, DC	17.310	-		-		-		-		-	-	17.310	-
Block 1 Program Management Support	WR	NSWC Crane : Crane, IN	0.782	0.273	Nov 2013	0.581	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Block 1 Program Management Support	WR	NSWC Dahlgren : Dahlgren, VA	0.995	0.241	Nov 2013	0.426	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Block 1 Program Management Support	WR	NRL : Washington, DC	0.770	0.207	Nov 2013	-		-		-		-	-	0.977	-
Block 1 Program Management Support	SS/CPFF	APL : Laurel, MD	0.212	0.219	Nov 2013	0.096	Feb 2015	-		-		-	Continuing	Continuing	Continuing
Block 1 Travel	WR	NAVSEA Program Office Travel : Washington, DC	1.145	0.050	Nov 2013	0.050	Oct 2014	0.040	Nov 2015	-		0.040	Continuing	Continuing	Continuing
Block 1 DoD Acquistion Workforce Fund	Various	Various : Various	0.126	-		-		-		-		-	-	0.126	-
Block 2 Program Management Support	C/FFP	AT&T Gov't Solutions (SEAPORT) : Washington, DC	0.023	-		-		-		-		-	-	0.023	-
Block 2 Program Management Support	WR	NSWC Crane, DD, NRL : Crane,	0.823	-		-		-		-		-	-	0.823	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 0954 / *Shipboard EW Improvement Program*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		IN; Dahlgren, VA; Washington, DC													
Block 2 Travel	WR	NAVSEA Program Office Travel : Washington, DC	0.050	-		-		-		-		-	-	0.050	-
		Subtotal	53.984	1.944		1.266		1.215		-		1.215	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	452.776	17.606		8.986		14.543		-		14.543	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*

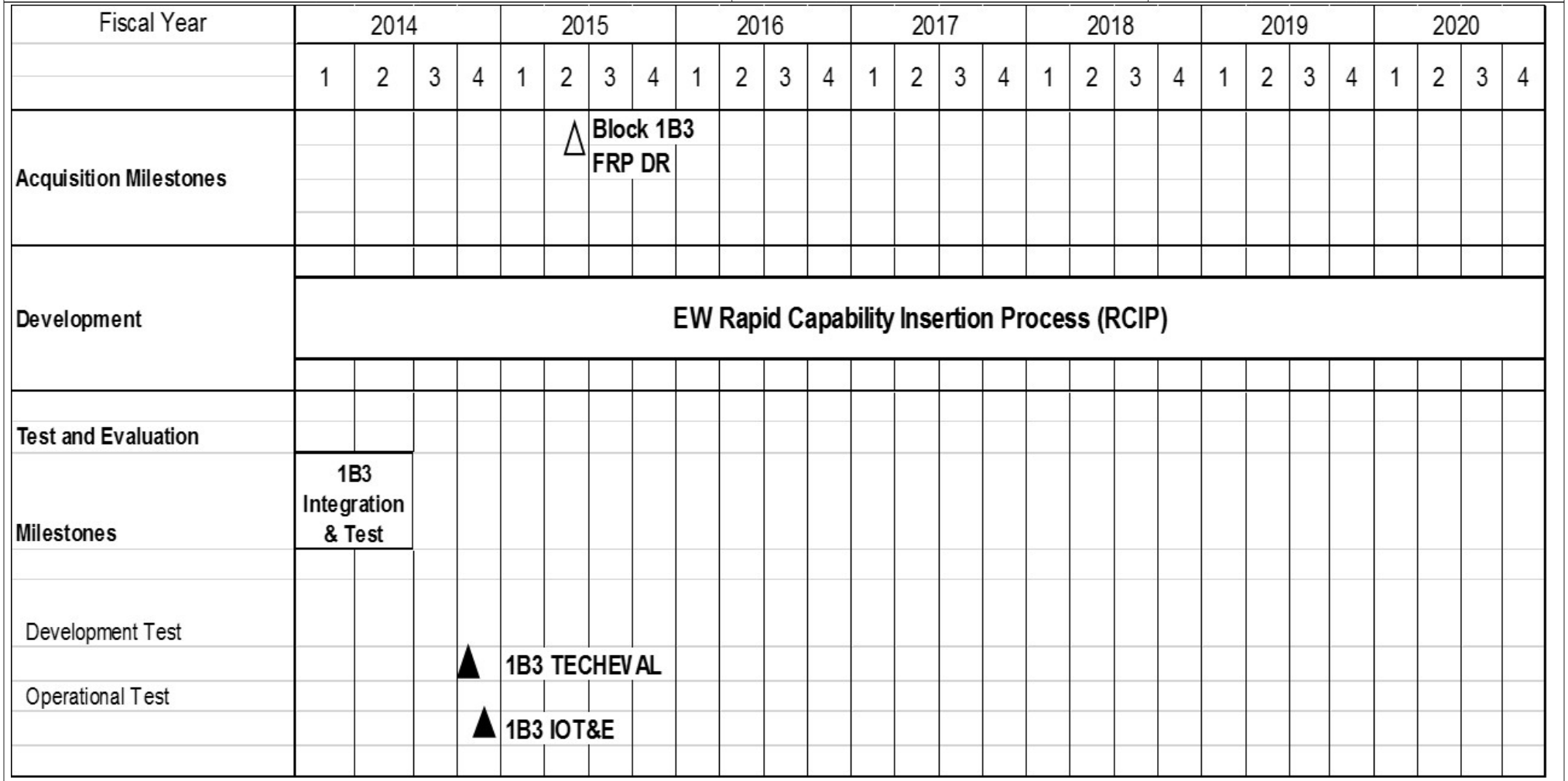


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 0954 / *Shipboard EW Improvement Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0954				
EW Rapid Capability Insertion Process (RCIP)	1	2014	4	2020
1B3 Integration & Test	1	2014	2	2014
Block 1B3 TECHEVAL	4	2014	4	2014
Block 1B3 IOT&E	4	2014	4	2014
Block 1B3 FRP DR	2	2015	2	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 2190 / *NULKA Decoy*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2190: *NULKA Decoy*	54.575	4.472	4.651	1.860	-	1.860	2.032	2.139	7.099	7.240	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Offboard Active Decoy (NULKA) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. NULKA is designed to counter a wide variety of present and future radar guided Anti-Ship Missiles (ASMs) by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. Future efforts involve development of the capability for high value unit protection.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NULKA Decoy Subsystem	2.405	2.523	1.860	-	1.860
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted NULKA decoy subsystem integration and improvements to include Effectiveness Studies, Engineering Studies, Fly Out Tactics and open architecture transition.					
FY 2015 Plans: Continue NULKA decoy subsystem integration and improvements to include Effectiveness Studies, Engineering Studies, Fly Out Tactics and open architecture transition.					
FY 2016 Base Plans: Continue NULKA decoy subsystem integration and improvements to include Effectiveness Studies, Engineering Studies, Fly Out Tactics and open architecture transition.					
FY 2016 OCO Plans: N/A					
Title: NULKA Software	2.067	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted NULKA software Product Line Architecture (PLA) Demonstration.					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 2190 / *NULKA Decoy*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: CVN AT-SEA TEST	-	2.128	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** Conduct At-Sea test of NULKA CVN capabilities. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	4.472	4.651	1.860	-	1.860

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/5530: *Anti-Ship Missile Decoy System*	62.361	-	-	-	-	-	-	-	-	-	619.550
• OPN/5231: *Ship Missile Support Equipment*	-	35.756	57.791	-	57.791	70.392	78.682	61.003	62.255	Continuing	Continuing
• OMN/12CR0 (1C2C): *Nulka*	5.525	5.177	7.323	-	7.323	6.154	6.073	6.308	6.432	Continuing	Continuing

Remarks

Due to DON directed OPN Line Item (LI) Consolidation commencing in FY15, LI 5530 was consolidated under LI 5231 in FY15 and in the outyears.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 2190 / *NULKA Decoy*

D. Acquisition Strategy

NULKA is a joint cooperative program between United States and Australia in full rate production.

E. Performance Metrics

Successfully complete first-of-class testing of MK 53 DLS upgrade for CVN.
Successfully complete Element Certification Decoy Launch Processor (DLP) software version 6_5 for the CVN 68 ship class.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 2190 / *NULKA Decoy*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	Lockheed Martin : Sippican, MA	6.692	-		-		-		-		-	-	6.692	-
Primary Hardware Development	MIPR	BAE Systems : Australia	7.382	-		-		-		-		-	-	7.382	-
Systems Engineering	WR	NRL : Washington, DC	17.245	0.912	Nov 2013	0.938	Nov 2014	0.799	Nov 2015	-		0.799	Continuing	Continuing	Continuing
Systems Engineering	WR	NWAD : China Lake, CA	0.120	-		-		-		-		-	-	0.120	-
MK 53 System Eng Changes	C/FFP	Sechan : PA	0.150	-		-		-		-		-	-	0.150	-
Systems Engineering	WR	NSWC Dahlgren : Dahlgren, VA	7.106	1.201	Nov 2013	0.900	Nov 2014	0.859	Nov 2015	-		0.859	Continuing	Continuing	Continuing
Systems Engineering	WR	NSMA : VA	0.360	-		-		-		-		-	-	0.360	-
Systems Engineering	WR	NSWC Crane : IN	5.856	0.205	Nov 2013	0.270	Nov 2014	-		-		-	Continuing	Continuing	Continuing
		Subtotal	44.911	2.318		2.108		1.658		-		1.658	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	NRL : Washington, DC	1.314	0.200	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Software Development	WR	NSWC Dahlgren : Dahlgren, VA	2.497	0.411	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Software Development	MIPR	BAE Systems : Australia	0.000	1.009	Feb 2014	-		-		-		-	-	1.009	-
		Subtotal	3.811	1.620		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 2190 / *NULKA Decoy*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NSWC Dahlgren : Dahlgren, VA	0.700	-		0.575	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	NRL : Washington, DC	1.181	-		0.500	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Test Assets	WR	NRL : Washington, DC	0.701	-		0.803	Nov 2014	-		-		-	Continuing	Continuing	Continuing
Test Support	WR	OPTEVFOR : Norfolk, VA	0.050	-		0.125	Feb 2015	-		-		-	Continuing	Continuing	Continuing
Test Support	WR	BAE Systems : Australia	0.050	-		0.125	Feb 2015	-		-		-	Continuing	Continuing	Continuing
		Subtotal	2.682	-		2.128		-		-		-	-	-	-

Management Services ($ in Millions)

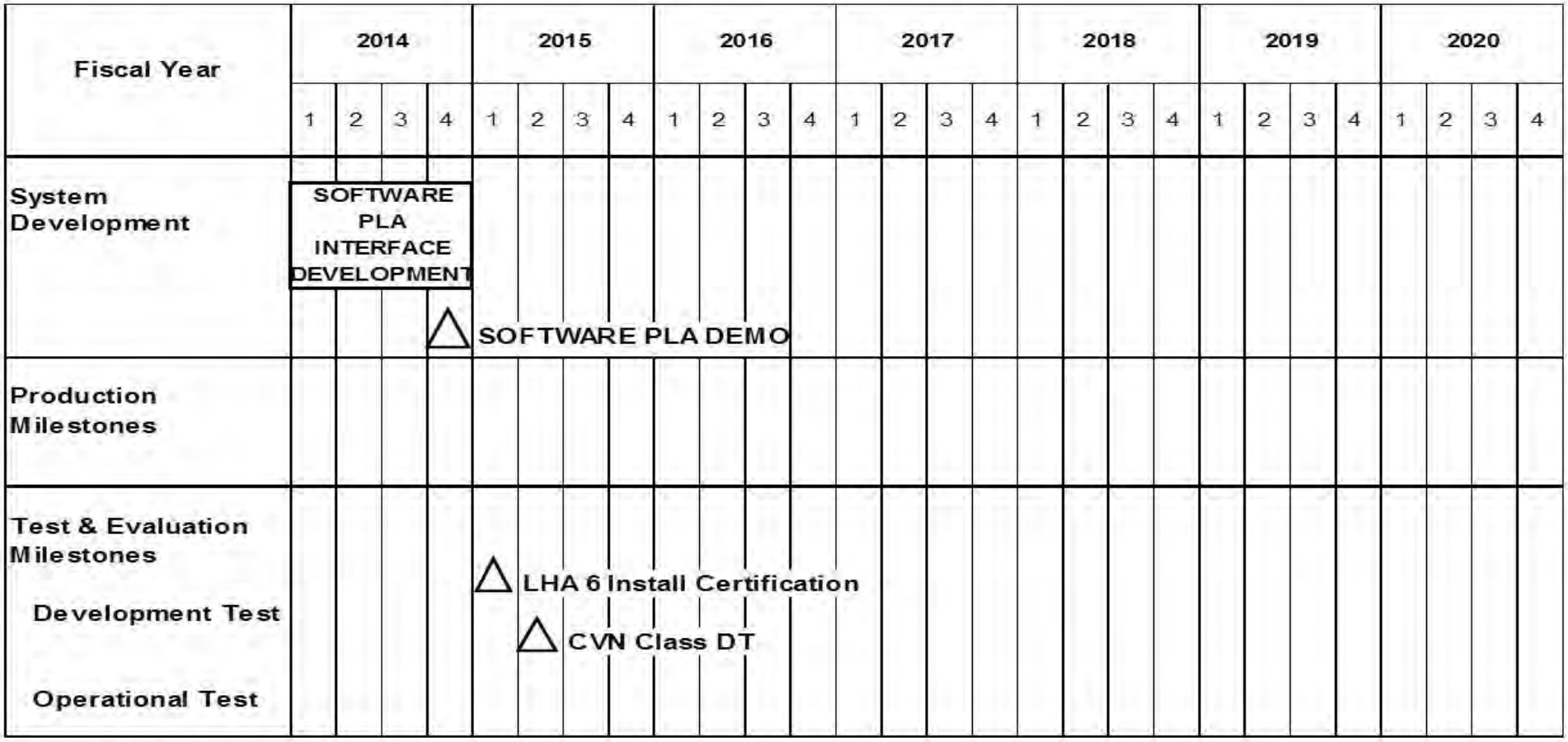
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPIF	SPA (SEAPORT) : Washington, DC	1.301	0.393	Jan 2014	0.320	Feb 2015	0.100	Nov 2015	-		0.100	Continuing	Continuing	Continuing
Program Management Support	C/FFP	AT&T Gov't Solutions (SEAPORT): : Washington, DC	1.147	-		-		-		-		-	-	1.147	-
Program Management Support	C/CPIF	Gryphon Technology (SEAPORT) : Washington, DC	0.113	0.113	Jan 2014	-		-		-		-	Continuing	Continuing	Continuing
Program Management Support	C/CPIF	ICI : Washington, DC	0.000	-		0.060	Feb 2015	0.087	Nov 2015	-		0.087	-	0.147	-
Travel	WR	NAVSEA Program Office Travel : Washington, DC	0.595	0.028	Nov 2013	0.035	Feb 2015	0.015	Nov 2015	-		0.015	Continuing	Continuing	Continuing
DoD Acquisition Workforce Fund (DAWDF)	Various	Various : Various	0.015	-		-		-		-		-	-	0.015	-
		Subtotal	3.171	0.534		0.415		0.202		-		0.202	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 2190 / *NULKA Decoy*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	54.575	4.472		4.651		1.860		-		1.860	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 2190 / *NULKA Decoy*



PLA - Product Line Architecture

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 2190 / *NULKA Decoy*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2190				
SOFTWARE PLA INTERFACE DEVELOPMENT	1	2014	4	2014
SOFTWARE PLA DEMO	4	2014	4	2014
LHA 6 INSTALL CERTIFICATION	1	2015	1	2015
CVN CLASS DT	2	2015	2	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3227 / *SEWIP Block 2*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3227: *SEWIP Block 2*	206.790	10.654	0.400	0.412	-	0.412	0.424	0.435	0.448	0.457	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The SEWIP Block 2 program is developing an upgraded antenna, receiver, and combat system interface for SLQ-32. The upgrades are necessary in order to pace the threat, improving detection, accuracy, and mitigation of EMI.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SEWIP Block 2	10.654	0.400	0.412	-	0.412
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted At-Sea testing. Analyzed and corrected deficiencies. Commenced Software Build 6 for SEWIP Block 2 integration to Aegis B/L 9.2C with Radar Cued Engagement capability.					
FY 2015 Plans: Analyze and correct deficiencies. Continue Software Build 6 for SEWIP Block 2 integration to Aegis B/L 9.2C with Radar Cued Engagement capability.					
FY 2016 Base Plans: Continue Software Build 6 for SEWIP Block 2 integration to Aegis B/L 9.2C with Radar Cued Engagement capability.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	10.654	0.400	0.412	-	0.412

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3227 / *SEWIP Block 2*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0204228N/2312: *OPN BA-2 AN/SLQ-32(V)*	150.353	195.082	324.726	-	324.726	412.526	427.934	443.407	546.733	Continuing	Continuing
• 0204575N/1C2C: *OMN BA-1 AN/SLQ-32(V)6*	2.860	5.440	6.373	-	6.373	12.245	12.083	12.357	12.603	Continuing	Continuing

Remarks

D. Acquisition Strategy

SEWIP will develop Block upgrades to SLQ-32 based on integrating technology advances and adding functional capabilities in an incremental fashion. Each Block and Sub-Block will be developed and contracted in an individual yet coordinated and overlapping fashion.

E. Performance Metrics

Successfully achieve Block 2 MS C / LRIP DR.
Successfully complete Block 2 Initial Operational Test & Evaluation (IOT&E).
Successfully achieve Block 2 Full Rate Production (FRP) DR.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3227 / *SEWIP Block 2*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 2 E&MD	C/CPIF	Lockheed Martin : Syracuse, NY	102.948	5.590	Dec 2013	-		-		-		-	-	108.538	Continuing
Block 2 Preliminary Development	C/CPIF	Lockheed Martin : Syracuse, NY	17.211	-		-		-		-		-	-	17.211	-
Block 2 SEWTT Development	SS/CPFF	EWA-GSI : Fairmont, WV	1.200	-		-		-		-		-	-	1.200	Continuing
Block 2 SEWTT Development	WR	NSWC Crane : Crane, IN	0.047	-		-		-		-		-	-	0.047	-
		Subtotal	121.406	5.590		-		-		-		-	-	126.996	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 2 Integrated Logistics Support	WR	NSWC Crane, DD, NRL, APL : Crane, IN; Dahlgren, VA; Washington DC; Laurel, MD	0.769	-		-		-		-		-	-	0.769	-
Block 2 Integrated Logistics Support	WR	NSWC Crane : Crane, IN	4.197	0.049	Dec 2013	-		-		-		-	-	4.246	Continuing
Block 2 Government Engineering Support	WR	NSWC Crane, DD, NRL, APL : Crane, IN; Dahlgren, VA; Washington DC; Laurel, MD	12.214	-		-		-		-		-	-	12.214	-
Block 2 Government Engineering Support	WR	NSWC Dahlgren : Dahlgren, VA	11.177	0.609	Dec 2013	0.157	Oct 2014	0.200	Nov 2015	-		0.200	Continuing	Continuing	Continuing
Block 2 Government Engineering Support	WR	NSWC Crane : Crane, IN	6.258	0.114	Dec 2013	-		-		-		-	-	6.372	Continuing
Block 2 Government Engineering Support	WR	NRL : Washington, DC	3.975	0.339	Jan 2014	-		-		-		-	-	4.314	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3227 / *SEWIP Block 2*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 2 Government Engineering Support	SS/CPFF	APL : Laurel, MD	5.348	-		-		-		-		-	-	5.348	Continuing
Block 2 - Combat System Integration	SS/CPFF	Raytheon : San Diego, CA	0.250	-		-		-		-		-	-	0.250	-
Block 2 - MSMO Cost	WR	NSSA Norfolk : Norfolk, VA	0.000	1.431	Feb 2014	-		-		-		-	-	1.431	-
Block 2 - Mast Study	WR	SUPSHIP : Bath, ME	0.000	0.033	Feb 2014	-		-		-		-	-	0.033	-
Block 2 - Fleet Support	WR	NSSA SURFLANT : Norfolk, VA	0.000	0.030	Nov 2013	-		-		-		-	-	0.030	-
Block 2 - Range Cost	WR	NUWC NEWPORT : Newport, RI	0.000	0.018	Jul 2014	-		-		-		-	-	0.018	-
		Subtotal	44.188	2.623		0.157		0.200		-		0.200	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 2 Test Planning/T&E Events	WR	NSWC Crane, DD, NRL : Crane, IN; Dahlgren, VA; Washington DC;	1.582	-		-		-		-		-	-	1.582	-
Block 2 Test Planning/T&E Events	WR	NSWC Crane : Crane, IN	4.709	0.063	Dec 2013	-		-		-		-	-	4.772	Continuing
Block 2 Test Planning/T&E Events	WR	NSWC Dahlgren : Dahlgren, VA	2.790	1.304	Dec 2013	0.210	Oct 2014	0.195	Nov 2015	-		0.195	Continuing	Continuing	Continuing
Block 2 Test Planning/T&E Events	WR	NRL : Washington, DC	4.433	0.973	Jan 2014	-		-		-		-	-	5.406	Continuing
Block 2 Test Planning/T&E Events	WR	Surface Combat Systems Center : Wallops Island, VA	0.662	-		-		-		-		-	-	0.662	Continuing
		Subtotal	14.176	2.340		0.210		0.195		-		0.195	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3227 / *SEWIP Block 2*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 2 Program Management Support	C/CPIF	SPA (SEAPORT) : Washington, DC	5.545	-		-		-		-		-	-	5.545	Continuing
Block 2 Program Management Support	WR	NSWC Crane, DD, PHD, NRL : Crane, IN; Dahlgren, VA; PHD CA; Washington DC;	15.069	-		-		-		-		-	-	15.069	-
Block 2 Program Management Support	WR	NSWC Dahlgren : Dahlgren, VA	1.596	-		-		-		-		-	-	1.596	-
Block 2 Program Management Support	WR	NSWC Crane : Crane, IN	1.331	-		-		-		-		-	-	1.331	-
Block 2 Program Management Support	WR	NRL : Washington, DC	0.561	0.066	Jan 2014	-		-		-		-	-	0.627	-
Block 2 Program Management Support	MIPR	Navy Post GraduateSchool : Monterey, CA	0.174	-		-		-		-		-	-	0.174	-
Block 2 Program Management Support	SS/CPFF	APL : Laurel, MD	1.962	-		-		-		-		-	-	1.962	-
Block 2 Program Management	WR	NSWC PHD : Port Hueneme, CA	0.091	-		-		-		-		-	-	0.091	-
Block 2 Travel	WR	NAVSEA Program Office Travel : Washington, DC	0.554	0.035	Feb 2014	0.033	Oct 2014	0.017	Nov 2015	-		0.017	Continuing	Continuing	Continuing
Block 2 DoD Acquisition Workforce Fund	Various	Various : Various	0.137	-		-		-		-		-	-	0.137	-
		Subtotal	27.020	0.101		0.033		0.017		-		0.017	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	206.790	10.654		0.400		0.412		-		0.412	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3227 / *SEWIP Block 2*

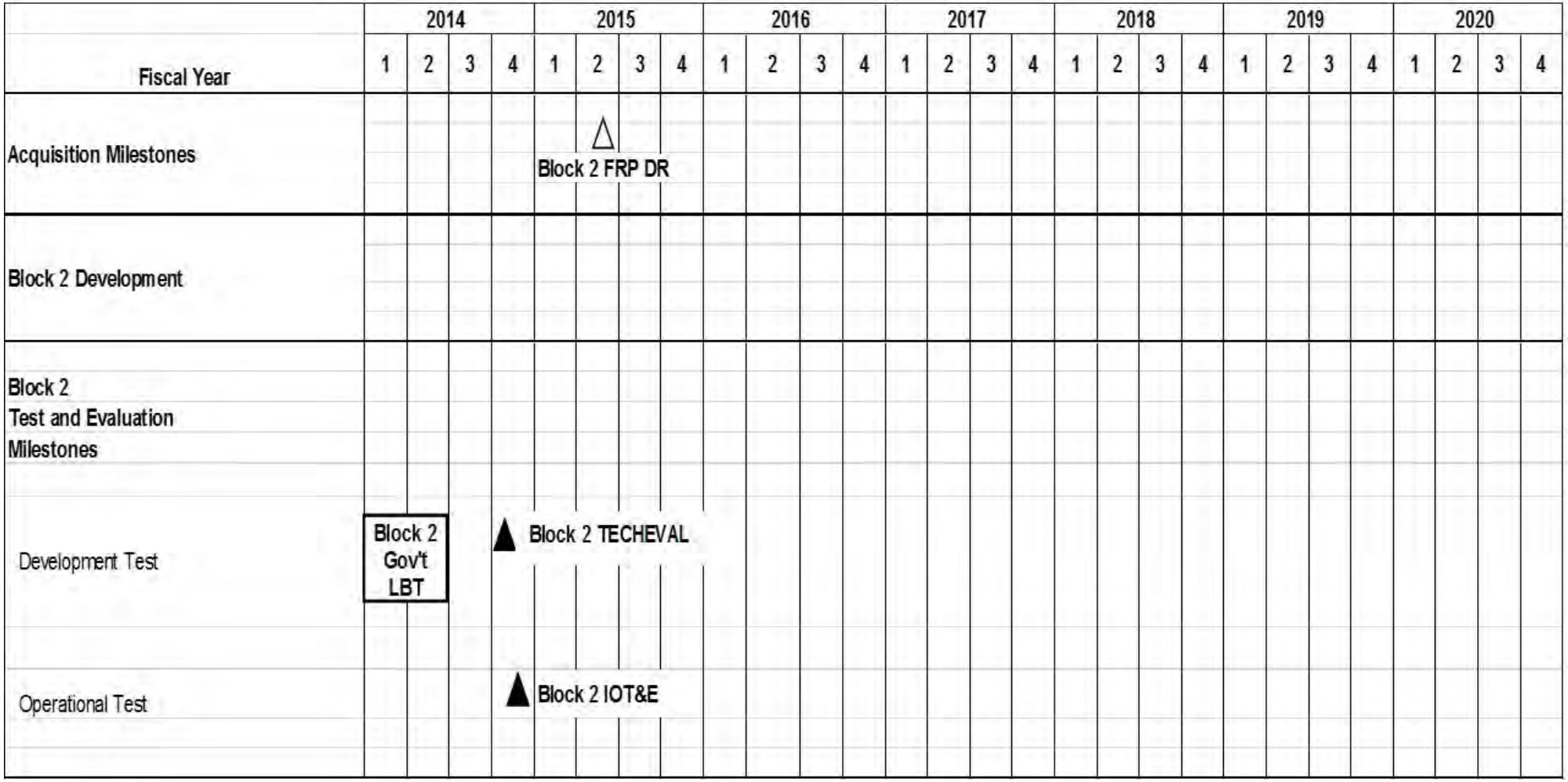


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3227 / *SEWIP Block 2*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3227				
Block 2 Gov't LBT	1	2014	2	2014
Block 2 TECHEVAL	4	2014	4	2014
Block 2 IOT&E	4	2014	4	2014
Block 2 FRP DR	2	2015	2	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3316 / *Advanced Offboard EW*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3316: *Advanced Offboard EW*	47.740	23.521	43.131	39.881	-	39.881	48.662	59.502	79.630	81.646	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

3316 - The Advanced Offboard EW (AOEW) program is for the development of long duration off-board decoys integrated with onboard systems for EW coordination to counter identified EW gaps (additional details classified) in response to an urgent operational need from the Fleet that has been approved by the CNO for execution. Currently no counter to the threat exists. The program consists of a Rapid Response Effort (RRE) to provide an initial, limited decoy capability to the Fleet by 2014 and a Decoy Development Effort (DDE) culminating in the delivery of a fully supported, full capability system. The RRE (FY12-FY14) consists of the evaluation and integration of commercially available decoys. The DDE (commenced in FY12) consists of the development and evaluation of a long duration, active electronic offboard decoy system (payload only) integrated on an existing flight vehicle and an onboard/offboard EW coordinator fully able to counter the threat. FY14 funding was also used for fabrication, installation and testing of a Quick Reaction Capability in response to a Fleet Urgent Operational Needs Statement (UONS).

In FY15 and FY16 AOEW includes a government software development effort to integrate AOEW into the Softkill Coordinator (SKC) to gain maximum effectiveness from the AOEW decoy through coordination with on board systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: AOEW - Decoy Development Effort (DDE)	8.822	42.381	39.881	-	39.881
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Continued development of concepts of operation - Continued interoperability analysis - Continued acquisition documentation development					
FY 2015 Plans: - Complete development of concepts of operation - Continue interoperability analysis - Commence tactics analysis and development - Continue acquisition documentation development - Award competitive development contract for decoy Preliminary Design/Engineering & Manufacturing Development (E&MD) - Commence AOEW SKC development					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Commence AOEW integration ***FY 2016 Base Plans:*** - Continue interoperability analysis - Continue tactics analysis and development - Complete AOEW Preliminary Design - Continue AOEW SKC development - Conduct Preliminary Design Review ***FY 2016 OCO Plans:*** N/A					
Title: EW Urgent Operational Needs (UONs)	11.788	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Completed installation of MK-59 decoy in support of EW UONs - Designed, developed, fabricated, integrated, demonstrated, and delivered quick reaction EA pod for integration with SH-60B in support of EW UONs ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: AOEW - Rapid Response Effort (RRE)	2.911	0.750	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Developed conops and tactics - Continued RRE testing ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Complete RRE testing ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	23.521	43.131	39.881	-	39.881

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/5530: *Anti-Ship Missile Decoy System*	62.361	-	-	-	-	-	-	-	-	-	158.739
• OPN/5231: *Ship Missile Support Equipment*	-	35.756	57.791	-	57.791	70.392	78.682	61.003	62.255	Continuing	Continuing

Remarks

D. Acquisition Strategy

The AOEW DDE decoy will be competitively contracted and developed, and builds on technologies and concepts currently in development by ONR. For RRE, commercially available decoys were procured for evaluation, integration and testing.

E. Performance Metrics

For DDE:
Complete Analysis of Alternatives.
Complete systems requirements definition.
Achieve Milestone (MS) B
Award Preliminary Design/E&MD contract.
Conduct System Requirements Review (SRR)
Conduct System Functional Review (SFR)
Conduct Preliminary Design Review (PDR)
Conduct Critical Design Review (CDR)
Confirm Operational Affectiveness (OA)
Achieve Milestone (MS) C

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

Conduct Initial Operational Test and Evaluation (IOT&E)

For RRE:
Complete evaluation and integration.
Complete testing of commercially available decoys.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3316 / *Advanced Offboard EW*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Analysis of Alternatives	WR	CNA : Alexandria, VA	1.300	-		-		-		-		-	-	1.300	Continuing
Concept Analysis and Integration Assessment	SS/CPFF	APL : Laurel, MD	2.750	1.835	Dec 2013	2.623	Feb 2015	1.000	Nov 2015	-		1.000	Continuing	Continuing	Continuing
Concept Analysis and Technology Studies	WR	MIT-LL : Boston, MA	1.000	0.607	Nov 2013	0.973	Feb 2015	0.500	Nov 2015	-		0.500	Continuing	Continuing	Continuing
Concept Development and Technology Studies	WR	NRL : Washington, D.C.	8.097	6.117	Dec 2013	4.144	Oct 2014	2.483	Nov 2015	-		2.483	Continuing	Continuing	Continuing
Technology Development and Systems Requirements	WR	NSWC Dahlgren : Dahlgren, VA	1.739	0.088	Dec 2013	7.303	Oct 2014	6.260	Nov 2015	-		6.260	Continuing	Continuing	Continuing
Systems Requirements and Integration Studies	WR	NSWC Crane : Crane, IN	2.233	-		-		-		-		-	-	2.233	Continuing
Concept Development and Technology Studies	WR	NAVAIR : Patuxent River, MD	0.635	0.105	Dec 2013	2.562	Feb 2015	2.039	Nov 2015	-		2.039	Continuing	Continuing	Continuing
RRE Hardware Development	C/CPIF	Airborne Systems : UK	7.400	-		-		-		-		-	-	7.400	Continuing
DDE Preliminary Design	C/CPIF	TBD : Not specified	0.000	-		10.600	Jul 2015	16.817	Nov 2015	-		16.817	Continuing	Continuing	Continuing
Ship Integration	TBD	TBD : Not specified	0.000	-		2.000	May 2015	1.200	Nov 2015	-		1.200	-	3.200	-
		Subtotal	25.154	8.752		30.205		30.299		-		30.299	-	-	-

Remarks

DDE Preliminary Design contract will be competed and contractor name and location will be added upon contract award in FY15. DDE Preliminary Design growth between FY15 and FY16 attributable to the FY15 budget reflecting a partial year funding for this effort while FY16 provides a full year of efforts.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Development Support	WR	NRL : Washington, DC	4.797	0.930	Dec 2013	1.237	Oct 2014	1.157	Nov 2015	-		1.157	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3316 / *Advanced Offboard EW*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Development and Engineering Support	WR	NSWC Dahlgren : Dahlgren, VA	2.521	1.567	Dec 2013	2.456	Oct 2014	2.037	Nov 2015	-		2.037	Continuing	Continuing	Continuing
Government Engineering Support	WR	NSWC Crane : Crane, IN	3.438	1.634	Dec 2013	2.000	Oct 2014	1.664	Nov 2015	-		1.664	Continuing	Continuing	Continuing
Government Engineering Support	WR	NSWC Carderock : Bethesda, MD	0.265	0.230	Nov 2013	0.230	Feb 2015	0.150	Nov 2015	-		0.150	Continuing	Continuing	Continuing
Systems Engineering Support	SS/CPFF	APL : Laurel, MD	0.351	0.150	Dec 2013	0.250	Feb 2015	0.500	Nov 2015	-		0.500	Continuing	Continuing	Continuing
Government Development Support	WR	NAVAIR : Patuxent River, MD	0.000	1.421	Dec 2013	1.408	Oct 2014	0.716	Nov 2015	-		0.716	Continuing	Continuing	Continuing
Government Engineering Support	WR	NSWC Corona : Corona, CA	0.000	-	Jun 2014	-		-		-		-	Continuing	Continuing	Continuing
Logistics/Training	C/CPFF	Pioneering Evolution : Arlington, VA	0.166	-		-		-		-		-	-	0.166	-
RRE Installation	WR	Planning Yard : Yokosuka, Japan	0.034	-		-		-		-		-	-	0.034	-
RRE Installation	SS/CPFF	Planning Yard : Bath, ME	1.939	2.315	Nov 2013	-		-		-		-	-	4.254	-
EW UON	WR	Cherry Point Army : Aberdeen Proving Ground, MD	0.000	0.022	Jan 2014	-		-		-		-	-	0.022	-
EW UON	WR	Cherry Point Navy : Cherry Point, NC	0.000	0.148	Jan 2014	-		-		-		-	-	0.148	-
EW UON	WR	NSWC Indian Head : Indian Head, MD	0.000	0.050	Jan 2014	-		-		-		-	-	0.050	-
EW UON	WR	NSSA Norfolk : Norfolk, VA	0.000	0.070	Feb 2014	-		-		-		-	-	0.070	-
RRE Installation	WR	Norfolk Naval Shipyard : Norfolk, VA	2.064	-		-		-		-		-	-	2.064	-
RRE Installation	WR	Det-Naples : Naples, Italy	0.500	-		-		-		-		-	-	0.500	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	16.075	8.537		7.581		6.224		-		6.224	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Planning and Development Testing	WR	NRL : Washington, DC	0.600	0.988	Dec 2013	1.573	Oct 2014	0.658	Nov 2015	-		0.658	Continuing	Continuing	Continuing
Test Planning and Development Testing	WR	NSWC/Dahlgren : Dahlgren, VA	1.010	0.402	Nov 2013	0.417	Oct 2014	0.150	Nov 2015	-		0.150	Continuing	Continuing	Continuing
Test Planning and Development Testing	WR	NSWC Crane : Crane, IN	0.458	-		0.480	Oct 2014	0.150	Nov 2015	-		0.150	Continuing	Continuing	Continuing
Test Planning and Development Testing	WR	NAVAIR : Patuxent River, MD	0.000	-		0.075	Oct 2014	0.500	Nov 2015	-		0.500	Continuing	Continuing	Continuing
Test Planning and Development Testing	WR	OPTEVFOR : Norfolk, VA	0.100	0.069	Nov 2013	0.330	Dec 2014	0.330	Nov 2015	-		0.330	Continuing	Continuing	Continuing
Test and Evaluation	WR	Navy Post Graduate School : Monterey, CA	0.090	-		-		-		-		-	-	0.090	-
EW UON Test and Evaluation	C/FPAF	SRF Rota : Rota, Spain	0.000	1.728	Feb 2014	-		-		-		-	-	1.728	-
EW UON Test and Evaluation	WR	NSSA Norfolk : Norfolk, VA	0.000	0.018	Feb 2014	-		-		-		-	-	0.018	-
EW UON Test and Evaluation	WR	SUPSHIP Bath : Bath, ME	0.000	1.166	Nov 2013	-		-		-		-	-	1.166	-
		Subtotal	2.258	4.371		2.875		1.788		-		1.788	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3316 / *Advanced Offboard EW*	

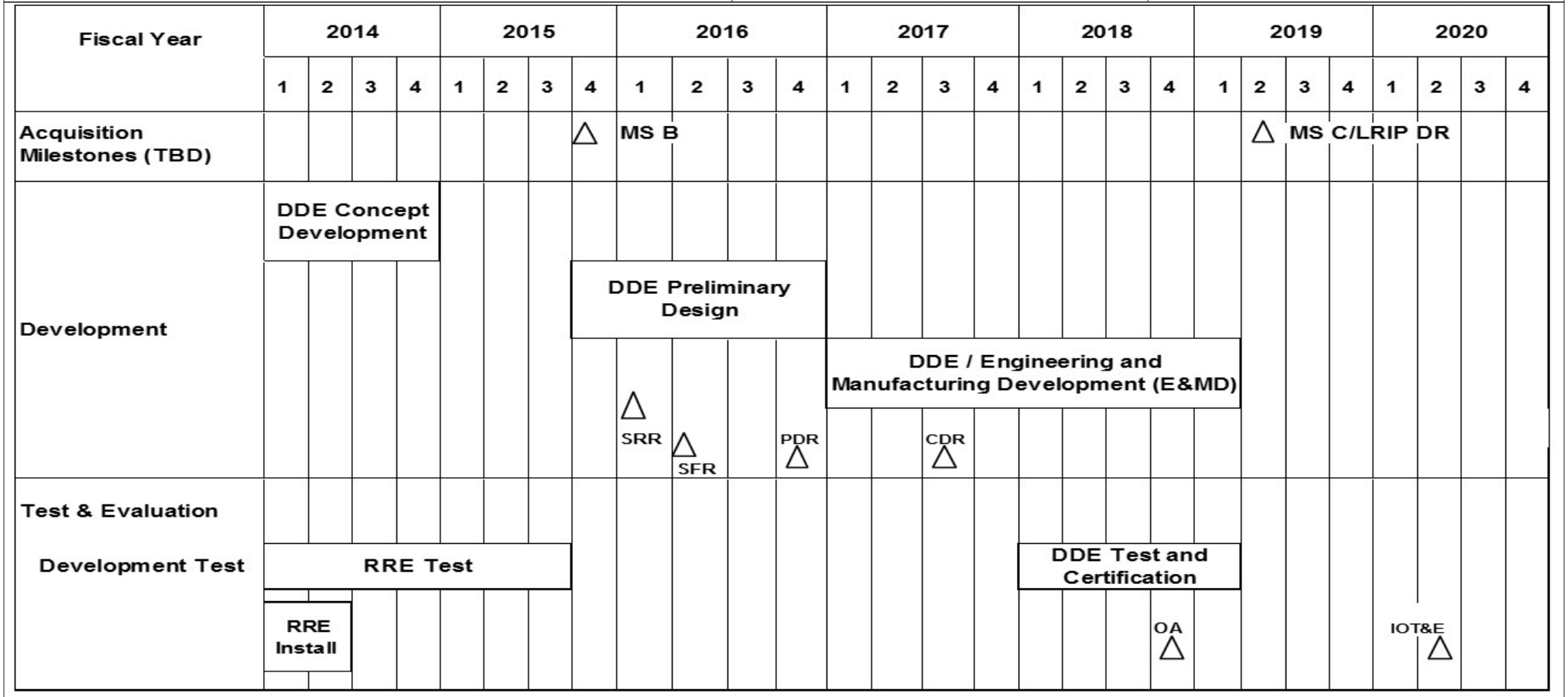
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPIF	SPA (SEAPORT) : Washington, DC	4.210	1.831	Jan 2014	2.400	Feb 2015	1.500	Nov 2015	-		1.500	Continuing	Continuing	Continuing
Travel	WR	NAVSEA Program Office Travel : Washington, DC	0.043	0.030	Nov 2013	0.070	Feb 2015	0.070	Nov 2015	-		0.070	Continuing	Continuing	Continuing
		Subtotal	4.253	1.861		2.470		1.570		-		1.570	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	47.740	23.521		43.131		39.881		-		39.881	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*



RRE: Rapid Response Effort

DDE: Decoy Development Effort

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3316 / *Advanced Offboard EW*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3316				
DDE Concept Development	1	2014	4	2014
RRE Installation	1	2014	2	2014
RRE Test	1	2014	3	2015
Milestone (MS) B	4	2015	4	2015
DDE Preliminary Design	4	2015	4	2016
System Requirements Review (SRR)	1	2016	1	2016
System Functional Review (SFR)	2	2016	2	2016
Preliminary Design Review (PDR)	4	2016	4	2016
DDE / E&MD	1	2017	1	2019
Critical Design Review (CDR)	3	2017	3	2017
DDE Test and Certification	1	2018	1	2019
Operational Affectiveness (OA)	4	2018	4	2018
Milestone (MS) C / LRIP DR	2	2019	2	2019
Initial Operational Test and Evaluation (IOT&E)	2	2020	2	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3321. / *SEWIP Block 3*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3321.: *SEWIP Block 3*	169.968	56.635	59.736	60.102	-	60.102	66.531	37.565	37.820	38.631	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

SEWIP Block 3 is developing an Electronic Attack (EA) capability improvement required for the AN/SLQ-32(V) system to keep pace with the threat. SEWIP Block 3 is developing a common EA capability to all surface combatants (CVN, CG, DDG, LHD) outfitted with the active variant of the AN/SLQ-32, mainly the (V)3 and (V)4, as well as select new-construction platforms.

The SEWIP Block 3 Acquisition leverages technology developed under the Office of Naval Research's (ONR) Integrated Topside (InTop) Science and Technology (S&T) effort. SEWIP Block 3 will continue to expand the integrated shipboard combat system by providing a new integrated Electronic Attack (EA) transmitter, array, and associated EA techniques. The program builds on the EW Support (ES) capability delivered by SEWIP Blocks 1 and 2. SEWIP Block 3 includes a government software development effort for a SoftKill Coordinator (SKC) to manage EA engagements.

SEWIP Block 3 includes development and initial, limited interim capability by 2014 of a focused application of the Naval Research Lab (NRL) Transportable EW Module (TEWM) systems to support CNO Urgent Operational Needs (UON). Block 3T is the TEWM system supporting the 7th fleet UON. TEWM Speed to Fleet (STF) is the TEWM system supporting the 6th fleet UON.
The TEWM Speed to Fleet effort develops the TEWM system capability for engaging a wide range of anti-ship missile seekers to address the broader EW capability gap. This effort provides the resources to refine and accelerate the design, make it suitable for operational shipboard application, and implements a network command protocol to efficiently allow use on broad class of ships.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SEWIP Block 3 Government Engineering	33.029	29.311	16.005	-	16.005
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued system engineering. Commenced Soft Kill Coordinator (SKC) software development. Completed MS B preparation and acquisition documentation. Conducted MS B.					
FY 2015 Plans: Continue system engineering. Continue SKC software development.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321. / *SEWIP Block 3*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Award Preliminary Design contract. Conduct Integrated Baseline Review (IBR). Support System Functional Review (SFR) and Systems Requirements Review (SRR). Support Preliminary Design Review (PDR). Exercise Engineering and Manufacturing Development (E&MD) option. ***FY 2016 Base Plans:*** Complete Preliminary Design. Continue system engineering. Complete SKC software development, Build 1. Support Critical Design Review (CDR). ***FY 2016 OCO Plans:*** N/A					
Title: SEWIP Block 3 Development	0.500	29.105	44.097	-	44.097
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued SEWTT development. ***FY 2015 Plans:*** Continue SEWTT development. Commence Preliminary Design. Support Integrated Baseline Review (IBR). Conduct System Functional Review (SFR) and Systems Requirements Review (SRR). Conduct Preliminary Design Review (PDR). Complete Preliminary Design. Commence Engineering and Manufacturing Development (E&MD). ***FY 2016 Base Plans:*** SEWIP Block 3 will continue E&MD for the full year (FY16). E&MD is a more complex phase than Preliminary Design and includes the funding to procure the material associated with the Engineering Development Model (EDM) post-CDR. Continue SEWTT Development. Conduct Critical Design Review (CDR).					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321. / *SEWIP Block 3*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Procure Engineering Development Model (EDM) material. ***FY 2016 OCO Plans:*** N/A					
Title: Block 3T Development	8.296	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed development of Block 3T system. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Block 3T System Engineering	2.366	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed Block 3T systems engineering and integration. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Block 3T Testing	2.039	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed Block 3T testing.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321. / *SEWIP Block 3*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Completed Block 3T Simulator and Radar test platform. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: TEWM Speed To Fleet (STF) Development	3.000	1.120	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Commenced development of the TEWM STF system. ***FY 2015 Plans:*** Complete development of the TEWM STF system. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: TEWM Speed to Fleet (STF) Testing	3.100	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted TEWM STF Testing. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321. / *SEWIP Block 3*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: TEWM Speed to Fleet (STF) Systems Engineering	3.391	0.200	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Commenced TEWM STF systems engineering and integration. ***FY 2015 Plans:*** Complete TEWM STF systems engineering and integration. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Speed to Fleet- Transportable Electronic Warfare Module (TEWM)	0.914	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Continue to test equipment at sea. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	56.635	59.736	60.102	-	60.102

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 0204228N/2312: *AN/SLQ-32*	150.353	195.082	324.726	-	324.726	412.526	427.934	443.407	546.733	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321. / *SEWIP Block 3*

D. Acquisition Strategy

SEWIP will develop block upgrades to SLQ-32 based on integrating technology advances and adding functional capabilities in an incremental fashion. Each block and sub-block will be developed and contracted in an individual yet coordinated and overlapping fashion. Specifically, SEWIP Block 3 involves the transitioning and leveraging of work performed under the INTOP program sponsored by ONR, which focused on designing/architecting an integrated Electronic Attack (EA), Information Operations (IO), and Line of Site (LOS) Comms system for Naval Surface Platforms. SEWIP Block 3 also leverages work performed under the TEWM program that is sponsored by NRL that focuses on technique development and active engagement analysis/modeling for Naval surface combatants.

TEWM is a non-acquisition development and demonstration program to rapidly deliver advanced counter terminal EW capability in a transportable form factor for Fleet application. The units developed under this Speed to Fleet project provides a rapidly deployable capability. Multiple copies of the first articles can be rapidly replicated depending on operational needs.

E. Performance Metrics

Achieve Block 3 Milestone B.
Complete Block 3T and STF development.
Complete Block 3T and STF integration and testing.
Award Preliminary Design Contract.
Conduct SFR and SRR.
Conduct PDR.
Exercise E&MD option.
Conduct CDR.
Achieve Block 3 MS C / LRIP DR.
Complete laboratory and at-sea testing against captive carry simulators.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3321. / *SEWIP Block 3*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 3 Technology Demonstration	SS/CPFF	Northrop Grumman: Linthicum, MD : Raytheon: Tewksbury, MA	37.195	-		-		-		-		-	-	37.195	-
Block 3T Primary Hardware Development	C/CPFF	ITT Exelis : Alexandria, VA	46.328	8.296	Nov 2013	-		-		-		-	-	54.624	-
Block 3 SEWTT Development	SS/CPFF	EWA-GSI : Fairmont, WV	1.119	0.500	Nov 2013	-		0.311	Nov 2015	-		0.311	Continuing	Continuing	Continuing
TEWM STF Primary Hardware Development	WR	NRL : Washington, DC	4.000	3.000	Jan 2014	0.920	Feb 2015	-		-		-	-	7.920	-
Block 3 Preliminary Design/E&MD	C/CPIF	TBD : TBD	0.000	-		29.105	Feb 2015	43.786	Nov 2015	-		43.786	Continuing	Continuing	Continuing
		Subtotal	88.642	11.796		30.025		44.097		-		44.097	-	-	-

Remarks

The increase in SEWIP Block 3 Development in FY16 is due to FY16 being the first full year of E&MD. E&MD is a more complex phase than Preliminary Design and includes the funding to procure the material associated with the Engineering Development Model (EDM) post-CDR. FY16 includes significant effort to complete Critical Design Review (CDR) and includes the procurement of material for the Engineering Development Model (EDM).

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 3 Integrated Logistics Support	WR	NSWC Crane : Crane, IN	4.557	1.544	Dec 2013	2.291	Nov 2014	2.045	Nov 2015	-		2.045	Continuing	Continuing	Continuing
Block 3 Integrated Logistics Support	WR	NSWC Carderock : Bethesda, MD	0.000	-		0.142	Nov 2014	0.100	Nov 2015	-		0.100	Continuing	Continuing	Continuing
Block 3 Government Engineering Support	WR	NSWC Dahlgren : Dahlgren, VA	7.203	6.046	Dec 2013	5.809	Nov 2014	1.850	Nov 2015	-		1.850	Continuing	Continuing	Continuing
Block 3 Government Engineering Support	WR	NSWC Crane : Crane, IN	3.301	2.013	Dec 2013	0.734	Oct 2014	0.513	Nov 2015	-		0.513	Continuing	Continuing	Continuing
Block 3 Government Engineering Support	WR	NRL : Washington, DC	6.427	6.077	Dec 2013	4.426	Nov 2014	1.804	Nov 2015	-		1.804	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321. / *SEWIP Block 3*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 3 Government Engineering Support	SS/CPFF	APL : Laurel, MD	8.032	6.891	Nov 2013	6.970	Feb 2015	2.162	Nov 2015	-		2.162	Continuing	Continuing	Continuing
Block 3 Government Engineering Support	WR	MIT-LL : Cambridge, MA	1.880	1.219	Nov 2013	1.686	Jan 2015	0.449	Nov 2015	-		0.449	Continuing	Continuing	Continuing
Block 3 Government Engineering Support	WR	GTRI : Atlanta, GA	1.040	-		-		0.166	Nov 2015	-		0.166	Continuing	Continuing	Continuing
Block 3T Systems Engineering	WR	NRL : Washington, DC	11.166	2.366	Nov 2013	-		-		-		-	-	13.532	-
TEWM STF Systems Engineering	WR	NRL : Washington, DC	2.000	3.391	Jan 2014	0.400	Feb 2015	-		-		-	-	5.791	-
		Subtotal	45.606	29.547		22.458		9.089		-		9.089	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 3 Test Planning/T&E Events	WR	NSWC Dahlgren : Dahlgren, VA	2.381	0.643	Dec 2013	0.185	Nov 2014	0.339	Nov 2015	-		0.339	Continuing	Continuing	Continuing
Block 3 Test Planning/T&E Events	WR	NSWC Crane : Crane, IN	1.003	0.698	Dec 2013	0.490	Oct 2014	0.638	Nov 2015	-		0.638	Continuing	Continuing	Continuing
Block 3 Test Planning/T&E Events	WR	NRL : Washington, DC	3.787	1.620	Dec 2013	2.090	Nov 2014	2.055	Nov 2015	-		2.055	Continuing	Continuing	Continuing
TEWM Testing	WR	NRL : Washington, DC	8.602	2.039	Nov 2013	-		-		-		-	-	10.641	-
TEWM STF Testing	WR	NRL : Washington, DC	1.099	3.100	Jan 2014	-		-		-		-	-	4.199	-
Developmental Test and Evaluation (Speed to Fleet)	Reqn	NRL : Washington DC	3.534	0.914	Feb 2014	-		-		-		-	-	4.448	4.652
		Subtotal	20.406	9.014		2.765		3.032		-		3.032	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321. / *SEWIP Block 3*

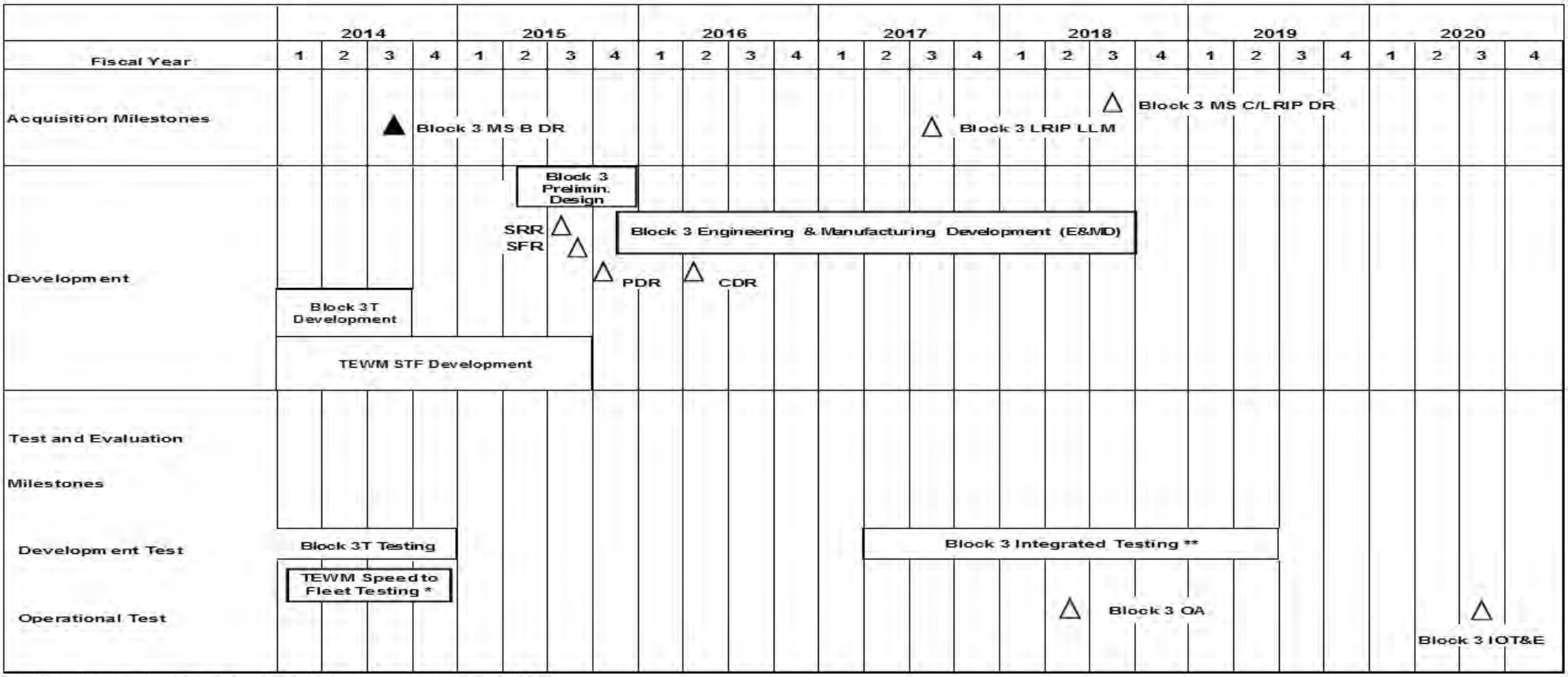
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 3 Program Management Support	C/CPIF	SPA (SEAPORT) : Washington, DC	9.204	5.091	Feb 2014	3.436	Feb 2015	2.885	Nov 2015	-		2.885	Continuing	Continuing	Continuing
Block 3 Program Management Support	WR	NSWC Dahlgren : Dahlgren, VA	3.586	0.228	Dec 2013	0.252	Nov 2014	0.254	Nov 2015	-		0.254	Continuing	Continuing	Continuing
Block 3 Program Management Support	WR	NSWC Crane : Crane, IN	1.129	0.365	Dec 2013	0.136	Oct 2014	0.153	Nov 2015	-		0.153	Continuing	Continuing	Continuing
Block 3 Program Management Support	WR	NRL : Washington, DC	1.201	0.317	Jan 2014	0.387	Nov 2014	0.342	Nov 2015	-		0.342	Continuing	Continuing	Continuing
Block 3 Program Management Support	MIPR	DISA : Laurel, MD	0.000	0.227	Oct 2014	0.227	Feb 2015	0.200	Nov 2015	-		0.200	Continuing	Continuing	Continuing
Block 3 Travel	WR	NAVSEA Program Office : Washington, DC	0.194	0.050	Jun 2014	0.050	Oct 2014	0.050	Nov 2015	-		0.050	Continuing	Continuing	Continuing
		Subtotal	15.314	6.278		4.488		3.884		-		3.884	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	169.968	56.635		59.736		60.102		-		60.102	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321. / *SEWIP Block 3*



* TEWM Speed to Fleet efforts are managed and executed by BSO 14 (ONR)
** Integrated testing includes Gov't Land Based Testing and FQT events.

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3321. / *SEWIP Block 3*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3321.L24				
TEWM Speed to Fleet Development	1	2014	3	2015
Block 3T Development	1	2014	3	2014
Block 3T Testing	1	2014	4	2014
TEWM Speed to Fleet Testing	1	2014	4	2014
Block 3 MS B DR	3	2014	3	2014
Block 3 Preliminary Design	2	2015	1	2016
SRR	3	2015	3	2015
SFR	3	2015	3	2015
PDR	4	2015	4	2015
Block 3 Engineering and Manufacturing Development (E&MD)	4	2015	3	2018
CDR	2	2016	2	2016
Block 3 Integrated Testing	2	2017	2	2019
Block 3 LRIP LLM	3	2017	3	2017
Block 3 Operational Assessment	2	2018	2	2018
Block 3 MS C/LRIP DR	3	2018	3	2018
Block 3 IOT&E	3	2020	3	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	Project (Number/Name) 3362 / *E-NULKA*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3362: *E-NULKA*	-	0.013	-	-	-	-	-	-	-	-	-	0.013
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

E-Nulka is an upgrade to the Nulka decoy to expand frequency coverage to counter an emerging class of Anti-Ship Missiles (ASMs) for which no active countermeasure currently exists. The Program supports the engineering development of the payload receiver, signal processor and transmitter, construction of complete payloads, integration of the completed payload with the Nulka vehicle, and subsequent technical and operational assessment. The program has been delayed until FY15 at which time the program will transfer to a classified portion of the budget due to changes in the security classification guidance.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: E-Nulka Decoy	0.013	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Funds transferred to SEWIP Block 2 and Advanced Offboard EW due to CNO direction for higher priority requirements.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	0.013	-	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

E-Nulka has been delayed until FY15 and will support the engineering development/enhancement of the payload receiver, transmitter, signal processor and power supply. Due to changes in the security classification guidance, this program will transfer to a classified portion of the budget starting in FY15.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3362 / *E-NULKA*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3362 / *E-NULKA*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NAVSEA	WR	NAVSEA : Washington, D.C.	0.000	0.013	Aug 2014	-		-		-		-	-	0.013	-
		Subtotal	0.000	0.013		-		-		-		-	-	0.013	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.013		-		-		-		-	-	0.013	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3362 / *E-NULKA*

Fiscal Year	2014				2015				2016				2017				2018				2019				2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acquisition Milestones (TBD)																												
Systems Development Milestones																												
Test & Evaluation Milestones																												
Development Test																												
Operational Test																												

NOTE: Due to changes in the security classification guidance, this program will transfer to a classified portion of the budget starting in FY15.

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604757N / *Ship Self Def (Engage: Soft Kill/EW)*	**Project (Number/Name)** 3362 / *E-NULKA*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3362				
Requirements Development	1	2014	4	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604761N *I Intelligence Engineering*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	0.000	1.984	0.200	4.353	-	4.353	4.207	4.289	4.378	4.471	Continuing	Continuing
3103: *Intelligence Engineering*	0.000	1.984	0.200	4.353	-	4.353	4.207	4.289	4.378	4.471	Continuing	Continuing

A. Mission Description and Budget Item Justification

This RDTEN project is the Navy Foreign Materiel Project (FMP). The FMP provides high leverage cost benefit through acquisition of foreign manufactured equipment with military application and potential military application and the subsequent exploitation of that materiel for the development of countermeasures and tactics.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	1.984	0.200	4.389	-	4.389
Current President's Budget	1.984	0.200	4.353	-	4.353
Total Adjustments	-	-	-0.036	-	-0.036
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-0.036	-	-0.036

Change Summary Explanation

The Foreign Materiel Program supports acquisition & exploitation of foreign materiel with an expanding focus on left of the kill chain systems which are typically more expensive. The increase from FY15 to FY16 will provide the program the ability to work with a broad range of organizations to acquire and exploit materiel. Details are at a higher classification.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604761N / *Intelligence Engineering*	Project (Number/Name) 3103 / *Intelligence Engineering*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3103: *Intelligence Engineering*	-	1.984	0.200	4.353	-	4.353	4.207	4.289	4.378	4.471	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

(U) The FMP provides high leverage cost benefit through acquisition of foreign manufactured equipment with military application and potential military application and the subsequent exploitation of that materiel for development of deployable countermeasures and tactics.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Intelligence Engineering	1.984	0.200	4.353	-	4.353
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Foreign Materiel Acquisition $1.984					
FY 2015 Plans: Foreign Materiel Acquisition $.200					
FY 2016 Base Plans: Foreign Materiel Acquisition $4.389					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	1.984	0.200	4.353	-	4.353

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The FMP program combines operational, intelligence and RDT&E requirements into a prioritized list used to identify which acquisition opportunities will obtain priority for funding.

E. Performance Metrics

Program direction is dependent upon guidance provided by 6 warfare area planning groups.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604761N / *Intelligence Engineering*	Project (Number/Name) 3103 / *Intelligence Engineering*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project EKUL	WR	NUWC : Keyport, WA	0.000	0.684	Jan 2015	-		-		-		-	-	0.684	-
Project WILDEBEEST	WR	NSMA : JBAB, Wash DC	0.000	1.300	May 2014	-	May 2015	-		-		-	-	1.300	-
Project PLOTINIC	WR	NSMA : JBAB, Washington DC	0.000	-		0.200	Jan 2015	4.353	Oct 2015	-		4.353	Continuing	Continuing	Continuing
		Subtotal	0.000	1.984		0.200		4.353		-		4.353	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	1.984		0.200		4.353		-		4.353	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604761N / *Intelligence Engineering*	**Project (Number/Name)** 3103 / *Intelligence Engineering*

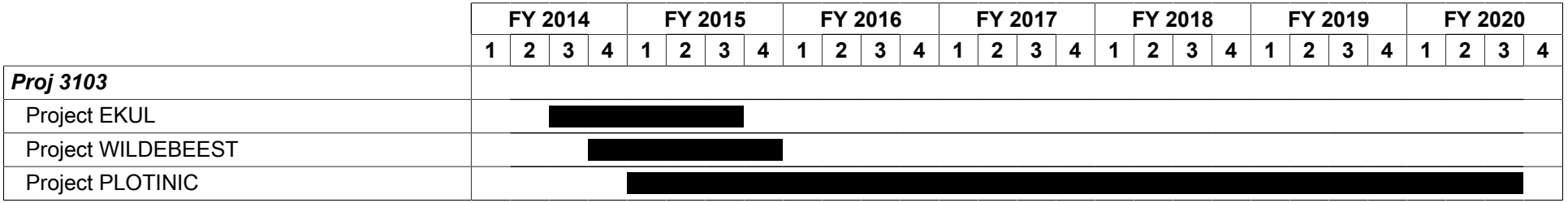


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604761N / *Intelligence Engineering*	**Project (Number/Name)** 3103 / *Intelligence Engineering*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3103				
Project EKUL	3	2014	3	2015
Project WILDEBEEST	4	2014	4	2015
Project PLOTINIC	1	2015	3	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604771N *I Medical Development*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	88.987	27.725	27.287	9.443	-	9.443	9.599	9.365	9.609	9.805	Continuing	Continuing
0933: *Medical/Dental Equipment Dev*	25.211	8.725	8.287	9.443	-	9.443	9.599	9.365	9.609	9.805	Continuing	Continuing
9999: *Congressional Adds*	63.776	19.000	19.000	-	-	-	-	-	-	-	-	101.776

A. Mission Description and Budget Item Justification

The purpose of this budget item is to develop biomedical equipment and related techniques to reduce morbidity; to enhance the logistic feasibility of modern medical care for combat casualties; to sustain casualties for evacuation to fixed medical facilities for definitive care; and to ensure that personnel are medically qualified for military duty. There is a strong potential for dual use, technology transfer, and biotechnology firms/industry participation in the projects.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	28.458	8.287	9.935	-	9.935
Current President's Budget	27.725	27.287	9.443	-	9.443
Total Adjustments	-0.733	19.000	-0.492	-	-0.492
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	19.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.732	-			
• Program Adjustments	-	-	-0.500	-	-0.500
• Rate/Misc Adjustments	-0.001	-	0.008	-	0.008

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Project: 9999: *Congressional Adds*		
Congressional Add: *Military Dental Research*	6.000	6.000
Congressional Add: *Wound Care Research (transferred from Defense Health Program)*	13.000	13.000
Congressional Add Subtotals for Project: 9999	19.000	19.000
Congressional Add Totals for all Projects	19.000	19.000

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604771N / *Medical Development*	Project (Number/Name) 0933 / *Medical/Dental Equipment Dev*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0933: *Medical/Dental Equipment Dev*	25.211	8.725	8.287	9.443	-	9.443	9.599	9.365	9.609	9.805	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The purpose of this budget item is to develop biomedical equipment and related techniques to reduce morbidity; to enhance the logistic feasibility of modern medical care for combat casualties; to sustain casualties for evacuation to fixed medical facilities for definitive care; and to ensure that personnel are medically qualified for military duty. Each work unit undertaken in this project has a military requirement. Efforts are justified based upon military payoff and cost benefit. There is a strong potential for dual use, technology transfer, and biotechnology firms/industry participation in the projects.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Medical/Dental Equipment Dev	8.725	8.287	9.443	-	9.443
Articles:	-	-	-	-	-

FY 2014 Accomplishments:

-Continued to augment efforts with the ongoing clinical trial effort to test, for safety and efficacy, a militarily relevant malaria vaccine regimen utilizing a promising vaccine candidate.

-Continued integration of a centralized bio-surveillance repository for open and DoD health surveillance data to provide a more robust picture of overall threats in an area.

-Continued to validate the efficacy and pharmacodynamics of intranasal scopolamine for the prevention of motion sickness in dynamic military environments.

-Continued to integrate efforts in wound closure, improvement of diagnostic measures, and development of an Osseo-integration device.

-Continued joint development projects with MARCORSYSCOM acquisition including developing Mobile Oxygen Ventilation and External Suction (MOVES) SLC development and improved ruggedization based on prior years test and evaluation results. This device is a pre-planned product improvement for FRSS deployment for Military Treatment Facilities, Medicine Clinics, Corpsman, and Navy or USMC Special Operations.

-Continued USMC Marine Resiliency study including assessment of longitudinal data, including pre-deployment, post-intervention efforts, and blast exposure measurements that may be used to predict risk and resilience.

-Continued validation of an alternative watchstanding schedule on Naval Surface Combatants in support of an individualized fatigue-mitigated scheduling.

-Continued fleet usability testing and validation for the Individual Fatigue -Based Scheduling and Countermeasure System that predicts, prevents, detects, and mitigates periods of high risk associated with

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 0933 / *Medical/Dental Equipment Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
fatigue. Individualized performance risk will be predicted and prevented by providing individual fatigue optimized schedules and mitigation strategies. -Completed USMC suicide prevention related efforts including post-mortem investigative procedure to reconstruct the life-style and circumstances in an effort to predict suicide risk. -Completed validation of computer color vision test for use in Naval Aviation that isolates and classifies red-green and yellow-blue color deficiencies. -Completed efforts to evaluate validate effectiveness of pharmaceuticals in the treatment of heterotopic ossification. -Initiated a challenge model to evaluate the efficacy in preventing Campylobacteriosis in subjects challenged with Campylobacter jejuni. -Initiated efforts to validate a mobile EEG device viable for objective assessment of brain function. -Initiated effort to validate assessment metrics for the submarine based team behaviors tool. -Initiated transition projects from the Force Health Protection Future Naval Capability Program. This is a continued effort toward initiating Development, Testing, and Evaluation program for transition products from the Office of Naval Research 6.3 Advanced Development program. Focus is on transition of and the mitigation of neurotrauma. -Initiated Naval Expeditionary Health Service Support Phase 1: Shore based capabilities based military treatment facility.					
FY 2015 Plans: -Continue to augment efforts with the ongoing clinical trial effort to test, for safety and efficacy, a militarily relevant malaria vaccine regimen utilizing a promising vaccine candidate. -Continue integration of a centralized bio-surveillance repository for open and DoD health surveillance data to provide a more robust picture of overall threats in an area. -Continue to validate the efficacy and pharmacodynamics of intranasal scopolamine for the prevention of motion sickness in dynamic military environments. -Continue joint development projects with MARCORSYSCOM acquisition including developing Mobile Oxygen Ventilation and External Suction (MOVES) SLC development and to include new test and evaluation following improved ruggedization. This device is a pre-planned product improvement for FRSS deployment for MTFs, Medicine Clinics, Corpsman, and Navy or USMC Special Operations. -Continue fatigue mitigation and validation of scheduling tools to include validation of an alternative watchstanding schedule on Naval Surface Combatants in support of an individualized fatigue-mitigated scheduling.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 0933 / *Medical/Dental Equipment Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Continue utilization validation of Individual Fatigue -Based Scheduling and Countermeasure System that predicts, prevents, detects, and mitigates periods of high risk associated with fatigue. Individualized performance risk will be predicted and prevented by providing individual fatigue optimized schedules and mitigation strategies. -Continue clinical trials to evaluate the efficacy in preventing Campylobacteriosis in subjects challenged with Campylobacter jejuni. -Continue efforts to validate a mobile EEG device viable for objective assessment of brain function. -Continue effort to validate assessment metrics for the submarine based team behaviors tool. -Continued transition projects from the Force Health Protection Future Naval Capability Program. This is a continued effort toward initiating Development, Testing, and Evaluation program for transition products from the Office of Naval Research 6.3 Advanced Development program. Focus of transition is initiation of low volume resuscitation agents and the continuation of mitigation of neurotrauma. -Continue Naval Expeditionary Health Service Support Phase 1: Shore based capabilities based military treatment facility. -Complete USMC Marine Resiliency study including assessment of longitudinal data, including pre-deployment, post-intervention efforts, and blast exposure measurements that may be used to predict risk and resilience. -Complete integration of efforts in wound closure, improvement of diagnostic measures, development of an Osseo-integration device.					
FY 2016 Base Plans: -Continue to augment efforts with the ongoing clinical trial effort to test, for safety and efficacy, a militarily relevant malaria vaccine regimen utilizing a promising vaccine candidate. -Continue fatigue mitigation and validation of scheduling tools. -Continue joint development projects with MARCORSYSCOM acquisition for medical products and equipment, including initiating validation patient warming device and psychological tools associated with forward care. - Continue and initiate transition projects from the Force Health Protection Future Naval Capability Program. This is a continued effort toward initiating Development, Testing, and Evaluation program for transition products from the Office of Naval Research 6.3 Advanced Development program. -Continue Naval Expeditionary Health Service Support: Initiate ship based capabilities based military treatment facility. -Complete integration of a centralized bio-surveillance repository for open and DoD health surveillance data to provide a more robust picture of overall threats in an area.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 0933 / *Medical/Dental Equipment Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Complete validation of the efficacy and pharmacodynamics of intranasal scopolamine for the prevention of motion sickness in dynamic military environments. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	8.725	8.287	9.443	-	9.443

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

-The acquisition strategy for product lines and products in the Medical Development Program is designed and implemented consistent with the particular product and with the nature and size of the investment.

-The Medical Development Program operates with a Memorandum of Understanding with the Marine Corps Systems Command (Family of Field Medical Equipment) for co-development of products for procurement by the USMC. The acquisition strategy for these products involved direct partnership with the acquisition and procurement professionals at Marine Corps Systems Command. The program's major Product Areas in the Medical Development Program are: 1) Equipment, 2) Pharmaceuticals/ Biologics, and 3) Knowledge/Concepts. The primary Program Areas of Interest are in: 1) Expeditionary Medicine (Navy in Terrestrial, Maritime Surface, Submarine, & Aviation Operations), USMC in Expeditionary Operations. In these areas the focus is on Levels I and II in Clinical Care Medicine; and 2) Products developed for battlefield treatment of Combat Casualties & Combat Trauma, focusing on delivery of Levels III and IV of care.
-For areas 1 and 2, there are two primary acquisition strategies. The first is to test and evaluate commercially-developed medical product candidates in managed trials for ultimate Food and Drug Administration (FDA) approval. Partnerships with commercial developers ensure that products of military interest are available for procurement across the DoD, Federal Government, and commercial market. During development, DoD end users are included in the process to the extent possible. The second strategy is to drive the development process with DoD program investments. This process involves developing in-house or industrial prototypes in government-managed programs to meet military and regulatory requirements for production and fielding.
-Both strategies promote advanced preparation of procurement plans in line with the product availability. Major Medical Development programs falling in these categories are: MOVES and MOVES anesthesia module (Equipment), Dengue vaccine, and Infusible Haemostatic-Phase I Clinical Trials (Pharmaceuticals/Biologics).

-The Third Product Area (Knowledge/Concepts) is focused on the introduction of technologies, techniques, and procedures that alter medical practice and standards of care. These primarily require early involvement of the senior leadership of military medicine, in that the result of the program is modification of concepts of operations, policy, and/or doctrine. These are often much smaller; Medical Development Program examples include Navy/USMC Medical Planning Requirement Assessment and Crisis Action Planning Tool Transition.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 0933 / *Medical/Dental Equipment Dev*

Programs such as System for Objective Decision-Making on Timing of Wound Closure involve both material and knowledge solutions.

E. Performance Metrics

Maintaining Scheduled Milestones/Demonstration Events for individualized project/product roadmap. Ensuring dependencies across multiple efforts are maintained on schedule and are primary metrics.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 0933 / *Medical/Dental Equipment Dev*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development: Malaria Vaccine	Allot	Naval Medical Research Center : Silver Spring, MD	4.552	0.304	Dec 2013	0.850	Mar 2015	1.000	Mar 2016	-		1.000	-	6.706	-
Individualized Fatigue Base Scheduling	SS/FP	Pulsar Informatics : Philadelphia, PA	4.060	0.883	Jan 2014	-		-		-		-	-	4.943	-
Product Development USMC Resiliency Study II	SS/FP	HQ USMC: University of San Diego, CA : San Diego, CA	6.798	0.743	Apr 2014	-		-		-		-	-	7.541	-
Product Development: USMC Sucide Prevention Program	MIPR	HQ USMC VA : San Diego, CA	1.828	-		-		-		-		-	-	1.828	-
Product Development: Mobile Oxygenation Ventilation and External Suction - SLC	C/FFP	Thornhill Research Inc. : Toronto, Canada	0.840	1.915	Aug 2014	-		-		-		-	-	2.755	-
Product Development: Post Traumatic Stress Mitigation, No Product/ Contract Greater than $1M individually	Various	Various : Various	0.948	0.429	Dec 2013	2.012	Jun 2015	2.105	Mar 2016	-		2.105	Continuing	Continuing	Continuing
Product Development: Preventive Medicine No Product/Contract Greater than $1M Individually	Various	Various : Various	3.020	1.919	Jan 2014	1.606	Jun 2015	2.134	Mar 2016	-		2.134	Continuing	Continuing	Continuing
Product Develoment: Undersea Medicine: No Product/Contract Greater Than $1M Individually	Various	Various : Various	0.265	0.198	Jan 2014	0.364	Jan 2015	0.768	Dec 2015	-		0.768	Continuing	Continuing	Continuing
Product Development: First Responder, Enroute Care and Hemmorhage Control. No Prodcut/ Contract Greater Than $1M Indvidually	Various	Various : Various	2.190	1.100	Jun 2014	2.102	Jun 2015	2.145	May 2016	-		2.145	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604771N / *Medical Development*	Project (Number/Name) 0933 / *Medical/Dental Equipment Dev*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development: Wound Management, No Product/Contract Greater than $!M Individually	Various	Various : Various	0.563	0.898	May 2014	0.973	Mar 2015	0.759	Jun 2016	-		0.759	Continuing	Continuing	Continuing
		Subtotal	25.064	8.389		7.907		8.911		-		8.911	-	-	-

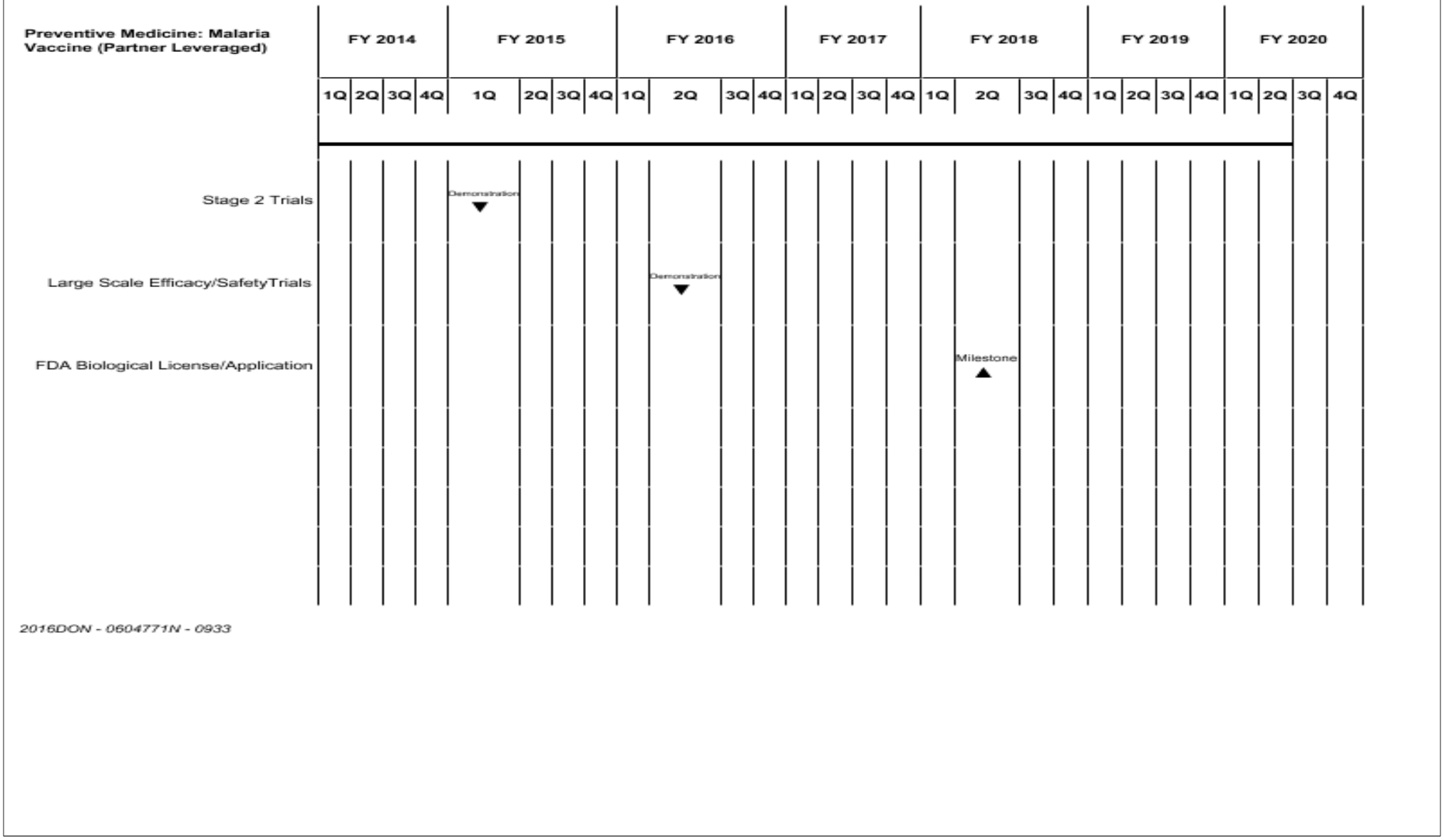
Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	Various : Various	0.147	0.336	Aug 2014	0.380	Aug 2015	0.532	Aug 2016	-		0.532	Continuing	Continuing	Continuing
		Subtotal	0.147	0.336		0.380		0.532		-		0.532	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	25.211	8.725		8.287		9.443		-		9.443	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 0933 / *Medical/Dental Equipment Dev*



2016DON - 0604771N - 0933

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 0933 / *Medical/Dental Equipment Dev*

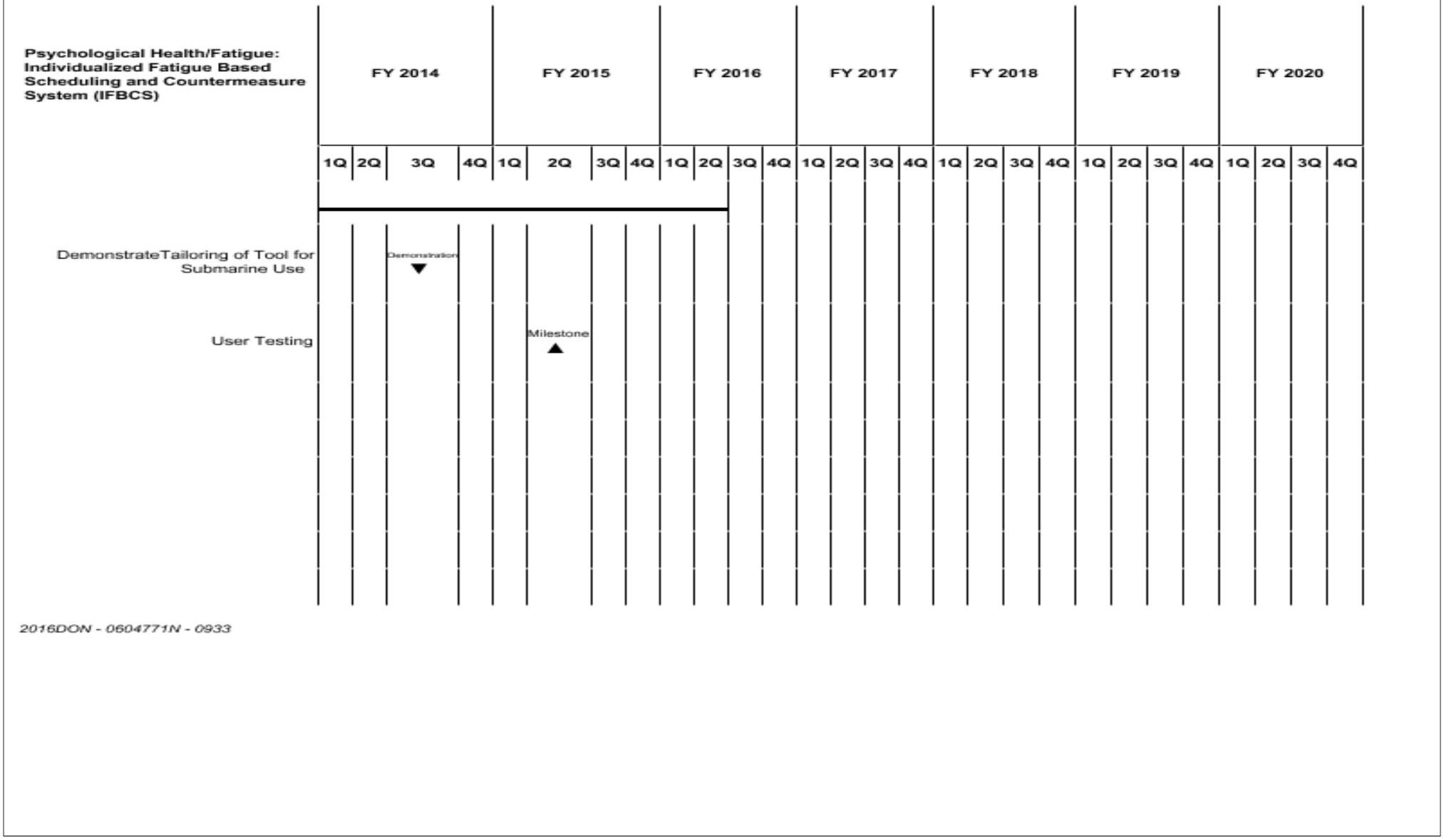


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 0933 / *Medical/Dental Equipment Dev*

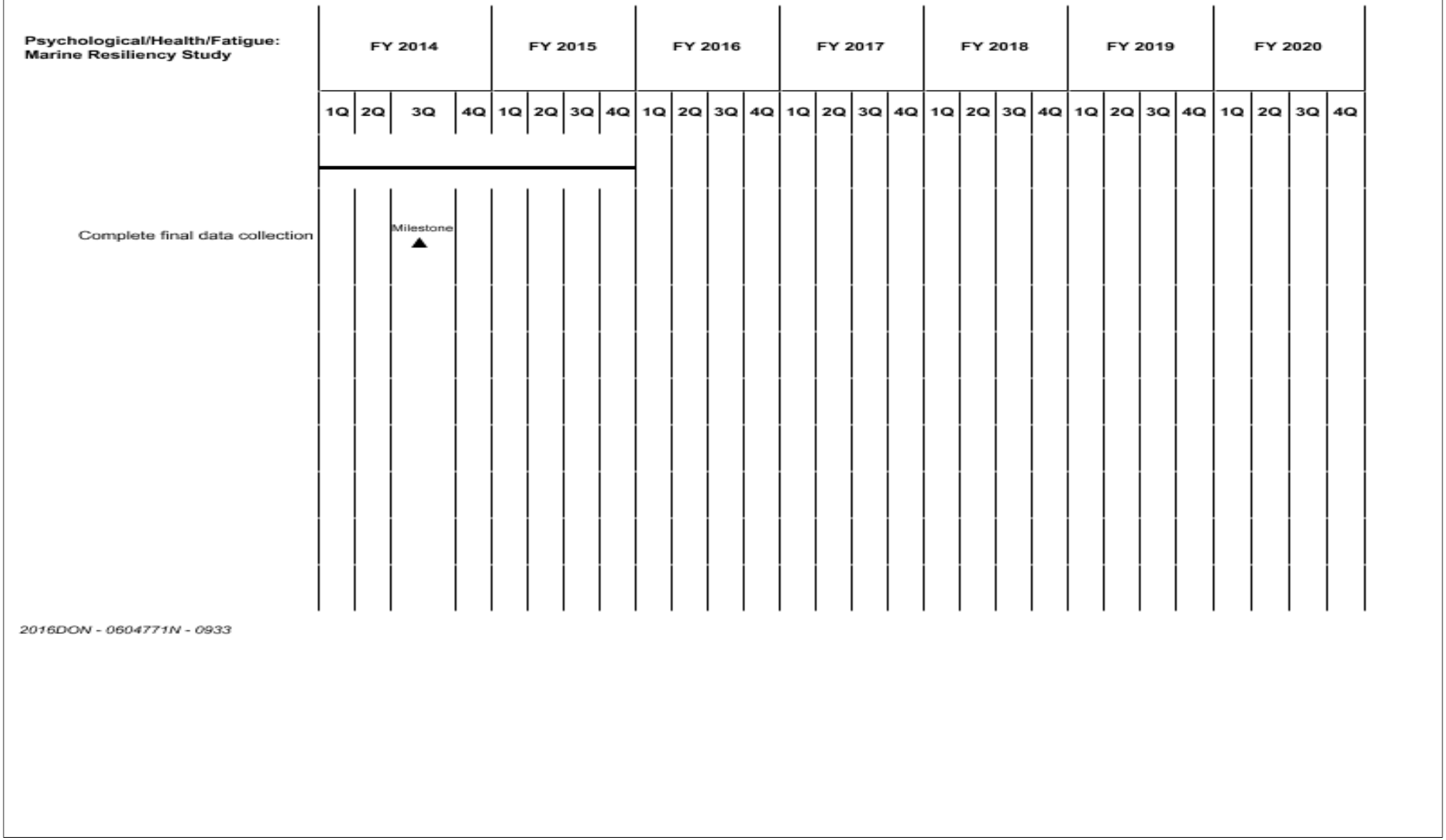
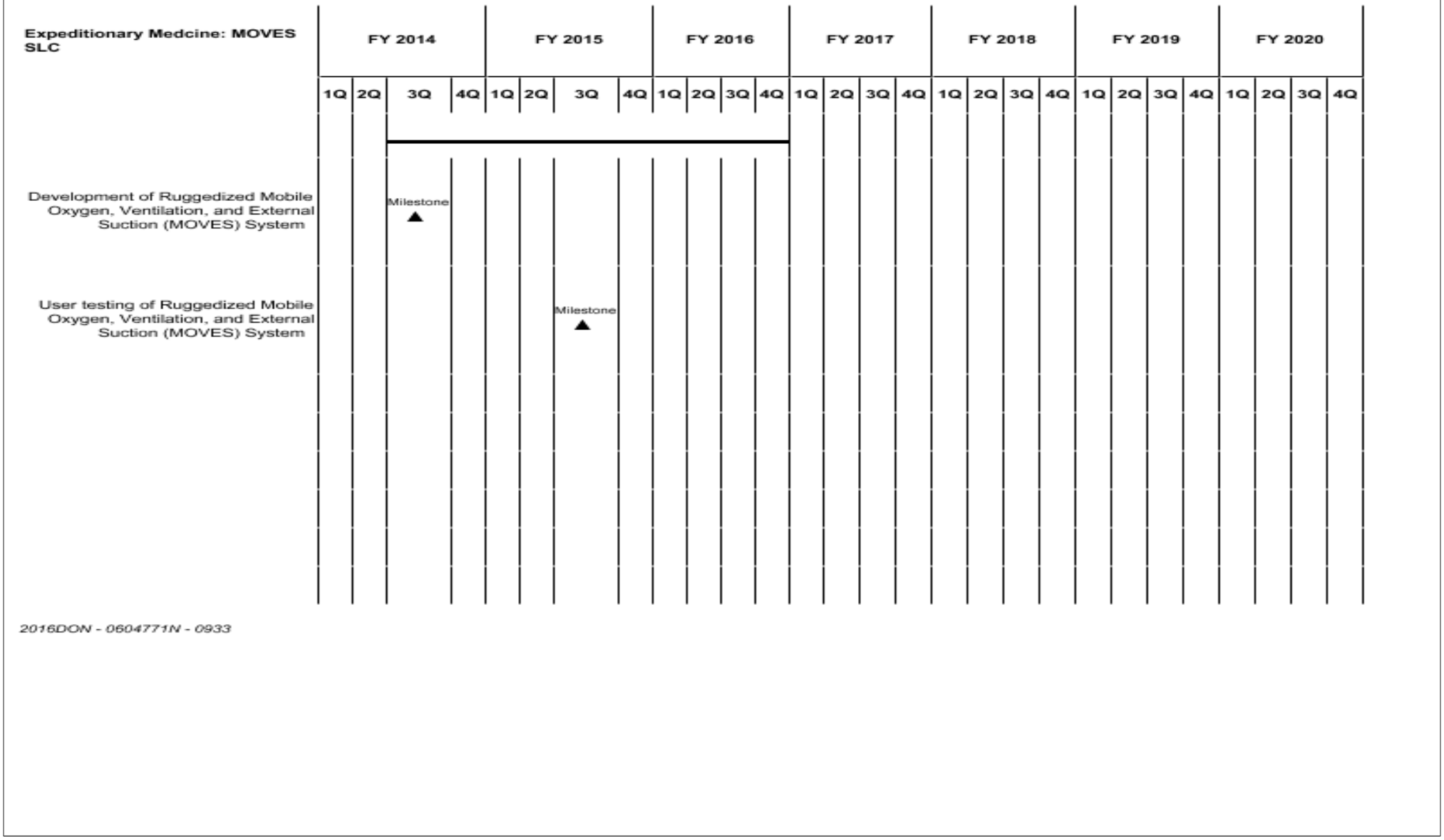
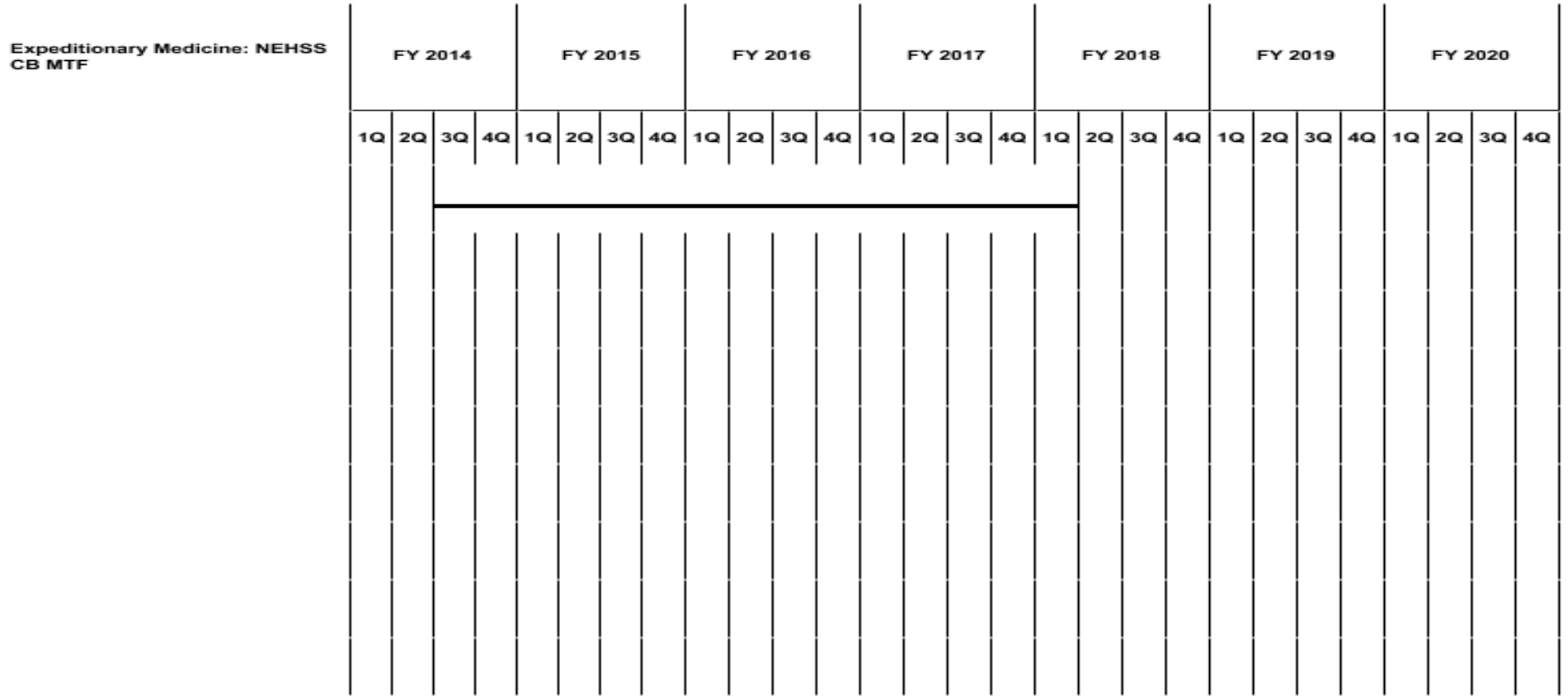


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 0933 / *Medical/Dental Equipment Dev*



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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 0933 / *Medical/Dental Equipment Dev*



2016DON - 0604771N - 0933

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 0933 / *Medical/Dental Equipment Dev*

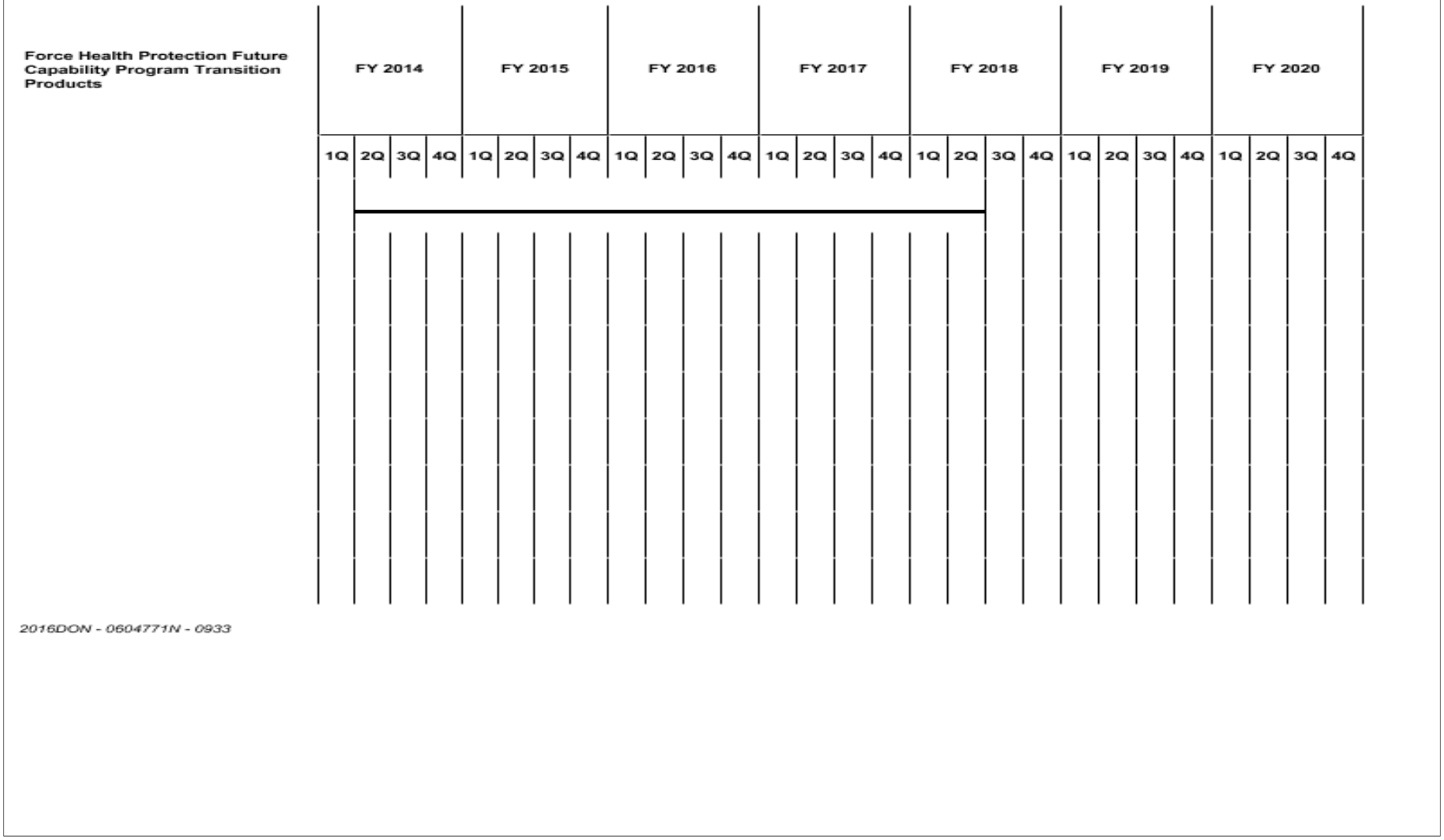


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 0933 / *Medical/Dental Equipment Dev*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Preventive Medicine: Malaria Vaccine (Partner Leveraged)				
Schedule Detail	1	2014	2	2020
Stage 2 Trials: Schedule Detail	1	2015	1	2015
Large Scale Efficacy/SafetyTrials: Schedule Detail	2	2016	2	2016
FDA Biological License/Application: Schedule Detail	2	2018	2	2018
Psychological Health/Fatigue: Individualized Fatigue Based Scheduling and Countermeasure System (IFBCS)				
Schedule Detail	2	2014	2	2016
DemonstrateTailoring of Tool for Submarine Use: Schedule Detail	3	2014	3	2014
User Testing: Schedule Detail	2	2015	2	2015
Psychological Health/Fatigue: Marine Resiliency Study				
Schedule Detail	2	2014	4	2015
Complete final data collection: Schedule Detail	3	2015	3	2015
Expeditionary Medcine: MOVES SLC				
Schedule Detail	3	2014	4	2016
Development of Ruggedized Mobile Oxygen, Ventilation, and External Suction (MOVES) System: Schedule Detail	3	2015	3	2015
User testing of Ruggedized Mobile Oxygen, Ventilation, and External Suction (MOVES) System: Schedule Detail	3	2016	3	2016
Expeditionary Medicine: NEHSS CB MTF				
Schedule Detail	3	2014	1	2018
Force Health Protection Future Capability Program Transition Products				
Schedule Detail	2	2014	2	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604771N / *Medical Development*				Project (Number/Name) 9999 / *Congressional Adds*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
9999: *Congressional Adds*	63.776	19.000	19.000	-	-	-	-	-	-	-	-	101.776
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

None

A. Mission Description and Budget Item Justification

Congressional Adds

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015
Congressional Add: Military Dental Research ***FY 2014 Accomplishments:*** All Dental Research efforts are underway for FY14. Research efforts include a number of efforts from FY13 including surveillance of cranio-facial injuries, combat dentistry, dental disease non-battle injuries and oral/facial disease in military personnel; evaluation of immune response association with maxillofacial bone regeneration. ***FY 2015 Plans:*** Continue efforts in cranio-facial injury surveillance; combat dentistry;treatment of maxillofacial injury; dental disease non-battle injuries; oral/facial disease and infection in military personnel.	6.000	6.000
Congressional Add: Wound Care Research (transferred from Defense Health Program) ***FY 2014 Accomplishments:*** Continue to develop novel diagnostics and treatments to enhance the care of the wounded warfighter. ***FY 2015 Plans:*** Continue to develop novel diagnostics and treatments to enhance the care of the wounded warfighter.	13.000	13.000
Congressional Adds Subtotals	19.000	19.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

None

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 9999 / *Congressional Adds*

E. Performance Metrics

Not required for Congressional adds.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604771N / *Medical Development*	Project (Number/Name) 9999 / *Congressional Adds*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Congressional Add	C/BA	Not Specified : Not Specified	63.776	19.000	Aug 2014	19.000	Jul 2015	-		-		-	-	101.776	-
		Subtotal	63.776	19.000		19.000		-		-		-	-	101.776	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	63.776	19.000		19.000		-		-		-	-	101.776	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 9999 / *Congressional Adds*

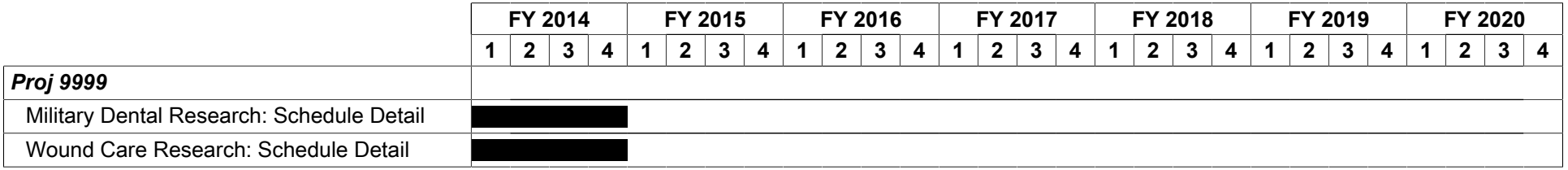


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604771N / *Medical Development*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9999				
Military Dental Research: Schedule Detail	1	2014	4	2014
Wound Care Research: Schedule Detail	1	2014	4	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604777N *I Navigation/Id System*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	1,248.137	41.735	29.504	32.469	-	32.469	35.877	30.651	59.712	60.914	Continuing	Continuing
0253: *Nav & Electro-Optical Supt*	54.974	8.657	6.636	7.257	-	7.257	7.441	7.341	36.569	37.287	Continuing	Continuing
0676: *Improve ID Development*	29.958	2.277	1.612	5.404	-	5.404	5.432	2.338	2.395	2.448	Continuing	Continuing
0921: *NAVSTAR GPS Equipment*	999.997	16.104	18.011	17.159	-	17.159	18.653	18.623	18.830	19.222	Continuing	Continuing
1253: *Combat Ident System*	163.208	14.697	3.245	2.649	-	2.649	4.351	2.349	1.918	1.957	Continuing	Continuing

A. Mission Description and Budget Item Justification

Reliable and secure navigation and positive identification (ID) systems are essential elements of battle management in the naval environment. The Photonics Imaging System (0253) is a non-hull penetrating replacement for existing optical periscopes. The Photonics Imaging System exploits a wide portion of the electro-magnetic spectrum utilizing advanced Electro-Optic/thermal imaging, and communications intercept/Electronic Warfare Support (ES). The Integrated Submarine Imaging System (ISIS) (0253) is a back fit system to integrate all imaging capabilities on existing submarine classes. The Combat Identification System (CIS) project (1253) for Mark XIIA, and Improved Identification Development (0676) for AN/UPX-29(V), covers the Mark XIIA Mode 5 upgrade to the existing Mark XII family of systems that is Joint and North Atlantic Treaty Organization (NATO) interoperable. Per OSD direction, NATO participation is encouraged and performance data is exchanged to ensure the opportunity for interoperability with allied identification systems is maximized. In addition to distinguishing friend from foe for weapons employment, the Navy requires secure, jam resistant Identification Friend or Foe (IFF) systems for battle group air defense management and air traffic control. Identification is multifaceted and includes information received from several sensors (both cooperative and non-cooperative systems).

NAVSTAR Global Positioning System (GPS) project (0921) is a space-based positioning, navigation and timing (PNT) system that provides authorized users with secure, worldwide, all weather, three dimensional position, velocity and precise time data. Navigation Sensor System Interface (NAVSSI) is a system that provides an integrated navigation message structure for network distribution to support combat, command and control, information and other mission critical capabilities. Navy Air and Sea Navigation Warfare (NAVWAR) are major elements of the GPS program. NAVWAR's mission is to provide continued access to GPS information in a denied environment. NAVWAR accomplishes this through the use of enhanced user equipment (UE). GPS modernization addresses the Navy's future integration of GPS Joint Program Office (JPO) Modernized User Equipment (MUE) products being developed that will enable the use of new signals in space. The GPS - based Positioning, Navigation, and Timing (PNT) Service (GPNTS) system is being developed to replace stand-alone AN/WRN-6 receivers and integrated NAVSSI systems. Additionally, future capability will migrate toward a Common Computing Environment (CCE) such as Consolidated Afloat Networks Enterprise Services (CANES), and provide a path for the integration of advanced navigation systems and sensors. NAVSTAR GPS supports Anti-Access/Area Denial (A2AD) by providing Assured Positioning, Navigation and Timing (A-PNT) capability to C4ISR and combat systems in standalone and networked architectures throughout the air and maritime domains. GPNTS will support the Joint Aerial Layer Network-Maritime (JALN-M). JALN-M is the Navy implementation of the JALN architecture which provides assured communications in any environment, especially A2AD.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604777N *I Navigation/Id System*

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under System Development and Demonstration because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	47.428	29.504	31.959	-	31.959
Current President's Budget	41.735	29.504	32.469	-	32.469
Total Adjustments	-5.693	-	0.510	-	0.510
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-5.000	-			
• SBIR/STTR Transfer	-0.693	-			
• Program Adjustments	-	-	-22.639	-	-22.639
• Rate/Misc Adjustments	-	-	23.149	-	23.149

Change Summary Explanation

The FY 2016 funding request was reduced by $2.0 million to account for the availability of prior year execution balances.

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604777N / *Navigation/Id System*	Project (Number/Name) 0253 / *Nav & Electro-Optical Supt*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0253: *Nav & Electro-Optical Supt*	54.974	8.657	6.636	7.257	-	7.257	7.441	7.341	36.569	37.287	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The navigation and electro-optical (E-O) support program develops submarine E-O and imagery systems and equipment that will improve submarine imaging capability in the areas of: ship safety, Intelligence, Surveillance and Reconnaissance (ISR), and tactical control (contact management in the littorals). The Department of the Navy established the Integrated Submarine Imaging System (ISIS) to rapidly field the Type 18 periscope, Periscope Acquisition, Tracking, and Ranging with Improved Observation Techniques (PATRIOT) rangefinder, Type 8 Mod 4 Infra-Red (IR) periscope systems, and integrate existing periscope imagery systems into a single imaging system for installation on board SSN 688 class and SEAWOLF class submarines. The ISIS baseline also includes the Imaging System with the Photonics Mast (PM) and Low Profile Photonics Mast (LPPM) onboard VIRGINIA and Photonics Mast Variant (PMV) onboard SSGN class submarines. The PM, LPPM, and PMV design exploit a wide portion of the electro-magnetic spectrum through advanced E-O and thermal imaging and Electronic Warfare Support (ES)/communications intercept. The Common Submarine Imaging System (CSIS) capability development document (CDD), that covers both ISIS and Legacy Imaging systems was approved 22 Dec, 2011. The CDD is used to fully integrate the ISIS program of record into the submarines force rapid Technical Insertion/Advanced Processor Build (TI/APB) process and to incorporate Fleet-endorsed requirements such as the LPPM.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: ISIS and Photonics common software and hardware capabilities development and obsolescence.	6.872	4.774	6.659	-	6.659
Articles:	-	-	-	-	-
FY 2014 Accomplishments: ISIS Technical Insertion (TI) development for LOS ANGELES, SEAWOLF, and VIRGINIA classes including hardware and software modifications for integration of LPPM into ISIS.					
FY 2015 Plans: ISIS Technical Insertion (TI) development for LOS ANGELES, SEAWOLF, and VIRGINIA classes including hardware and software modifications for integration of LPPM into ISIS.					
FY 2016 Base Plans: ISIS Technical Insertion (TI) development for LOS ANGELES, SEAWOLF, and VIRGINIA classes. TI and Advanced Processor Build (APB) productionization efforts include incorporation of significant capability increases over previous TIs including Image Fusion, Auto-detection and Image Tracker Algorithms. FY 2016 efforts also include improvements to system software reliability for increased ISIS Operational Availability (Ao).					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 0253 / *Nav & Electro-Optical Supt*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Imaging Systems Test Efforts.	1.035	1.112	0.598	-	0.598
Articles:	-	-	-	-	-
FY 2014 Accomplishments: TI-12/APB 11 Testing.					
FY 2015 Plans: TI-14/APB 13 Testing					
FY 2016 Base Plans: TI-16/APB 15 Testing. There is no scheduled TI OT test in FY16. The reduced testing activity drives the lower FY16 costs.					
FY 2016 OCO Plans: N/A					
Title: Low Profile Photonics Mast	0.750	0.750	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completion of LPPM Baseline Prototype Design					
FY 2015 Plans: Completion of LPPM Production Baseline Design					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	8.657	6.636	7.257	-	7.257

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SCN/201300: *Photonics Mast*	37.268	38.008	38.774	-	38.774	39.560	40.363	41.170	42.076	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 0253 / *Nav & Electro-Optical Supt*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/0831: *Sub Periscopes & Imaging Equip.*	45.704	57.221	63.109	-	63.109	60.343	54.746	67.918	72.482	Continuing	Continuing
• RDT&E/0604558N: *VIRGINIA Class Design Development*	3.200	4.500	3.000	-	3.000	3.000	3.051	3.112	3.174	Continuing	Continuing
• RDT&E/0603562N: *Advanced Submarine Support Equipment (ASSEP)*	3.807	3.343	4.103	-	4.103	4.052	4.161	4.415	4.733	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Acquisition Strategy for AN/BVS-1 Photonics Mast Program (PMP) is dated 24 Sept 2001. The PMP provides for the development and acquisition of a non-hull penetrating submarine electronic imaging system for VIRGINIA Class submarines. The Acquisition Strategy for Integrated Submarine Imaging System (ISIS) is dated 07 Jul 2003. The Aquisition Program Baseline Agreement for ISIS Advanced Processor Builds 11, 13 and 15 is dated 07 Mar 2013. The Single Acquistion Management Plan (SAMP) for the LPPM is dated 01 Jul, 2013. The ISIS will provide mission critical, all weather, visual, and electronic search, digital image management, indication, warning, and platform architecture interface capabilities for SSN 688, SSN 21, SSN 774 and SSGN class submarines.

E. Performance Metrics

Successful application of system engineering processes. Design and development of improvements.

The RDD program goal is to respond to urgent operational needs within 30 days and provide for rapid development and fielding of prototype solutions within 270 days.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604777N / *Navigation/Id System*	Project (Number/Name) 0253 / *Nav & Electro-Optical Supt*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	WR	NUWC : Newport, RI	11.567	0.668	Oct 2013	-		-		-		-	Continuing	Continuing	Continuing
Software Development	C/CPIF	Lockheed Martin : Manassas, VA	12.763	1.133	Mar 2014	1.939	Mar 2015	3.572	Mar 2016	-		3.572	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC : Newport, RI	13.910	0.883	Oct 2013	0.738	Oct 2014	0.744	Oct 2015	-		0.744	Continuing	Continuing	Continuing
Hardware Development	C/CPIF	Lockheed Martin : Manassas, VA	3.980	1.094	Mar 2014	2.055	Mar 2015	2.301	Mar 2016	-		2.301	Continuing	Continuing	Continuing
Hardware Development	C/CPFF	3 Phoenix : Chantilly, VA	6.062	3.800	Mar 2014	-		-		-		-	Continuing	Continuing	Continuing
Hardware Development	C/CPFF	TBD : TBD	0.000	-	Jun 2014	0.750	Jun 2015	-		-		-	Continuing	Continuing	Continuing
		Subtotal	48.282	7.578		5.482		6.617		-		6.617	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	WR	NUWC : Newport, RI	5.882	0.887	Oct 2013	0.291	Oct 2014	0.340	Oct 2015	-		0.340	Continuing	Continuing	Continuing
Development Test & Evaluation	WR	COMOPTEVFOR : Norfolk, VA	0.404	0.148	Oct 2013	0.080	Oct 2014	0.258	Oct 2015	-		0.258	Continuing	Continuing	Continuing
Development Test & Evaluation	C/CPFF	Lockheed Martin : Manassas, VA	0.000	-		0.741	Mar 2015	-		-		-	-	0.741	-
		Subtotal	6.286	1.035		1.112		0.598		-		0.598	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	NAVSEA : Washington, DC	0.406	0.044	Oct 2013	0.042	Oct 2014	0.042	Oct 2015	-		0.042	Continuing	Continuing	Continuing
		Subtotal	0.406	0.044		0.042		0.042		-		0.042	-	-	-

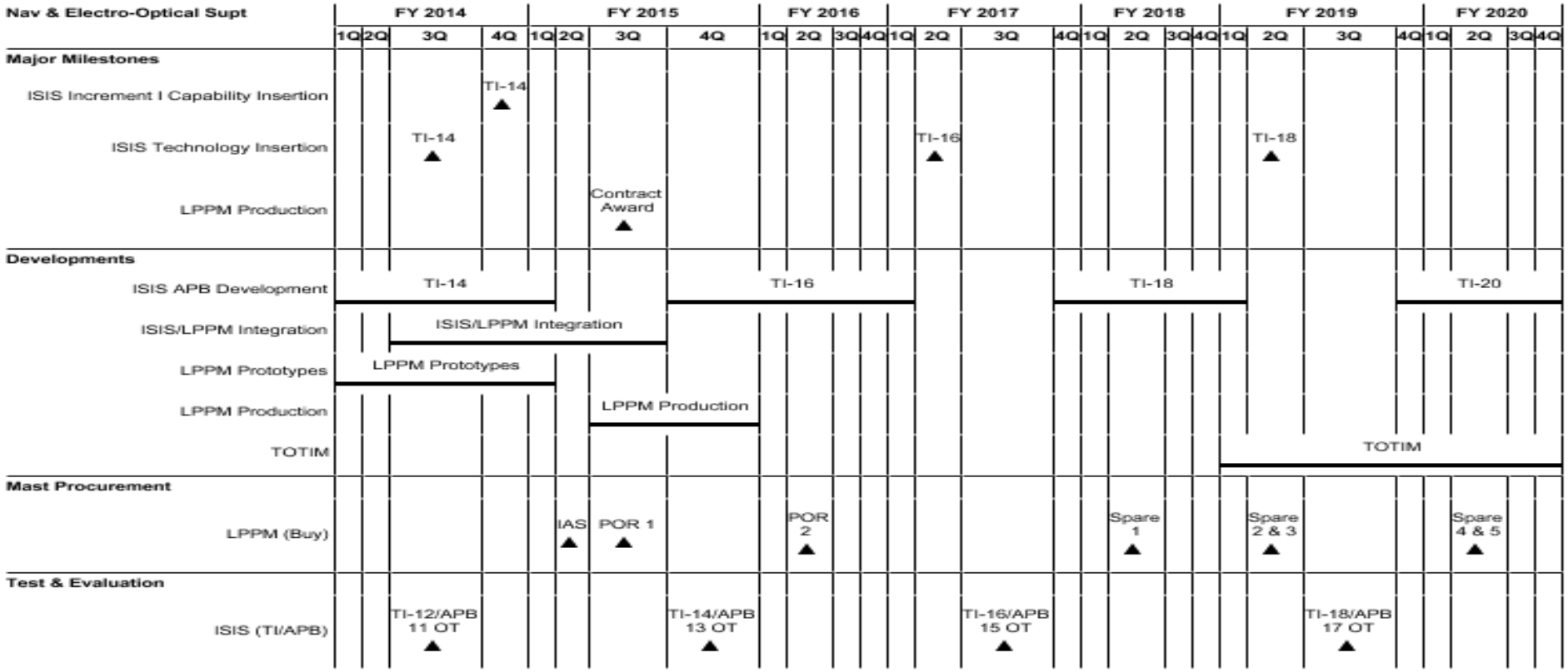
Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604777N / *Navigation/Id System*	Project (Number/Name) 0253 / *Nav & Electro-Optical Supt*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	54.974	8.657		6.636		7.257		-		7.257	-	-	-

Remarks

Hardware Development Performing Activity TBD. Competitive contract planned for June 2015 award.

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 0253 / *Nav & Electro-Optical Supt*



2016DON - 0604777N - 0253

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 0253 / *Nav & Electro-Optical Supt*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Nav & Electro-Optical Supt				
Major Milestones: ISIS Increment I Capability Insertion: ISIS Increment I Capability Insertion Fielding (TI-14)	4	2014	4	2014
Major Milestones: ISIS Technology Insertion: ISIS Technology Insertion Fielding (TI-14)	3	2014	3	2014
Major Milestones: ISIS Technology Insertion: ISIS Technology Insertion Fielding (TI-16)	2	2017	2	2017
Major Milestones: ISIS Technology Insertion: ISIS Technology Insertion Fielding (TI-18)	2	2019	2	2019
Major Milestones: LPPM Production: Contract Award	3	2015	3	2015
Developments: ISIS APB Development: Development: ISIS TI-14	1	2014	1	2015
Developments: ISIS APB Development: Development: ISIS TI-16	4	2015	1	2017
Developments: ISIS APB Development: Developments: ISIS TI-18	4	2017	1	2019
Developments: ISIS APB Development: Developments: ISIS TI-20	4	2019	4	2020
Developments: ISIS/LPPM Integration: ISIS/LPPM Integration	3	2014	3	2015
Developments: LPPM Prototypes: LPPM Protoypes	1	2014	1	2015
Developments: LPPM Production: LPPM Production	3	2015	4	2015
Developments: TOTIM: TOTIM	1	2019	4	2020
Mast Procurement: LPPM (Buy): IAS	2	2015	2	2015
Mast Procurement: LPPM (Buy): POR 1	3	2015	3	2015
Mast Procurement: LPPM (Buy): POR 2	2	2016	2	2016
Mast Procurement: LPPM (Buy): Spare 1	2	2018	2	2018
Mast Procurement: LPPM (Buy): Spare 2 & 3	2	2019	2	2019
Mast Procurement: LPPM (Buy): Spare 4 & 5	2	2020	2	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 0253 / *Nav & Electro-Optical Supt*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Test & Evaluation: ISIS (TI/APB): ISIS Test & Evaluation - ISIS TI-12/APB 11 OT	3	2014	3	2014
Test & Evaluation: ISIS (TI/APB): Test & Evaluation - ISIS TI-14/APB 13 OT	4	2015	4	2015
Test & Evaluation: ISIS (TI/APB): Test & Evaluation - ISIS TI-16/APB 15 OT	3	2017	3	2017
Test & Evaluation: ISIS (TI/APB): Test & Evaluation - ISIS TI-18/APB 17 OT	3	2019	3	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604777N / *Navigation/Id System*	Project (Number/Name) 0676 / *Improve ID Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0676: *Improve ID Development*	29.958	2.277	1.612	5.404	-	5.404	5.432	2.338	2.395	2.448	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Reliable and secure navigation and positive identification (ID) systems are essential elements of battle management in the naval environment. In addition to providing platform identification for weapons employment, the Navy requires secure, jam resistant Identification Friend or Foe (IFF) systems for battle group air defense management and Air Traffic Control (ATC). The Improved ID Development project addresses the Mark XIIA Mode 5 and Mode S upgrades to the existing AN/UPX-29(V) Mark XII family of systems that is Joint and North Atlantic Treaty Organization interoperable. The AN/UPX-29(V) Interrogator System is comprised of the Interrogator Set AN/UPX-24(V), OE-120/UPX Antenna Group, and Mark XII or Mark XIIA equipment such as AN/UPX-37, AN/UPX-41(C) or AN/UPX-45(C) Digital Interrogators and associated equipment. Additionally the Improved ID Development project may include product improvements designed to be installed through upgrade and deficiency correction studies, which in turn become engineering changes to other IFF solutions.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: AN/UPX-29 (V) - OE-120/UPX Antenna Tech Refresh	1.180	1.208	4.457	-	4.457
Articles:	-	-	-	-	-
Description: Engineering and integration development for antenna group OE-120/UPX antenna tech refresh. Develop design studies and Analysis of Alternatives, draft specifications, and perform system development and integration efforts and support mission requirements, to include engineering investigations and Engineering Change Proposal development to support mission readiness for IFF systems. ***FY 2014 Accomplishments:*** Address OE-120/UPX obsolescence issues as required. Integration and testing of antenna phase shifter and power supply modules. ***FY 2015 Plans:*** Address OE-120/UPX obsolescence issues and production line updates. ***FY 2016 Base Plans:*** Conduct Systems Engineering Technical Reviews for OE-120/UPX obsolescence issues and production line updates. ***FY 2016 OCO Plans:*** N/A					
Title: Mark XIIA Mode 5 and Mode S Improvement for AN/UPX-29(V)	1.022	0.244	0.784	-	0.784

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 0676 / *Improve ID Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
Description: Engineering, development, and integration of improvements to Mark XIIA Shipboard Identification Friend or Foe (IFF) Systems, including, but not limited to the AN/UPX-29(V) Interrogator System, which is comprised of the Interrogator Set AN/UPX-24(V), OE-120()/UPX Antenna Group, and Mark XII or Mark XIIA equipment such as AN/UPX-37, AN/UPX-41(C) or AN/UPX-45(C) Digital Interrogators. Funds development and integration of Mark XIIA Mode 5 and Mode Select (S) Improvements to the AN/UPX-29(V) systems on CG47, DDG51, LHD1, LPD17, LHA6, and CVN68, CVN78, and future ship classes. Correct software and performance deficiencies from Integrated Test and Operational Test, Aegis, and other Combat System Integration events to support Combat System integration with Aegis Weapon Systems (AWS), Ship Self Defense System (SSDS), Advanced Combat Direction System (ACDS), or Air Traffic Control (ATC) Systems using Mark XIIA equipment to include engineering investigations, Engineering Change Proposal (ECP) development, and testing. Provides core Integrated Logistics Support (ILS) documentation; formalizes hardware/software configuration: finalizes technical/design data, resolves testing anomalies, and integrates with shipboard training systems. ***FY 2014 Accomplishments:*** AIMS Testing for AN/UPX-24(V) Software Version 2.1.3. Conducted engineering investigation for AN/UPX-24(V) Software Version 2.1.3 Aegis Integration Event Test Observation report. ***FY 2015 Plans:*** Evaluate software re-host with AN/UPX-24(V) technical refresh, new system processors against emerging AWS and SSDS combat systems. Support follow-on test and evaluation of Mode 5 and Mode S capability on new ship classes/flights, in service combat systems or ATC system capability updates and technology insertion cycles. ***FY 2016 Base Plans:*** Continue to evaluate AN/UPX-29(V) System performance and capabilities against emerging AWS, ACDS, SSDS and ATC System configurations. Support follow-on test and evaluation of Mode 5 and Mode S capability on new ship classes/flights. In FY16, the increase in costs is required to fund the land based test sites to conduct test and evaluation of the Mode (S) Interrogation software for the Aegis Combat Baseline (ACB16). This testing is required in order to begin installs on the DDG class in FY18. Ship interrogators require this critical safety capability to accurately identify and discern civilian versus military aircraft. ***FY 2016 OCO Plans:*** N/A					
Title: AN/UPX-29(V) Management Support	0.075	0.160	0.163	-	0.163
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 0676 / *Improve ID Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Engineering and Program Management of the AN/UPX 29 (V). Perform system integration efforts. ***FY 2014 Accomplishments:*** Manage engineering assessments/evaluations/development efforts that provide resolution to engineering investigations and obsolescence issues. ***FY 2015 Plans:*** Manage engineering assessments/evaluations/development efforts that provide resolution to engineering investigations and obsolescence issues. ***FY 2016 Base Plans:*** Manage engineering assessments/evaluations/development efforts that provide resolution to engineering investigations and obsolescence issues. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	2.277	1.612	5.404	-	5.404

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2851: *Identification Systems*	34.818	28.543	29.676	-	29.676	23.006	27.001	28.964	29.572	Continuing	Continuing

Remarks

D. Acquisition Strategy

The acquisition strategy is to develop Mode 5 Engineering Change Proposals for modern Mark XII Identification Friend or Foe (IFF) equipment and integrate into all Navy Combat Weapons systems platforms and augment the Navy's Cooperative Identification Capability to include Mode 5.

E. Performance Metrics

Achieve Full Rate Production Decision and Initial Operational Capability.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604777N / *Navigation/Id System*	Project (Number/Name) 0676 / *Improve ID Development*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	NAWCAD : St Inigoes, MD	7.715	1.180	Nov 2013	1.208	Nov 2014	1.257	Nov 2015	-		1.257	Continuing	Continuing	Continuing
Ship Integration	WR	NAWCAD : St Inigoes, MD	2.304	0.158	Nov 2013	-		0.129	Nov 2015	-		0.129	-	2.591	-
Systems Engineering	WR	NAWCAD : St Inigoes, MD	5.559	0.426	Nov 2013	0.244	Nov 2014	0.325	Nov 2015	-		0.325	-	6.554	-
OE-120 Tech Refresh	SS/FFP	BAE : Nashua, NY	0.000	-		-		3.200	Nov 2015	-		3.200	7.800	11.000	11.000
		Subtotal	15.578	1.764		1.452		4.911		-		4.911	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Configuration Management	WR	NAWCAD : St Inigoes, MD	0.169	-		-		-		-		-	-	0.169	-
ILS	WR	NAWCAD : St Inigoes, MD	2.486	0.061	Nov 2013	-		0.066	Nov 2015	-		0.066	-	2.613	-
Software Development	WR	NAWCAD : St Inigoes, MD	5.367	0.168	Nov 2013	-		0.172	Nov 2015	-		0.172	-	5.707	-
Technical Data	WR	NAWCAD : St Inigoes, MD	1.665	0.209	Nov 2013	-		0.088	Nov 2015	-		0.088	-	1.962	-
Training	WR	NAWCAD : St Inigoes, MD	0.200	-		-		-		-		-	-	0.200	-
		Subtotal	9.887	0.438		-		0.326		-		0.326	-	10.651	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWCAD : St Inigoes, MD	0.500	-		-		-		-		-	-	0.500	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 0676 / *Improve ID Development*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	WR	NAWCAD : St Inigoes, MD	1.328	-		-		-		-		-	-	1.328	-
Test Assets	WR	NAWCAD : St Inigoes, MD	0.731	-		-		-		-		-	-	0.731	-
		Subtotal	2.559	-		-		-		-		-	-	2.559	-

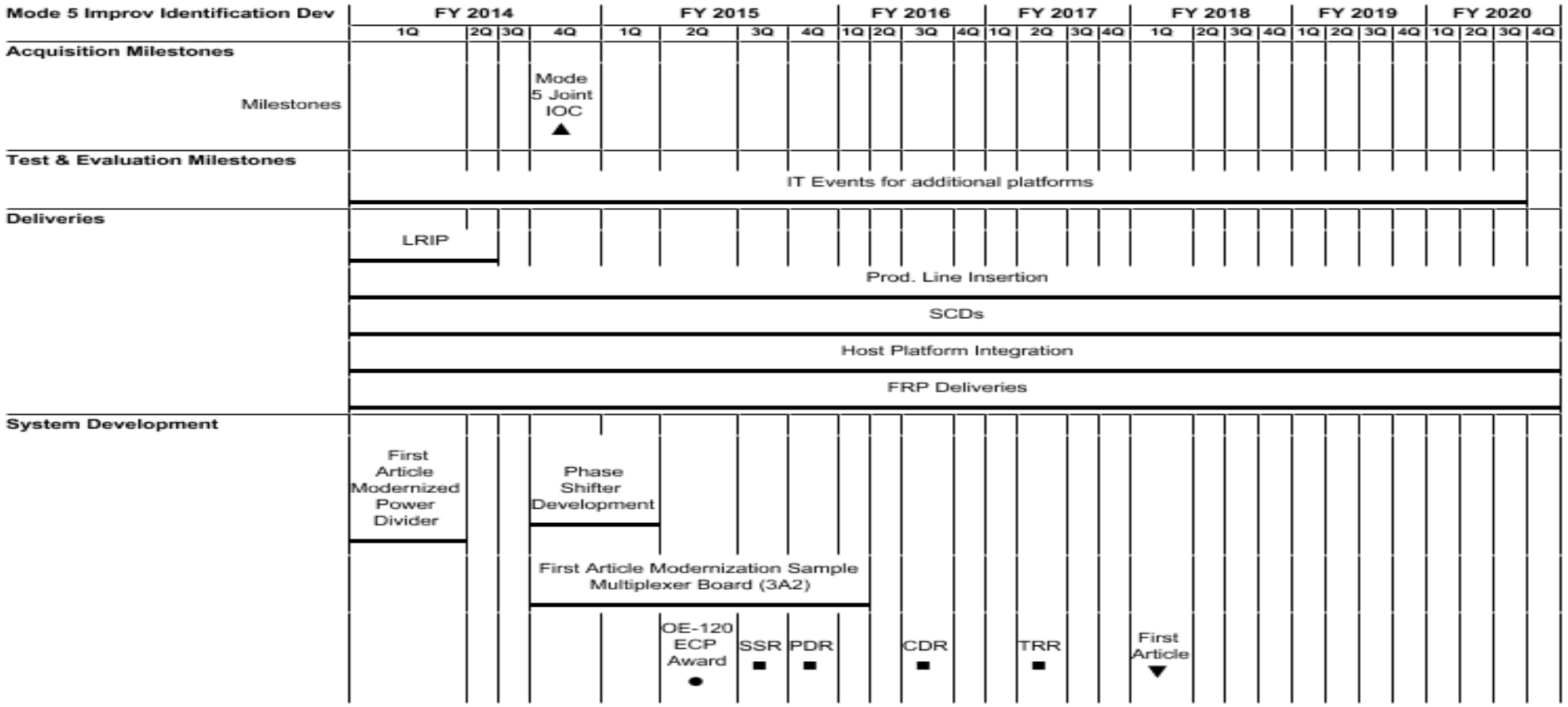
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPFF	American Electronics : California, MD	1.690	0.075	Nov 2013	0.160	Nov 2014	0.167	Nov 2015	-		0.167	-	2.092	2.092
Engineering Support	WR	NAWCAD : PAX River, MD	0.244	-		-		-		-		-	-	0.244	-
		Subtotal	1.934	0.075		0.160		0.167		-		0.167	-	2.336	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	29.958	2.277		1.612		5.404		-		5.404	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 0676 / *Improve ID Development*



2016PB - 0604777N - 0676

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 0676 / *Improve ID Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Mode 5 Improv Identification Dev				
Acquisition Milestones: Milestones: Mode 5 - Joint IOC	4	2014	4	2014
Test & Evaluation Milestones: IT Events for additional platforms	1	2014	3	2020
Deliveries: Mode 5 - Low-Rate Initial Production Deliveries (DI,CXP) (OPN, APN5, RDTEN)	1	2014	2	2014
Deliveries: Mode 5 - Production Line Insertion	1	2014	4	2020
Deliveries: Mode 5 - Prepare and Evaluate ECPs/SCDs	1	2014	4	2020
Deliveries: Mode 5 - Host Platform Integrations	1	2014	4	2020
Deliveries: Mode 5 - FRP Deliveries	1	2014	4	2020
System Development: First Article Modernized Power Divider	1	2014	1	2014
System Development: Phase Shifter Development	4	2014	1	2015
System Development: First Article Modernization of Phase Shifter	4	2014	1	2016
System Development: OE-120 ECP Award	2	2015	2	2015
System Development: SSR	3	2015	3	2015
System Development: PDR	4	2015	4	2015
System Development: CDR	3	2016	3	2016
System Development: TRR	2	2017	2	2017
System Development: OE-120 ECP First Article Delivery	1	2018	1	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
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COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
0921: *NAVSTAR GPS Equipment*	999.997	16.104	18.011	17.159	-	17.159	18.653	18.623	18.830	19.222	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Navigation Satellite Timing & Ranging (NAVSTAR) Global Positioning System (GPS) project (0921) is a space-based positioning, navigation, and timing (PNT) system that provides authorized users with secure, worldwide, all weather, three dimensional position, velocity, and precise time data. Research, Development, Testing and Evaluation (RDT&E) funds are used to perform all the non-recurring GPS Surface Ship, Submarine and Aircraft Development, Integration, and Testing efforts. GPS continues to be integrated in all DoD platforms and the development of enhanced GPS is a national security priority.

The Naval Research Advisory Committee (NRAC) GPS Vulnerability Study Panel assessed the Navy's GPS Vulnerabilities and recommended specific actions to resolve serious issues to ensure the continued availability of GPS information in a high risk hostile jamming environment. As a result, the Navy Enhanced GPS User Equipment Operational Requirement Document (ORD) was drafted to address operational requirements. NAVWAR's mission is to provide continued access to GPS information in a denied environment. RDT&E continues to support platform integration requirements, Developmental Test/Operational Test (DT/OT), the Navy's development of a smaller Anti-Jam (AJ) antenna and a conformal low-observable AJ antenna for aircraft with unique requirements, and new technology AJ solutions for submarines.

Two similar but separate ACAT III programs have been established and have become the Navy's Air and Sea Navigation Warfare (NAVWAR) programs. The Sea NAVWAR program is executed in two increments. Increment 1 is GPS Antenna System (GAS-1). Increment 2 is Advanced Digital Antenna Production (ADAP). The purpose of Increments 1 and 2 is to integrate Anti-Jam (AJ) antennas on surface platforms. The Sea NAVWAR program will continue research of viability and development of a smaller ADAP variant referred to as the Multi-Platform Anti-Jam GPS Navigation Antenna (MAGNA) for surface ships. The program continues to support the Submarine Anti-Jam GPS Enhancement (SAGE) antenna development integrating AJ capability on submarines for the OE-538 Increment 2 Mast program. The Air NAVWAR program is a single increment with GAS-1, ADAP, and other efforts continuing. The Capability Production Document for Sea NAVWAR Increment 2 (12/08) was approved to support the ADAP production and procurement.

The Global Position System (GPS)- based Positioning, Navigation, and Timing (PNT) Service (GPNTS) system is being developed to serve as the primary PNT system for the Navy. GPNTS will backfit current PNT/GPS systems as well as serve as a forward fit for new platforms. GPNTS provides precise Position, Navigation, and Time (PNT) data required for many combat, weapons, command, control, communications, navigation, and other systems, as well as providing the time synchronization critical to the network environments.

GPNTS will provide more robust and secure GPS/PNT capabilities than is currently in the Fleet. The system will provide the capability to migrate non-real time GPS data toward a Common Computing Environment (CCE) such as Consolidated Afloat Networks Enterprise Services (CANES), and provide a path for the integration of advanced navigation systems and sensors. GPNTS supports Anti-Access/Area of Denial (A2AD) by providing Assured Positioning, Navigation and Timing (A-PNT) capability to C4ISR and combat systems in standalone and networked architectures throughout the air and maritime domains. GPNTS will support and provide

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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input to Joint Aerial Layer Network-Maritime (JALN-M). JALN-M is the Navy implementation of the JALN architecture which provides assured communications in any environment, especially A2AD.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Air Navigation Warfare (NAVWAR)	2.084	2.649	2.788	-	2.788
Articles:	-	-	-	-	-

Description: Overall program efforts include investigation of emerging technologies through study, development and associated testing for feasibility of program insertion.

FY 2014 Accomplishments:
Assisted other air platforms with integration of anti-jam (AJ) capability to include Unmanned Air Systems (UAS) and weapons. Investigated assured Positioning, Navigation and Timing (PNT) options for Naval aircraft. Continued to provide Global Positioning System (GPS) Modernization Navy unique requirements to GPS Directorate. Continued to coordinate GPS Modernization efforts with other programs and DoD services to reduce impacts to platform navigation systems. Continued to keep the Fleet apprised of GPS Enterprise Selective Availability Anti-Spoofing Module (SAASM) and Architecture Evolution Plan (AEP) developments. Participated in joint NAVWAR Memorandum Of Understanding (MOU) initiatives with Canada, United Kingdom and Australia including cooperative UAS NAVWAR development

FY 2015 Plans:
Continue to assist other air platforms with integration of AJ capability to include UAS and weapons. Continue assured PNT efforts by working with Navy Air platforms on navigation requirements and Capability Development Document (CDD) development. Continue to provide GPS Modernization Navy unique requirements to GPS Directorate. Continue to coordinate GPS Modernization efforts with other programs and DoD services to reduce impacts to platform navigation systems. Continue to assist the Fleet with GPS Enterprise SAASM and AEP developments. Participate in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

FY 2016 Base Plans:
Continue to assist other air platforms with integration of AJ capability to include UAS and weapons. Conduct demonstrations of small anti-jam variants on multiple platforms. Continue assured PNT efforts. Continue to provide GPS Modernization Navy unique requirements to GPS Directorate. Continue to coordinate GPS Modernization efforts with other programs and DoD services to reduce impacts to platform navigation systems. Continue to assist the Fleet with GPS Enterprise SAASM and AEP developments. Participate in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.

FY 2016 OCO Plans:

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Sea Navigation Warfare (NAVWAR)	1.910	1.212	6.753	-	6.753
Articles:	-	-	-	-	-
Description: Overall program efforts include investigation of emerging technologies through study, development, and associated testing for feasibility of program insertion. ***FY 2014 Accomplishments:*** Increment 2: Completed Submarine Anti-Jam Global Positioning System (GPS) Enhancement (SAGE) development and delivery of SAGE prototypes. Conducted SAGE Development Test, and performance and environmental testing. Provided GPS AJ antenna programmatic and technical support. Initiated market research on the viability of an alternative small anti-jam antenna. Initiated systems engineering efforts on the development of a smaller Advanced Digital Antenna Production (ADAP) variant, the Multi-Platform Anti-Jam GPS Navigation Antenna (MAGNA). ***FY 2015 Plans:*** Increment 2: Conduct ADAP Integrated Logistics Assessment (ILA). Continue GPS AJ programmatic and technical support of SAGE Production Representative Article (PRA) development and integration efforts into OE-538 Increment 2 mast. Continue research and systems engineering efforts on the development of a smaller ADAP variant, MAGNA. Initiate acquisition efforts in support of the development and testing of MAGNA. Complete Technical Requirements Document (TRD). ***FY 2016 Base Plans:*** Increment 2: Continue GPS anti-jam programmatic and technical support of SAGE Production Representative Article (PRA) development and integration efforts into OE-538 Increment 2 mast. Continue MAGNA acquisition efforts. Initiate test and evaluation efforts of the MAGNA Development Test/Operational Test (DT/OT). ***FY 2016 OCO Plans:*** N/A					
Title: Global Positioning System (GPS) - Based Positioning, Navigation and Timing (PNT) Service (GPNTS)	12.110	14.150	7.618	-	7.618
Articles:	-	-	-	-	-
Description: Overall program efforts include investigation of emerging technologies through study, development and associated testing for feasibility of program insertion. ***FY 2014 Accomplishments:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Participated in and provided formal Government witnessing on the following contractor developmental test activities; System Qualification testing (SQT), Developmental Verification Testing (DVT), Functional Qualification Testing (FQT), System Integration Testing (SIT), and various regression test events. Completed the Independent Verification and Validation (IV&V) plan for Government testing on the Engineering Development Models (EDMs). Obtained final approval on the Integrated Evaluation Framework (IEF) from COMOPTEVFOR and updated the program's Test and Evaluation Master Plan (TEMP). Completed an analysis of the Government test facilities for IV&V and Developmental Testing (DT) to determine certification requirements, procured hardware to support lab testing. Updated the programs Integrated Master Schedule (IMS), Cost Analysis Requirements Document (CARD), and the Program Life Cycle Cost Estimate (PLCCE). Completed the Logistics Provisioning Conference kick off. Completed monthly Earned Value Management (EVM) analysis and reporting.					
FY 2015 Plans: Complete Government witnessing of the contractor's Functional Configuration Audit (FCA) and Factory Acceptance Testing (FAT) on the EDMs. Finalize laboratory preparations for the conduct of Independent Verification and Validation (IV&V) and Developmental Testing (DT). Complete laborabory certification requests with COMOPTEVFOR. Complete test report for IV&V. Complete staff training on the EDMs. Complete the program's Provisioning Conference with NAVICP. Complete the Test and Evaluation Master Plan (TEMP) and the Capabilities Production Document (CPD). Commence updates on all statutory and regulatory acquisition documentation to support a Milestone (MS) C decision. Continue to conduct monthly Earned Value Management (EVM) analysis and reporting. Complete installation Readiness Drawings (IRDs) for all configurations. Complete a program Test Readiness Review (TRR) for IV&V and DT events. Efforts will include development of Positioning, Navigation and Timing (PNT) requirements in support of a Joint Aerial Layer Network-Maritime (JALN-M) demonstration in FY18.					
FY 2016 Base Plans: Complete Developmental Testing (DT) with COMOPTEVFOR. Efforts will include laboratory set up and installation, staff training, Government witnessing of the event, and reporting. Complete AEGIS Combat Certification testing and begin efforts for Environmental Qualification Testing. Complete all statutory and regulatory acquisition documentation in support of a MS C decision. Begin the Independent Logistics Assessment (ILA) for a MS C decision. Initiate Assured Integrated PNT Element (AIPE) component integration and testing efforts utilizing test assets. Integrate Military Global Positioning System (GPS) User Equipment into the GPNTS system. Continue to develop installation documentation such as Installation Readiness Drawings (IRDs), Ship Installation Drawings					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
(SIDs), and Engineering Change Orders (ECOs). Conduct Operational Acceptance (OA). Support efforts to obtain required Information Assurance documentation in order to conduct testing and evaluation events. Continue efforts that will include development of Positioning, Navigation and Timing (PNT) requirements in support of a Joint Aerial Layer Network-Maritime (JALN-M) demonstration in FY18. Participate in integration and testing of JALN-M Pod components or sub-systems. Support planning and execution of a JALN-M demonstration. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	16.104	18.011	17.159	-	17.159

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN / 2657: *NAVSTAR GPS Receivers (Space)*	11.765	15.232	12.359	-	12.359	15.445	18.721	21.025	21.466	Continuing	Continuing
• APN / 0577: *Common Avionics*	4.269	3.060	7.849	-	7.849	7.985	8.090	8.240	8.405	Continuing	Continuing

Remarks

D. Acquisition Strategy

Navigation Warfare (NAVWAR): The Sea NAVWAR program is executed in two increments and supports integration of the Submarine Anti-Jam GPS Enhancement (SAGE). Increment 1 has been completed. Increment 2 is Advanced Digital Antenna Production (ADAP). The purpose of Increments 1 and 2 is to integrate anti-jam (AJ) antennas on surface platforms. The Sea NAVWAR program will continue research and development of a small form factor Multi-Platform Anti-Jam GPS Navigation Antenna (MAGNA) for surface ships and continue to support the SAGE antenna development integrating AJ capability on submarines for the OE-538 Increment 2 Mast program. The Air NAVWAR program is executed in a single increment to integrate on air platforms, and develop a smaller AJ antenna and a conformal low-observable AJ antenna for aircraft with unique requirements.

GPNTS: The GPS-based Positioning Navigation and Timing (GPNTS) program will develop, acquire, and field the GPNTS, a scalable Selective Availability/Anti-Spoofing Module (SAASM) GPS-based service oriented architecture Positioning, Navigation, and Timing (PNT) system that will provide an open, extensible, modernized replacement for the current fleet PNT systems, while targeting Common Computing Environments (CCE). GPNTS will also integrate Military GPS User Equipment (MGUE) that will allow the U.S. Navy to leverage current and future technology development provided by the GPS Wing, formerly known as the GPS Joint Program Office (JPO). GPNTS will operate at the UNCLASSIFIED level, and can provide the PNT data to higher classified systems.

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E. Performance Metrics

The primary metric used for the Air NAVWAR Program is acceptable system performance in a GPS denied environment which is defined by classified values of jamming to signal ratio (J/S) identified in the Enhanced GPS User Equipment (UE) Operational Requirements Document (ORD) 562-06-00 of 7 June 2000. The performance goal is met if acceptable system performance is achieved in the threshold J/S environment cited in the classified appendix.

The primary metric used for the Sea NAVWAR is acceptable system performance in a GPS denial environment defined by classified values of jamming to signal ratio (J/S) identified in the Sea NAVWAR Increment 2 Capabilities Production Document (CPD) (12/08). The performance goal is met if acceptable system performance is achieved in the threshold J/S environment cited in the CPD.

The primary metrics used for the GPNTS is successful completion of the system development as outlined in the GPNTS Technical Requirements Document (TRD).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	WR	SSC PAC/NAWC : San Diego/China Lake, Pax River	275.775	-		-		-		-		-	-	275.775	-
Product Development	WR	SSC PAC : San Diego	72.498	0.590	Oct 2013	0.680	Oct 2014	0.684	Oct 2015	-		0.684	Continuing	Continuing	Continuing
Product Dev (other in house)	WR	SSC PAC : San Diego	438.896	-		-		-		-		-	-	438.896	-
Systems Engineering	WR	Govt/Contractor : San Diego	21.212	0.216	Jan 2014	0.302	Jan 2015	0.304	Jan 2016	-		0.304	Continuing	Continuing	Continuing
Product Development	C/CPIF	Raytheon : San Diego	20.318	6.965	Jan 2014	7.721	Jan 2015	6.814	Jan 2016	-		6.814	Continuing	Continuing	Continuing
Product Development	C/CPFF	Boeing : St Louis	15.445	-		-		-		-		-	-	15.445	-
		Subtotal	844.144	7.771		8.703		7.802		-		7.802	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	SSC PAC/NAWC : San Diego/Pax River/China Lake	12.710	1.683	Dec 2013	2.424	Dec 2014	2.437	Dec 2015	-		2.437	Continuing	Continuing	Continuing
Software Development	WR	SSC PAC/NAWC : San Diego/Pax River/ China Lake	10.450	-		-		-		-		-	-	10.450	-
Integrated Logistics Support	WR	SSC PAC/NAWC : San Diego/Pax River	7.862	0.340	Dec 2013	0.209	Dec 2014	0.210	Dec 2015	-		0.210	Continuing	Continuing	Continuing
Training Development	WR	SSC PAC/NAWC : San Diego/Pax River	5.390	0.060	Dec 2013	0.054	Dec 2014	0.054	Dec 2015	-		0.054	Continuing	Continuing	Continuing
Technical Data	WR	Platform PMOs : San Diego	4.650	-		-		-		-		-	-	4.650	-
Technical Data	C/CPAF	BAH : San Diego, Pax River	0.496	-		-		-		-		-	-	0.496	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Data	WR	SSC PAC : San Diego	2.050	0.020	Dec 2013	0.021	Dec 2014	0.021	Dec 2015	-		0.021	Continuing	Continuing	Continuing
Technical Data	WR	NAWC : Pax River	0.448	0.414	Dec 2013	0.378	Dec 2014	0.380	Dec 2015	-		0.380	Continuing	Continuing	Continuing
Technical Data	WR	NAWC : China Lake	0.250	-		-		-		-		-	-	0.250	-
Government Engineering Services	WR	SSC PAC, NAWC : San Diego, China Lake, Pax River	0.000	-		1.405	Jan 2015	1.413	Jan 2016	-		1.413	-	2.818	-
Contract Engineering Services	C/FPAF	BAH : San Diego, Pax River, China Lake	0.000	-		1.889	Jan 2015	1.899	Jan 2016	-		1.899	-	3.788	-
		Subtotal	44.306	2.517		6.380		6.414		-		6.414	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	WR	SSC PAC/NAWC PAX : San Diego/Pax River	31.732	0.775	Nov 2013	1.526	Nov 2014	1.515	Nov 2015	-		1.515	Continuing	Continuing	Continuing
Test & Evaluation	C/CPAF	BAH : Pax River	5.276	-		-		-		-		-	-	5.276	-
Test & Evaluation	WR	SSC PAC : San Diego	11.552	-		-		-		-		-	-	11.552	-
Test & Evaluation Platform Testing	WR	SSC PAC : San Diego	32.027	-		-		-		-		-	-	32.027	-
		Subtotal	80.587	0.775		1.526		1.515		-		1.515	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPAF	BAH : Pax River, San Diego	22.841	-		-		-		-		-	-	22.841	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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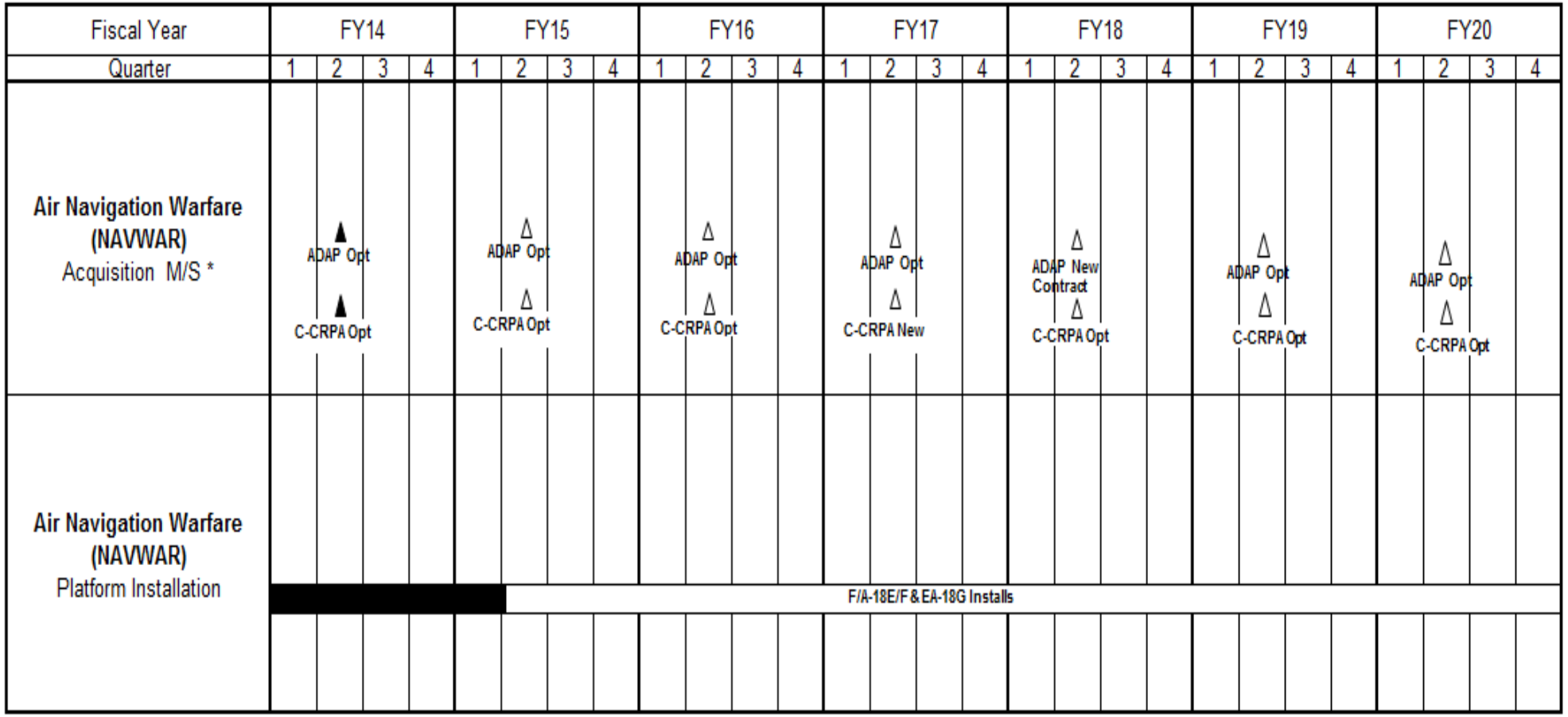
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPAF	BAH : San Diego, Pax River, China Lake	2.818	1.849	Jan 2014	1.402	Jan 2015	1.428	Jan 2016	-		1.428	Continuing	Continuing	Continuing
Contractor Engineering Services	C/CPAF	BAH : San Diego, Pax River, China Lake	1.400	1.814	Jan 2014	-		-		-		-	-	3.214	-
Government Engineering Services	WR	SSC PAC, NAWC : San Diego, China Lake, Pax River	3.901	1.378	Jan 2014	-		-		-		-	-	5.279	-
		Subtotal	30.960	5.041		1.402		1.428		-		1.428	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	999.997	16.104		18.011		17.159		-		17.159	-	-	-

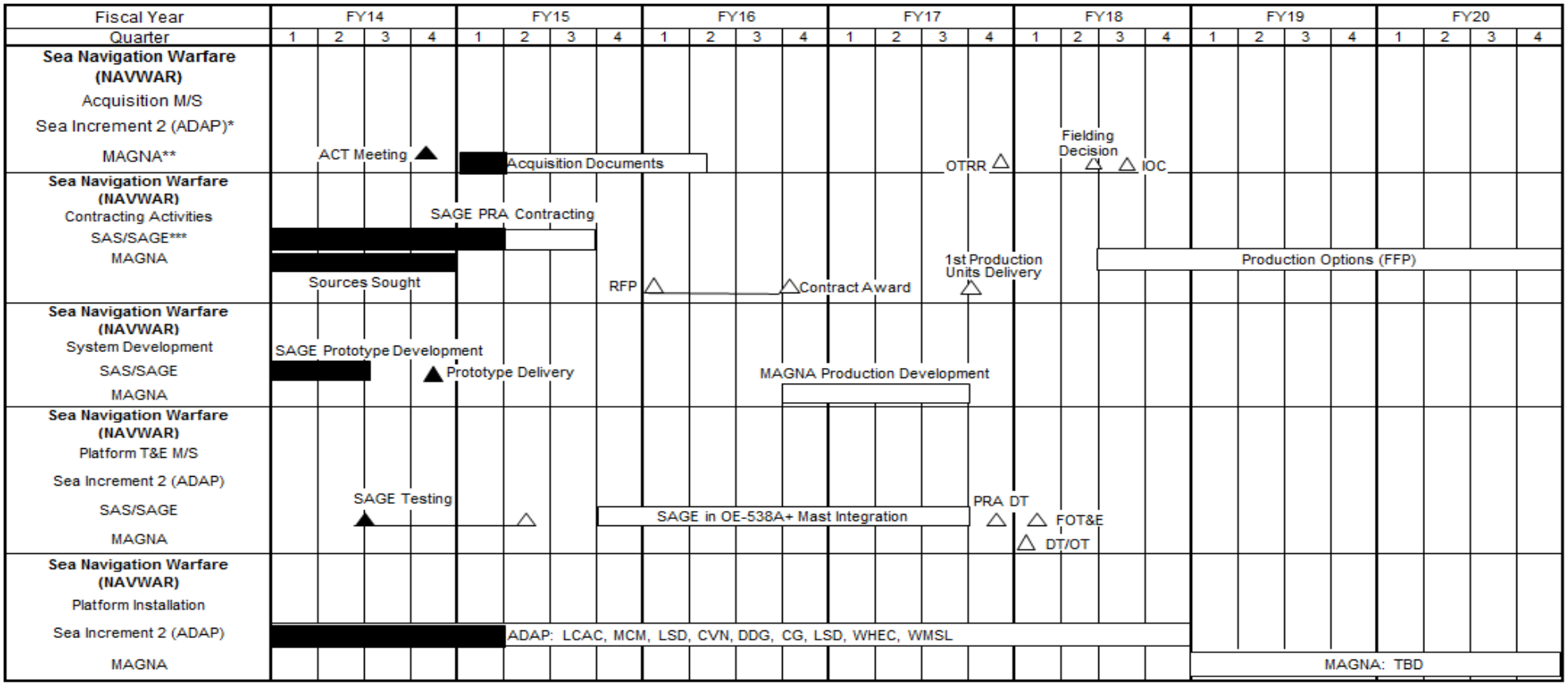
Remarks

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* ADAP (Advanced Digital Antenna Production), C-CRPA (Conformal Controlled Reception Pattern Antenna).

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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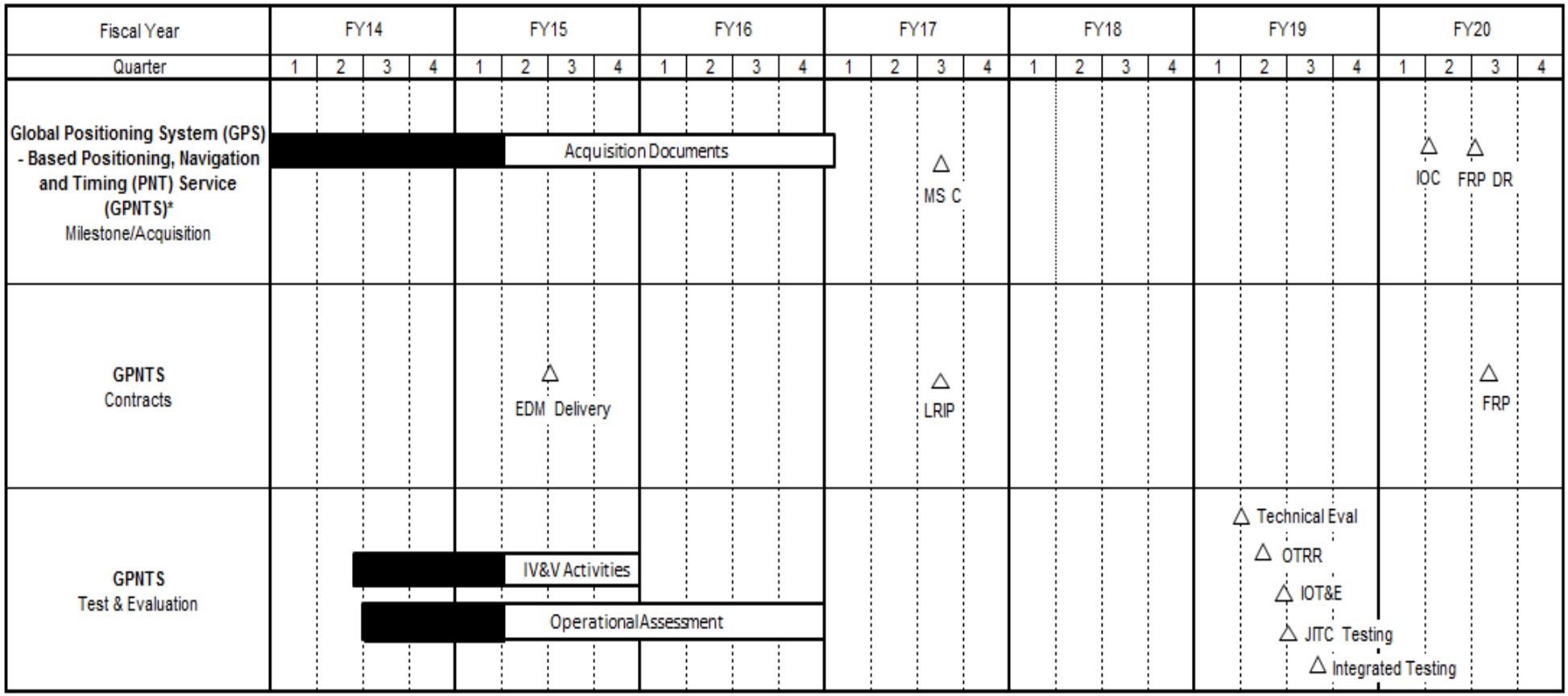


*ADAP is the Advanced Digital Antenna Production program

**MAGNA is the Multi-Platform Anti-Jam GPS Navigation Antenna. It is the proposed engineering change to the ADAP variant.

***SAS/SAGE is the Navy's development of a Small Antenna System (SAS)/Submarine Anti-jam GPS Enhancement (SAGE): Per MDA Merger Decision dated 24 July 2012 , the Sea NAVWAR Increment 3 SAGE transitioned to the OE-538 Increment 2 program. Per updated APB of 7 March 2013 Increment 3 cost, schedule, and performance requirements has been removed from the APB. Sea NAVWAR remains as the Technical Authority for SAGE and is responsible for prototype developments.

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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* Global Positioning System (GPS) Positioning, Navigation, Timing (PNT) Service GPNTS will be a single Program of Record (POR), which will receive, process, and distribute three dimensional position, velocity, acceleration, time, and frequency in the formats required by shipboard user systems. GPNTS will be scalable to accommodate back fit of current legacy PNT systems as well as forward fit of new platforms.

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 0921 / *NAVSTAR GPS Equipment*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0921				
Air NAVWAR: Air Navigation ADAP Option 2014	2	2014	2	2014
Air NAVWAR: Air Navigation C-CRPA Option 2014	2	2014	2	2014
Air NAVWAR: Air Navigation ADAP Option 2015	2	2015	2	2015
Air NAVWAR: Air Navigation C-CRPA Option 2015	2	2015	2	2015
Air NAVWAR: Air Navigation ADAP Option 2016	2	2016	2	2016
Air NAVWAR: Air Navigation C-CRPA Option 2016	2	2016	2	2016
Air NAVWAR: Air Navigation ADAP Option 2017	2	2017	2	2017
Air NAVWAR: Air Navigation C-CRPA Option 2017	2	2017	2	2017
Air NAVWAR: Air Navigation ADAP Option 2018	2	2018	2	2018
Air NAVWAR: Air Navigation C-CRPA Option 2018	2	2018	2	2018
Air NAVWAR: Air Navigation ADAP Option 2019	2	2019	2	2019
Air NAVWAR: Air Navigation C-CRPA Option 2019	2	2019	2	2019
Air NAVWAR: Air Navigation ADAP Option 2020	2	2020	2	2020
Air NAVWAR: Air Navigation C-CRPA Option 2020	2	2020	2	2020
Sea NAVWAR: Sea Navigation (SUB) SAGE Prototype Development	1	2014	3	2014
Sea NAVWAR: Sea Navigation (SUB) SAGE DT	3	2014	2	2015
Sea NAVWAR: Sea Navigation (SUB) SAGE Prototype Delivery	4	2014	4	2014
Sea NAVWAR: Sea Navigation (SUB) (MAGNA) Acquisition Doc Dev	1	2015	2	2016
Sea NAVWAR: Sea Navigation (SUB) SAGE / OE-538 Mast Integration	4	2015	3	2017
Sea NAVWAR: Sea Navigation (MAGNA) RFP	1	2016	1	2016
Sea NAVWAR: Sea Navigation (MAGNA) Contract Award	4	2016	4	2016
Sea NAVWAR: Sea Navigation (MAGNA) 1st Unit Delivery	4	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 0921 / *NAVSTAR GPS Equipment*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Sea NAVWAR: Sea Navigation (MAGNA) OTRR	4	2017	4	2017
Sea NAVWAR: Sea Navigation (SUB) SAGE PRA DT	4	2017	4	2017
Sea NAVWAR: Sea Navigation (MAGNA) DT/OT	1	2018	1	2018
Sea NAVWAR: Sea Navigation (SUB) SAGE FOT&E	1	2018	1	2018
Sea NAVWAR: Sea Navigation (MAGNA) Fielding Decision	2	2018	2	2018
Sea NAVWAR: Sea Navigation (MAGNA) IOC	3	2018	3	2018
Sea NAVWAR: Sea Navigation (MAGNA) Production Options (FFP)	3	2018	4	2020
GPS-based PNT Service (GPNTS): GPNTS Acquisition Documents	1	2014	1	2017
GPS-based PNT Service (GPNTS): GPNTS IV&V Activities	2	2014	4	2015
GPS-based PNT Service (GPNTS): GPNTS Operational Assessment	3	2014	4	2016
GPS-based PNT Service (GPNTS): GPNTS EDM Delivery	3	2015	3	2015
GPS-based PNT Service (GPNTS): GPNTS MS C	3	2017	3	2017
GPS-based PNT Service (GPNTS): GPNTS LRIP	3	2017	3	2017
GPS-based PNT Service (GPNTS): GPNTS Tech Eval	2	2019	2	2019
GPS-based PNT Service (GPNTS): GPNTS OTRR	2	2019	2	2019
GPS-based PNT Service (GPNTS): GPNTS IOT&E	2	2019	2	2019
GPS-based PNT Service (GPNTS): GPNTS JITC Testing	3	2019	3	2019
GPS-based PNT Service (GPNTS): GPNTS Testing	3	2019	3	2019
GPS-based PNT Service (GPNTS): GPNTS IOC	2	2020	2	2020
GPS-based PNT Service (GPNTS): GPNTS FRP DR	3	2020	3	2020
GPS-based PNT Service (GPNTS): GPNTS FRP Contract	3	2020	3	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604777N / *Navigation/Id System*	Project (Number/Name) 1253 / *Combat Ident System*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
1253: *Combat Ident System*	163.208	14.697	3.245	2.649	-	2.649	4.351	2.349	1.918	1.957	Continuing	Continuing
Quantity of RDT&E Articles	81	-	1	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

MK XIIA Mode 5 provides improved secure cooperative combat identification via Identification Friend or Foe (IFF). Mode 5 is developed in cooperation with North Atlantic Treaty Organization, with the DoD implementation governed by AIMS 03-1000A and USN requirements defined in ORD # 577-06-01. IFF product improvements are designed to be installed through upgrade and deficiency correction studies, which in turn become engineering changes to IFF interrogators and transponders and their associated cryptographic material.

The Navy Mark XIIA Mode 5 program was approved for entry in Systems Development and Demonstration phase in August 2003 and into the Production and Deployment Phase and Low Rate Initial Production in July 2006, and Full Rate Production July 2012. Joint Requirements Oversight Council Memorandums (047-07 and 122-08) achieved Mode 5 Navy Initial Operational Capability in FY14 and expect Joint Full Operational Capability in 2020.

RDT&E articles include Mode 5 cryptographic modules and associated hardware and software changes for IFF interrogators and transponders, including, but not limited to: AN/APX-123, AN/UPX-41, AN/APX-119, and AN/APX-111 equipment. RDT&E units are required for government and contractor labs to support aircraft and ship integrations, test sites and test aircraft.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Mode 5 prototype hardware, cryptographic module	8.571	0.397	0.890	-	0.890
Articles:	-	-	-	-	-
Description: Develop kits for installation into existing fleet assets including AN/UPX-37/41C Interrogator, AN/APX-118/123 Common Digital Transponder, and AN/APX-111 Combined Interrogator Transponder (CIT) or other interrogator/transponder equipment. Repair and correct deficiencies identified during integration and test. Procure IFF interrogators and transponders, including but not limited to: AN/ UPX-41C, AN/APX-123, AN/APX-119, AN/UPX-24, AN/APX-111(V), cryptographic modules and Mode 5 modification kits to support platform integration and testing. Perform platform integration efforts of Mode 5 equipment for various Type/ Model/Series aircraft.					
FY 2014 Accomplishments: Continue integration of the Mode 5 AN/APX-111 CIT in the F/A-18E/F and EA-18G aircraft.					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 1253 / *Combat Ident System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Finalize integration of the Mode 5 AN/APX-111 CIT in the F/A-18E/F and EA-18G aircraft. ***FY 2016 Base Plans:*** Begin integration of Mode 5 into CH-53K. Integrate Mode 5 into commercially available transponders, reduced form factor assets, including micro cryptographic equipment for various platforms including Unmanned Aircraft Systems. ***FY 2016 OCO Plans:*** N/A					
Title: Mode 5 Systems Engineering and Integrated Logistics Support (ILS)	2.769	1.167	0.370	-	0.370
Articles:	-	-	-	-	-
Description: Performed systems engineering and analysis in support of Mode 5 hardware/software development and engineering change proposals on Identification Friend or Foe (IFF) interrogators and transponders, including but not limited to: AN/UPX-41C Interrogator, AN/APX-123 Common Digital Transponder, AN/APX-119 Transponder, AN/APX-111 Combined Interrogator Transponder, Cryptographic Modules, Mode 5 Engineering Test Equipment, and Mode 5 support equipment. ***FY 2014 Accomplishments:*** Continue systems engineering and logistics efforts for KC-130J and F/A-18E/F and EA-18G. ***FY 2015 Plans:*** Continue systems engineering and logistics efforts for various platforms (including KC-130J aircraft). ***FY 2016 Base Plans:*** Continue systems engineering and logistics efforts for various platforms (including CH-53K and KC-130J aircraft). ***FY 2016 OCO Plans:*** N/A					
Title: Mode 5 Upgrade Developmental Test & Operational Test	3.357	1.681	1.389	-	1.389
Articles:	-	1	-	-	-
Description: Perform Mode 5 integrated and operational test phases for AN/UPX-41C Interrogator, AN/APX-123 Common Transponder, AN/APX-119 Transponder, and AN/APX-111 Combined Interrogator Transponder. ***FY 2014 Accomplishments:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 1253 / *Combat Ident System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Finalize integrated test and conduct follow-on operational testing on the F/A-18E/F and EA-18G of the Mode 5 AN/APX-111 equipment and platform H10 Mission Computer integration software. Finalize integrated testing on E-2D aircraft. ***FY 2015 Plans:*** Procure APX-119 and cryptographic module for the Navy's KC-130J test aircraft and plan for testing. Coordinate and plan for platform integrated testing. Continue to conduct follow-on operational testing on the F/A-18E/F and EA-18G of the Mode 5 AN/APX-111 equipment and platform H10 Mission Computer integration software. Finalize integrated testing on E-2D aircraft. ***FY 2016 Base Plans:*** Continue testing of Mode 5 modified equipment including cryptological devices. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	14.697	3.245	2.649	-	2.649

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2851: *Identification Systems*	34.818	28.543	29.676	-	29.676	23.006	27.001	28.964	29.572	Continuing	Continuing
• APN/0582: *Identification Systems*	38.303	38.880	48.206	-	48.206	51.853	49.925	46.792	47.719	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Acquisition Strategy is to develop Mode 5 Engineering Change Proposals for modern Mark XII Identification Friend or Foe (IFF) equipment or insertion of Mode 5 into other existing equipment and integrate into all Navy Combat Weapons systems platforms and transition the Navy's Cooperative Identification Capability to Mode 5.

E. Performance Metrics

Continue Full Rate Production and achieve Initial Operational Capability in FY 2014. Preform studies and analysis for future road mapping of IFF capability.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604777N / *Navigation/Id System*	Project (Number/Name) 1253 / *Combat Ident System*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Prod Dev Services costs no longer funded in FYDP	Various	Various : Various	43.213	-		-		-		-		-	-	43.213	-
Primary Hardware Development	WR	NAWCWD : China Lake, CA	13.756	3.065	Feb 2014	0.397	Jan 2015	-		-		-	0.294	17.512	-
Primary Hardware Development	Various	Boeing : St Louis, MO	24.920	5.506	Jan 2014	-		-		-		-	4.551	34.977	34.977
Systems Engineering	WR	NAWCAD : PAX River, MD	12.909	1.605	Nov 2013	0.643	Nov 2014	0.220	Nov 2015	-		0.220	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWCAD : St Inigoes, MD	13.772	0.540	Nov 2013	0.439	Nov 2014	0.045	Nov 2015	-		0.045	Continuing	Continuing	Continuing
Primary Hardware Development	Various	L-3 : Waco, TX	0.000	-		-		-		-		-	0.224	0.224	0.224
Primary Hardware Development	Various	Sikorsky : Stratford, CT	0.000	-		-		0.890	Jan 2016	-		0.890	4.386	5.276	-
		Subtotal	108.570	10.716		1.479		1.155		-		1.155	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ILS	Various	Various : Various	4.113	0.624	Nov 2013	0.085	Nov 2014	0.105	Nov 2015	-		0.105	Continuing	Continuing	Continuing
Prior Year Support Services costs no longer funded in FYDP	Various	Various : Various	2.761	-		-		-		-		-	-	2.761	-
		Subtotal	6.874	0.624		0.085		0.105		-		0.105	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 1253 / *Combat Ident System*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental T & E	WR	NAWCAD : PAX River, MD	23.349	3.066	Nov 2013	1.621	Nov 2014	1.389	Nov 2015	-		1.389	7.705	37.130	-
Develop/Operational T & E	WR	COMOPTEVFOR : Norfolk, VA	0.000	0.291	Jan 2014	-		-		-		-	-	0.291	-
Operational T & E	WR	NAWCAD : PAX River, MD	16.623	-		-		-		-		-	-	16.623	-
Test Assets	Various	Various : Various	3.396	-		0.060	Mar 2015	-		-		-	-	3.456	3.456
		Subtotal	43.368	3.357		1.681		1.389		-		1.389	7.705	57.500	-

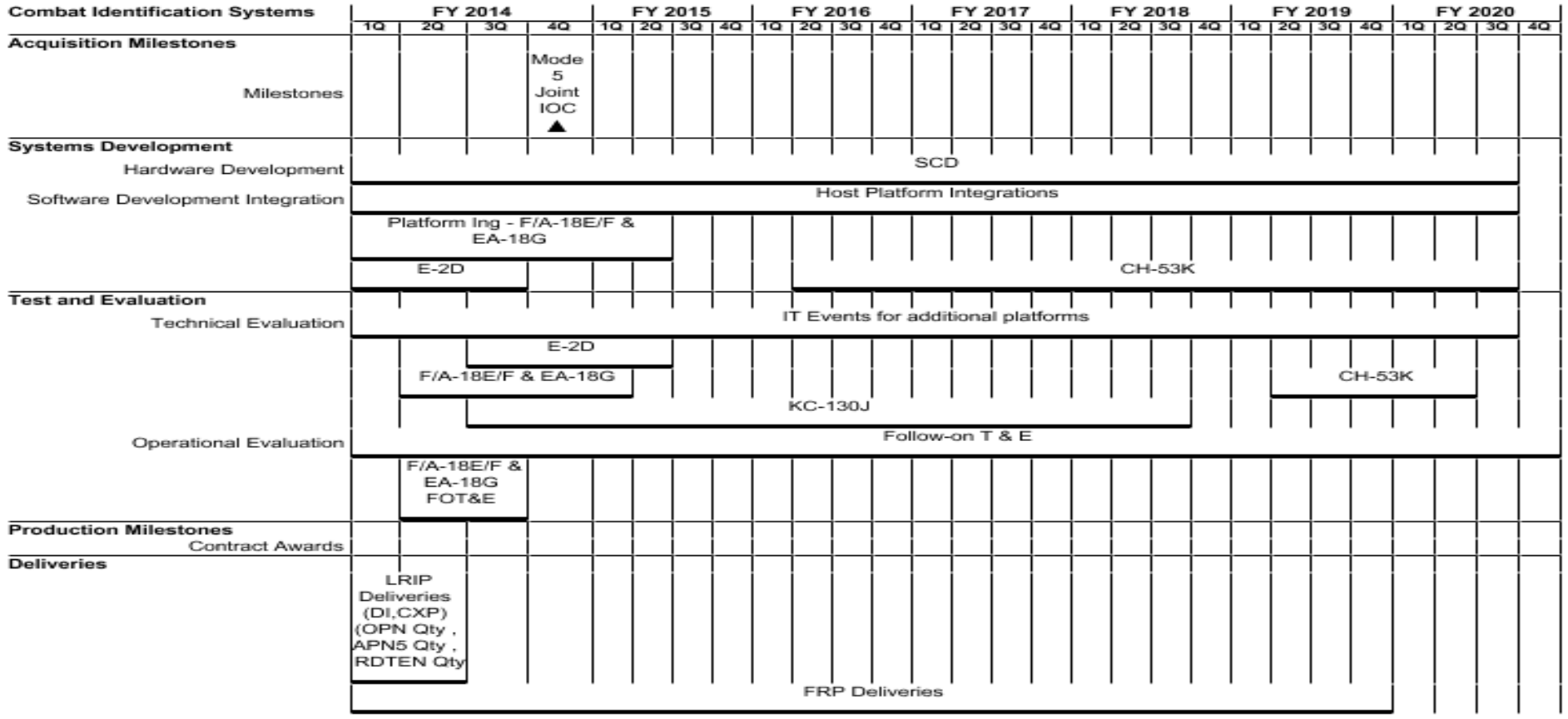
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Mgmt Services costs no longer funded in FYDP	Various	Various : Various	4.396	-		-		-		-		-	-	4.396	-
		Subtotal	4.396	-		-		-		-		-	-	4.396	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	163.208	14.697		3.245		2.649		-		2.649	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 1253 / *Combat Ident System*



2016PB - 0604777N - 1253

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604777N / *Navigation/Id System*	**Project (Number/Name)** 1253 / *Combat Ident System*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Combat Identification Systems				
Acquisition Milestones: Milestones: Mode 5 Joint IOC	4	2014	4	2014
Systems Development: Hardware Development: Prepare & Evaluate ECPs/SCDs	1	2014	3	2020
Systems Development: Software Development Integration: Host Platform Integrations	1	2014	3	2020
Systems Development: Software Development Integration: Platform Intg	1	2014	2	2015
Systems Development: Software Development Integration: E-2D	1	2014	3	2014
Systems Development: Software Development Integration: CH-53K	2	2016	3	2020
Test and Evaluation: Technical Evaluation: IT Events for additional platforms	1	2014	3	2020
Test and Evaluation: Technical Evaluation: E-2D	3	2014	2	2015
Test and Evaluation: Technical Evaluation: F/A-18E/F & EA-18G	2	2014	1	2015
Test and Evaluation: Technical Evaluation: CH-53K	2	2019	2	2020
Test and Evaluation: Technical Evaluation: KC-130J	3	2014	3	2018
Test and Evaluation: Operational Evaluation: Follow-on Test and Evaluation	1	2014	4	2020
Test and Evaluation: Operational Evaluation: F/A-18E/F & EA-18G FOT&E	2	2014	3	2014
Deliveries: Low-Rate Initial Production (LRIP) Deliveries (DI,CXP) (OPN, APN5, RDTEN)	1	2014	2	2014
Deliveries: FRP Deliveries	1	2014	4	2019

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy												Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604800M *I (U)Joint Strike Fighter (JSF) - EMD*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	44,598.298	410.080	499.048	537.901	-	537.901	398.976	87.145	8.014	8.473	-	46,547.935
2262: *Joint Strike Fighter EMD STOVL*	44,598.298	394.248	487.068	505.949	-	505.949	398.976	87.145	8.014	8.473	-	46,488.171
3350: *F-35B Sustainment/ Capability Enhancements*	0.000	14.332	11.980	31.952	-	31.952	-	-	-	-	-	58.264
9999: *Congressional Adds*	0.000	1.500	-	-	-	-	-	-	-	-	-	1.500
MDAP/MAIS Code: 198												

A. Mission Description and Budget Item Justification

The F-35 Lightning II Fighter program is developing a family of highly common, affordable, next generation, multi-role aircraft to meet the needs of the USMC, USN, USAF and international partners. The three variants are the F-35A Conventional Takeoff and Landing (CTOL); F-35B Short Takeoff and Vertical Landing (STOVL); and the F-35C Carrier Variant (CV). Maximum commonality among the variants, consistent with National Disclosure Policy, will minimize life cycle costs. FY2016 continues development and testing of the F-35. As the initial capabilities are being delivered from the System Development and Demonstration (SDD) program, planning for Follow-on Development (FoD) continues. Capability requirements are being matured and FoD planning continues based upon the approved Fifth Generation Fighter Modernization Initial Capabilities Document (ICD), an approved Electronic Warfare ICD, and the results of an OSD Tiger Team Review. FY2016 F-35 FoD activity supports development of Follow-on Development Increment 1 Capability Development Document (CDD). Follow-on Development will provide capability enhancements, required systems upgrades and cost improvements through an incremental acquisition approach.

Additionally, the F-35 JSF Operational Requirements Document (ORD) calls for the F-35A (CTOL) Variant Air Vehicle to have the capabilities and provisions for Dual Capable Aircraft (DCA) operations in the first post SDD block upgrade. DCA refers to the capability to carry and deliver conventional and non-conventional weapons. DCA operation for the F-35A is internal carriage of two B-61s. Due to extensive certification requirements, the DCA capability planning and design will begin in Block 4A and continue through testing and to extensive certification requirements, the DCA capability planning and design will begin in Block 4A and continue through testing and certification in Block 4B.

The United Kingdom, other International Partner nations, and Foreign Military Sales customers are also participants in the JSF program. The program shown here reflects USN, USMC, USAF, and International Partner funding.

Funding at the accomplishment/planned program level is reported as the total of all services and partners as these activities support all aircraft variants.

The SDD budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for USN and USAF use.

FY07: 1 CTOL flight test article

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604800M *I (U)Joint Strike Fighter (JSF) - EMD*

FY08: 1 STOVL flight test article; 1 STOVL ground test article
FY09: 1 STOVL flight test article; 2 CTOL ground test articles
FY10: 6 flight test articles: 3 CTOL, 2 STOVL, 1 CV; 3 ground test articles: 1 STOVL, 2 CV
FY11: 4 flight test articles: 1 CTOL, 1 STOVL, 2 CV
FY13: 1 CV flight test article

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SDD because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	415.727	513.021	596.845	-	596.845
Current President's Budget	410.080	499.048	537.901	-	537.901
Total Adjustments	-5.647	-13.973	-58.944	-	-58.944
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-13.973			
• Reprogrammings	-0.164	-			
• SBIR/STTR Transfer	-5.483	-			
• Rate/Misc Adjustments	-	-	-58.944	-	-58.944

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Project: 9999: *Congressional Adds*		
Congressional Add: *JSF Block 4 - USN Cong*	1.500	-
Congressional Add: *JSF Block 4 - USMC Cong*	1.500	-
Congressional Add Subtotals for Project: 9999	3.000	-
Congressional Add Totals for all Projects	3.000	-

Change Summary Explanation

The FY 2016 funding request was reduced by $15.042 million to account for the availability of prior year execution balances.

Adjustments are funding realignments. In Fiscal Year 2015 Appropriations Act, FoD moved to separate Program Element.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*				Project (Number/Name) 2262 / *Joint Strike Fighter EMD STOVL*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
2262: *Joint Strike Fighter EMD STOVL*	44,598.298	394.248	487.068	505.949	-	505.949	398.976	87.145	8.014	8.473	-	46,488.171
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Total cost including United States Navy (USN), United States Marine Corps (USMC), International partner contributions and United States Air Force (USAF) funding are: FY14 $1,414.340, FY15 $1,522.627M, and FY16 $1,508.688M R-2 data reflects variant unique funding only.

R-2A(section B)/R-3 displays total combined Program (i.e. not Service specific), including International partners.

JSF EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

A. Mission Description and Budget Item Justification

The F-35 Joint Strike Fighter (JSF) Program will develop and field an affordable, highly common family of next generation strike aircraft for the USN, USAF, USMC and allies. The three variants are the F-35A Conventional Takeoff and Landing (CTOL); F-35B Short Takeoff and Vertical Landing (STOVL); and the F-35C Aircraft Carrier suitable Variant (CV). The CTOL will be a stealthy multi-role aircraft, primary air-to-ground for the Air Force to replace the F-16 and A-10 and complement the F-22. The STOVL variant will be a multi-role strike fighter aircraft to replace the AV-8B and F/A-18 for the Marine Corps, replace the Sea Harrier and GR 7 for the United Kingdom, and replace the AV-8 currently employed by the Italian Navy. The Carrier Variant (CV) will provide the Department of the Navy a multi-role, stealthy strike fighter aircraft to complement the F/A-18E/F.

The United Kingdom, other International Partner nations, and Foreign Military Sales customers are also participants in the Joint Strike Fighter program. The program shown here reflects United States Navy (USN), United States Marine Corps, United States Air Force (USAF), and International Partner funding.

The top-line Program Element reflects the unique variant for each Service. Funding at the accomplishment/planned program level is reported as the total of all services and partners as these activities support all aircraft variants.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2262 / *Joint Strike Fighter EMD STOVL*

The SDD budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for USN and USAF use.

FY07: 1 CTOL flight test article
FY08: 1 STOVL flight test article; 1 STOVL ground test article
FY09: 1 STOVL flight test article; 2 CTOL ground test articles
FY10: 6 flight test articles: 3 CTOL, 2 STOVL, 1 CV; 3 ground test articles: 1 STOVL, 2 CV
FY11: 4 flight test articles: 1 CTOL, 1 STOVL, 2 CV
FY13: 1 CV flight test article

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: System Development and Demonstration (SDD)	825.925	777.318	799.105	-	799.105
Articles:	-	-	-	-	-
Description: SDD execution of the Air System (Lockheed Martin) including International Commonality Effort; includes airframe,vehicle and mission systems, autonomic logistics, systems engineering & test efforts.					
FY 2014 Accomplishments: Continue SDD execution of Air System Lockheed Martin, including International Commonality Effort which include, airframe vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS in accordance with variant IOC.					
FY 2015 Plans: Continue SDD execution of Air System Lockheed Martin, including International Commonality Effort which include, airframe vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS in accordance with variant IOC.					
FY 2016 Base Plans: Continue SDD execution of Air System Lockheed Martin, including International Commonality Effort which include, airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS in accordance with variant IOC.					
FY 2016 OCO Plans: N/A					
Title: F135 Propulsion System	148.826	195.378	177.048	-	177.048
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: SDD execution of the F135 Propulsion System (Pratt & Whitney) including International Commonality Effort; includes testing, autonomic logistics, integration & performing technology maturation efforts. ***FY 2014 Accomplishments:*** Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that includes engine testing, autonomic logistics, integration and performing technology maturation efforts. ***FY 2015 Plans:*** Continue SDD execution of Air System Lockheed Martin, including International Commonality Effort which include, airframe vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS in accordance with variant IOC. ***FY 2016 Base Plans:*** Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that includes engine testing, autonomic logistics, integration and performing technology maturation efforts. ***FY 2016 OCO Plans:*** N/A					
Title: Systems Engineering (SE)	22.212	24.310	25.021	-	25.021
Articles:	-	-	-	-	-
Description: SDD SE including systems operations requirements analysis, program integration,requirements integration, and interoperability support. ***FY 2014 Accomplishments:*** Continued SDD SE that includes systems operations requirements analysis, program integration, requirements integration, and interoperability support. ***FY 2015 Plans:*** Continue SDD SE, including systems operations requirements analysis, program integration, requirements integration, and interoperability support. ***FY 2016 Base Plans:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue SDD SE, including systems operations requirements analysis, program integration, requirements integration, and interoperability support. ***FY 2016 OCO Plans:*** N/A					
Title: Development Test and Evaluation (DT&E) ***Articles:*** ***Description:*** Government DT&E/Operational Testing (OT) in support of first flight of test aircraft. Elements of DT&E include preparation for flight testing and weapons integration testing. ***FY 2014 Accomplishments:*** Continued government DT&E/OT in support of test aircraft. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand air vehicle envelope and support mission systems testing (include initial Block 2B). Elements of DT&E include preparation for flight testing, weapons integration testing, and component capabilities testing. ***FY 2015 Plans:*** Continue government DT&E/OT in support of test aircraft. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand air vehicle envelope and support mission systems testing. Elements of DT&E include flight testing, weapons integration testing, and component capabilities testing. ***FY 2016 Base Plans:*** Continue government DT&E/OT in support of test aircraft. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand air vehicle envelope and support mission systems testing. Elements of DT&E include flight testing, weapons integration testing, and component capabilities testing. ***FY 2016 OCO Plans:*** N/A	308.406 -	384.711 -	399.122 -	- -	399.122 -
Title: Development Support ***Articles:*** ***Description:*** SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. ***FY 2014 Accomplishments:***	108.971 -	140.910 -	108.392 -	- -	108.392 -

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continued SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. Development Support decrease is due to across the board reduction between both services. ***FY 2015 Plans:*** Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. Development Support decrease is due to across the board reduction between both services. ***FY 2016 Base Plans:*** Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. Development Support decrease is due to across the board reduction between both services. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1,414.340	1,522.627	1,508.688	-	1,508.688
Joint Strike Fighter 0604800F	600.360	535.296	517.980	-	517.980
Joint Strike Fighter 0604800N	409.421	485.263	467.759	-	467.759
International Partner	10.311	15.000	17.000	-	17.000
Navy Subtotals	394.248	487.068	505.949	-	505.949

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDT&E/0604800F: *Joint Strike Fighter*	600.360	535.296	517.980	-	517.980	323.446	114.595	5.291	5.365	Continuing	Continuing
• International: *International Partner (SDD)*	10.311	15.000	17.000	-	17.000	22.000	27.450	-	-	Continuing	Continuing
• APAF/0207142F: *F-35 Joint Strike Strike Fighter*	2,889.602	3,691.046	5,260.212	-	5,260.212	5,356.041	6,109.330	6,023.688	5,526.504	-	50,007.077
• RDT&E/0604800N/2261: *JT Strike Fighter (JSF) - EMD*	409.421	485.263	467.759	-	467.759	443.185	45.436	0.574	0.615	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0605B: *F-35 Joint Strike Fighter STOVL Spares*	88.304	64.194	111.569	-	111.569	76.703	29.756	100.362	136.763	Continuing	Continuing
• APN/0147C: *F-35 Joint Strike Fighter CV AP*	79.016	29.400	48.630	-	48.630	91.908	111.898	126.003	204.132	3,733.206	5,719.322
• APN/0605C: *F-35 Joint Strike Fighter CV Spares*	25.809	28.200	59.914	-	59.914	58.795	42.726	35.247	38.394	Continuing	Continuing
• MC/0207142F: *USAF MILCON*	56.000	66.700	132.850	-	132.850	124.000	-	-	-	1,328.000	2,238.050
• APAF/0204142F: *USAF Modification Funding*	126.777	187.646	70.167	-	70.167	310.237	294.229	260.071	259.791	Continuing	Continuing
• FOD/0207142F: *USAF Follow-on Development*	3.000	24.477	110.428	-	110.428	243.520	311.476	334.116	340.093	Continuing	Continuing
• 0207142F/USAF: *USAF Spares*	91.414	236.418	238.673	-	238.673	245.991	326.971	368.702	372.588	Continuing	Continuing
• OPN/4267: *Autonomic Logistics Information System (ALIS)*	3.389	-	-	-	-	-	-	-	-	-	19.105
• USAF/OPAF PE 27142F: *OPAF*	1.431	4.463	3.858	-	3.858	2.333	2.374	2.415	-	Continuing	Continuing
• APN/0592: *F-35 STOVL Series*	111.158	215.819	256.106	-	256.106	170.624	175.250	16.752	17.641	Continuing	Continuing
• APN/0593: *F-35 CV Series*	29.950	20.502	68.527	-	68.527	47.294	50.707	17.214	17.484	Continuing	Continuing
• RDT&E/0604800N/3352: *F-35C Sustainment/ Capability Enhancements*	14.419	16.997	36.977	-	36.977	-	-	-	-	-	68.393
• RDT&E/0604810M/2935: *JSF Follow-on Development Marine Corps*	-	10.399	59.265	-	59.265	120.028	157.257	168.502	171.946	Continuing	Continuing
• USAF SDD BP 653832: *Deployability and Suitability Enhancements*	16.200	32.593	71.461	-	71.461	-	-	-	-	-	134.421
• PAF/0207142F: *JSF CTOL Advance Procurement*	339.553	291.880	438.808	-	438.808	528.560	522.180	497.720	506.000	19,787.624	24,451.221
• DCA/0207142F 676011: *Dual Capable Aircraft (DCA)*	-	15.615	4.967	-	4.967	25.795	27.770	37.681	49.575	Continuing	Continuing
• APN/0147: *F-35 Joint Strike Fighter CV*	1,028.415	848.552	897.542	-	897.542	848.056	1,217.562	1,496.303	1,606.088	32,734.961	51,085.532

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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0152C: *F-35 Joint Strike Fighter STOVL AP*	103.195	143.885	203.060	-	203.060	226.148	136.872	139.562	142.353	2,900.408	4,834.934
• APN/0152: *F-35 Joint Strike Fighter STOVL*	1,172.248	1,184.410	1,483.414	-	1,483.414	2,049.754	2,713.087	2,796.129	2,810.155	26,147.806	43,146.851
• DoN MILCON: *DoN JSF MILCON*	-	131.904	94.420	-	94.420	230.900	64.660	121.990	119.800	Continuing	Continuing
• International 2: *International Procurement*	1,954.600	2,975.641	4,175.668	-	4,175.668	6,006.257	7,809.829	7,962.298	7,166.485	Continuing	Continuing
• OPN/4268: *Logistics Information System (ALIS)*	-	5.516	3.893	-	3.893	2.136	3.909	3.774	3.854	Continuing	Continuing
• MC/0207597F: *USAF MILCON*	-	-	65.400	-	65.400	34.000	18.900	21.000	-	-	139.300
• RDT&E/0604800N/C261: *JSF Block 4 USN Cong*	1.500	-	-	-	-	-	-	-	-	-	1.500
• International 3: *International FoD*	-	10.200	44.500	-	44.500	128.965	157.602	169.315	171.636	Continuing	Continuing
• OPN 902010: *ALIS Spares and Repair Parts*	1.010	-	-	-	-	-	-	-	-	-	1.010
• OPN 902010 S8JC: *Aviation Support Equipment (ALIS)*	-	1.576	2.946	-	2.946	1.948	1.940	1.957	1.995	Continuing	Continuing
• USAF O&M: *USAF OPAF: BA01: PE 207142F*	112.183	217.556	302.952	-	302.952	360.107	452.906	555.687	858.671	Continuing	Continuing
• USAF OPAF: *USAF OPAF: BA01: PE 207142F*	1.431	4.463	3.858	-	3.858	2.333	2.374	2.415	-	Continuing	Continuing
• RDT&E/0604810N/2936: *JSF Follow-on Development Navy*	-	10.622	47.579	-	47.579	103.564	134.250	145.580	148.975	Continuing	Continuing

Remarks

D. Acquisition Strategy

The SDD program consists of a cost-reimbursement contract awarded to Lockheed Martin Aeronautics Company to develop the F-35 Air System, consisting of three aircraft variants and its associated logistics support system, for the U.S. Services and international participants. Similarly, a cost-reimbursement contract was awarded to Pratt & Whitney to develop the F135 propulsion system. Ground and flight testing will be conducted during development to accomplish validation and verification, with the extensive use of modeling and simulation to offset the risk of this large, complex, and concurrent lifecycle program. A comprehensive logistics support environment, including an integrated training system for aircrew, maintenance, and support personnel, is also being developed.

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On 25 April 2011, the Department of Defense terminated the development of the General Electric Rolls-Royce Fighter Engine Team F136 propulsion system.

The F-35 Program has made international involvement a key element of the acquisition strategy. This includes international partnership in the development, production, and sustainment phases of the lifecycle. Additional international participation includes Foreign Military Sales arrangements.

In Fiscal Year 2007, separate cost-type contracts were awarded to Lockheed Martin Aeronautics Company and Pratt & Whitney to begin low rate initial production for F-35 air vehicles, propulsion systems, and sustainment for the fielded systems. Transition to fixed-price-type procurement contracts occurred with the fourth low rate lot. To provide logistics support for delivered aircraft, Performance-Based Logistics cost-type contracts will be awarded to Lockheed Martin Aeronautics Company and Pratt & Whitney.

At the completion of Low Rate Initial Production, a Defense Acquisition Board review, and Milestone Decision Authority approval, the F-35 Program will enter Full Rate Production. Fixed-price procurement contracts will be awarded for F-35 air vehicles and propulsion systems for the U.S. Services and international participants.

E. Performance Metrics

The following are the key performance parameters from the F-35 Selected Acquisition Report:

Performance Metrics reflect Key Program Performance data.

Combat Radius
Conventional Take Off and Landing Does Not Meet Requirement
Carrier Variant (CV) Meets Tripwire Requirement
Short Take Off Vertical Landing (STOVL) Meets/Exceeds Tripwire Requirement

CV Recovery
Maximum Approach Speed Meets Requirement In Tripwire Band

STOVL Performance
Flat Deck (High-High-High Profile Fuel) Meets Requirement In Tripwire Band
Ski Jump (High-Medium-Medium-High Profile Fuel) Meets Requirement In Tripwire Band
Vertical Landing Bring Back Meets Requirement In Tripwire Band

Interoperability
Net Ready Criteria- Meets Requirement In Tripwire Band

Radio Frequency Signature Meets/Exceeds Tripwire Requirement

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Force Protection
CB Pilot Protection (New Key Performance Parameters Per CN3) - Meets/Exceeds Tripwire Requirement

Mission Reliability
Conventional Take Off and Landing (CTOL) Meets/Exceeds Tripwire Requirement
Carrier Variant (CV) Exceeds Operational Requiremets Document Objective
Short Takeoff and Vertical Landing (STOVL) United States Marine Corps (USMC) Meets/Exceeds Tripwire Requirement
STOVL United Kingdom (UK) Meets/Exceeds Tripwire Requirement

Sortie Generation Rate
CTOL Meets/Exceeds Tripwire Requirement
CV Meets/Exceeds Tripwire Requirement
STOVL USMC Meets/Exceeds Tripwire Requirement
STOVL UK Meets/Exceeds Tripwire Requirement

Logistics Footprints
CTOL Meets/Exceeds Tripwire Requirement
STOVL USMC Meets/Exceeds Tripwire Requirement

Logistics Footprint- Volume
CV Exceeds Operational Requirements Document (ORD) Objective
STOVL USMC Exceeds ORD Objective
STOVL UK Meets/Exceeds Tripwire Requirement

Logistics Footprint-Weight
CV Exceeds ORD Objective
STOVL USMC Exceeds ORD Objective
STOVL UK Meets/Exceeds Tripwire Requirement

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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development - SDD	C/CPAF	Lockheed Martin : Ft. Worth, TX	29,353.962	771.581	Dec 2013	579.983	Dec 2014	701.085	Dec 2015	-		701.085	977.230	32,383.841	32,383.841
Primary Hardware Development - Award Fee	C/CPAF	Lockheed Martin : Ft. Worth, TX	1,596.990	53.549	Dec 2013	94.000	Dec 2014	98.020	Dec 2015	-		98.020	97.648	1,940.207	1,940.207
Primary Hardware Development - D-0022	C/CPFF	Lockheed Martin : Lockheed Martin	27.025	0.120	Dec 2013	-		-		-		-	-	27.145	27.145
Primary Hardware Development -D-0005	C/CPFF	Lockheed Martin : Ft. Worth, TX	2.230	0.675	Dec 2013	1.200	Dec 2014	-		-		-	-	4.105	4.105
Primary Hardware Development - LRIP 0003	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	-	Dec 2013	0.135	Dec 2014	-		-		-	-	0.135	0.135
Primary Hardware Development -BOA	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	-		102.000	Dec 2014	-		-		-	-	102.000	102.000
Primary Hardware Development - SDD	C/CPAF	Pratt and Whitney : Hartford, CT	6,885.440	128.626	Dec 2013	180.611	Dec 2014	156.980	Dec 2015	-		156.980	55.381	7,407.038	7,407.038
Primary Hardware Development - Award Fee	C/CPAF	Pratt and Whitney : Hartford, CT	633.452	20.200	Dec 2013	14.767	Dec 2014	20.068	Dec 2015	-		20.068	-	688.487	688.487
Systems Engineering	Various	Systems Engineering : Various	380.697	18.473	Nov 2013	22.367	Nov 2014	22.646	Dec 2015	-		22.646	14.365	458.548	458.548
Prior Year No Longer Funded in FYDP	Various	Various : Various	2,843.788	-		-		-		-		-	-	2,843.788	2,843.788
		Subtotal	41,723.584	993.224		995.063		998.799		-		998.799	1,144.624	45,855.294	45,855.294

Remarks

Cumulative Award Fee earned in prior years for Lockheed Martin is 82%.
Cumulative Award Fee earned in prior years for Pratt and Whitney is 91%.

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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support - AFFTC/Eglin	Various	Eglin AFB : Eglin, FL	112.290	9.690	Nov 2013	7.712	Nov 2014	6.244	Nov 2015	-		6.244	6.562	142.498	-
Development Support - AFLCMC/AFRL	Various	AFLCMC/AFRL : Various	61.065	1.834	Nov 2013	1.927	Nov 2014	3.565	Nov 2015	-		3.565	1.228	69.619	-
Engine Test and Evaluation Support - AEDC/Fuel	Various	Various : Various	155.502	16.158	Nov 2013	37.073	Nov 2014	20.115	Nov 2015	-		20.115	-	228.848	-
Development Support - Miscellaneous	Various	Various : Various	85.874	13.432	Nov 2013	28.843	Nov 2014	22.315	Nov 2015	-		22.315	16.992	167.456	-
Software Development Support	Various	NAWC WD : China Lake, CA	115.896	24.450	Nov 2013	17.306	Nov 2014	18.659	Nov 2015	-		18.659	11.536	187.847	-
Development Support	Various	NAWC AD : Patuxent, MD	344.363	24.711	Nov 2013	35.420	Nov 2014	27.994	Nov 2015	-		27.994	20.054	452.542	-
Prior Year No Longer Funded in FYDP	Various	Various : Various	77.076	-		-		-		-		-	-	77.076	-
		Subtotal	952.066	90.275		128.281		98.892		-		98.892	56.372	1,325.886	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test and Evaluation	Various	NAWC WD : China Lake, CA	35.213	2.735	Nov 2013	2.383	Nov 2014	2.383	Nov 2015	-		2.383	2.383	45.097	-
Developmental Test and Evaluation	Various	NAWC AD : Patuxent River, MD	497.459	94.849	Nov 2013	128.007	Nov 2014	172.360	Nov 2015	-		172.360	-	892.675	-
Developmental Test and Evaluation	Various	Edwards AFB : Edwards AFB, CA	484.744	64.769	Nov 2013	69.390	Nov 2014	73.535	Nov 2015	-		73.535	13.101	705.539	-
Developmental Test and Evaluation - Other (including Classified PIDs) te	Various	Various : Various	112.744	57.117	Nov 2013	65.161	Nov 2014	55.204	Nov 2015	-		55.204	4.134	294.360	-

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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test and Evaluation Support	Various	WEPS/Eglin : Various	27.829	-		-		-		-		-	-	27.829	-
Operational Test and Evaluation Support	Various	OT-AFOTEC/ AFFTC : Kirkland AFB, NM/Eglin AFB, FL	129.427	28.601	Nov 2013	65.060	Nov 2014	35.600	Nov 2015	-		35.600	151.848	410.536	-
Operational Test and Evaluation Support	Various	OT-JITC/OPTEC : Various	8.363	7.988	Nov 2013	20.709	Nov 2014	24.414	Nov 2015	-		24.414	69.426	130.900	-
		Subtotal	1,295.779	256.059		350.710		363.496		-		363.496	240.892	2,506.936	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Business Integration - Cost ACT I	SS/CPFF	ACT I : Arlington, VA	10.938	1.021	Dec 2013	-	Dec 2014	-		-		-	-	11.959	11.959
Security Mantech	C/FP	Mantech : Arlington, VA	65.899	9.000	Dec 2013	-		-		-		-	-	74.899	74.899
Program Engineering Support	C/CPFF	First Principles : Arlington, VA	6.840	1.919	Dec 2013	2.000	Dec 2014	-		-		-	-	10.759	10.759
AFLCMC Civilian Pay	Various	AFLCMC CIVPAY : Wright Patterson, AFB, OH	36.354	26.697	Oct 2013	27.994	Oct 2014	28.120	Oct 2015	-		28.120	12.225	131.390	131.390
Program Management Support	C/CPFF	Wyle : Arlington, VA	126.371	1.109	Dec 2013	-		-		-		-	-	127.480	127.480
IT Support	C/CPFF	CGI BOSS : Arlington, VA	202.077	14.009	Dec 2013	-		-		-		-	-	216.086	216.086
Program Management Support	C/CPFF	Allutiiq : Arlington, VA	0.700	0.717	Nov 2013	0.727	Dec 2014	0.536	Dec 2015	-		0.536	1.705	4.385	4.385
Facilities BOSS	Various	Various : Various	11.079	6.514	Nov 2013	8.775	Dec 2014	7.476	Dec 2015	-		7.476	16.076	49.920	49.920
IT Support	Various	Various : Various	2.767	4.126	Nov 2013	5.775	Dec 2014	5.907	Dec 2015	-		5.907	7.521	26.096	26.096
Travel	Various	Various : Various	17.501	1.327	Nov 2013	1.808	Nov 2014	1.870	Nov 2015	-		1.870	3.552	26.058	26.058

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2262 / *Joint Strike Fighter EMD STOVL*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	Jacobs BOSS : Arlington, VA	0.000	6.208	Nov 2013	-		-		-		-	-	6.208	6.208
Program Management Support	Various	Cost/FM/EV : Arlington, VA	0.000	2.000	Nov 2013	-		3.457	Nov 2015	-		3.457	7.193	12.650	12.650
Program Management Support	Various	Andrews AFB : Camp Springs, MD	0.000	0.135	Nov 2013	1.494	Nov 2014	0.135	Nov 2015	-		0.135	0.405	2.169	2.169
Prior Year No Longer Funded in FYDP	Various	Various : Various	146.343	-		-		-		-		-	-	146.343	146.343
		Subtotal	626.869	74.782		48.573		47.501		-		47.501	48.677	846.402	846.402

Remarks

Cumulative Award Fee earned in prior years for Stanley is 99%.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	44,598.298	1,414.340		1,522.627		1,508.688		-		1,508.688	1,490.565	50,534.518	-
Joint Strike Fighter 0604800F	-	600.360		535.296		517.980		-		517.980			-
Joint Strike Fighter 0604800N	-	409.421		485.263		467.759		-		467.759			-
International Partner	-	10.311		15.000		17.000		-		17.000			-
Project Cost Totals	44,598.298	394.248		487.068		505.949		-		505.949	1,490.565	50,534.518	-

Remarks

NOTE 1: Prior Years reflect $19,903.759M USAF/$17,980.360M USN/$1,802.784 USMC /$4,911.395 International/Total $44,598.298

FY 2014 reflects $600.360 USAF/$409.421M USN/$394.248M USMC/$10.311M International/Total $1,414.340M

FY 2015 reflects $535.296M USAF/$485.263M USN/$487.068M USMC/$15.000M International/Total $1,522.627M

FY 2016 reflects $517.980M USAF/$467.759 USN/$505.949M USMC/$17.000M International/Total $1,508.688M

NOTE 2:R-2A/R-3 displays total combined program (i.e. not Service-specific), including International partners. Funding for JSF Engineering and Manufacturing Development (EMD) and JSF Deployability and Suitability Enhancements (D&S).

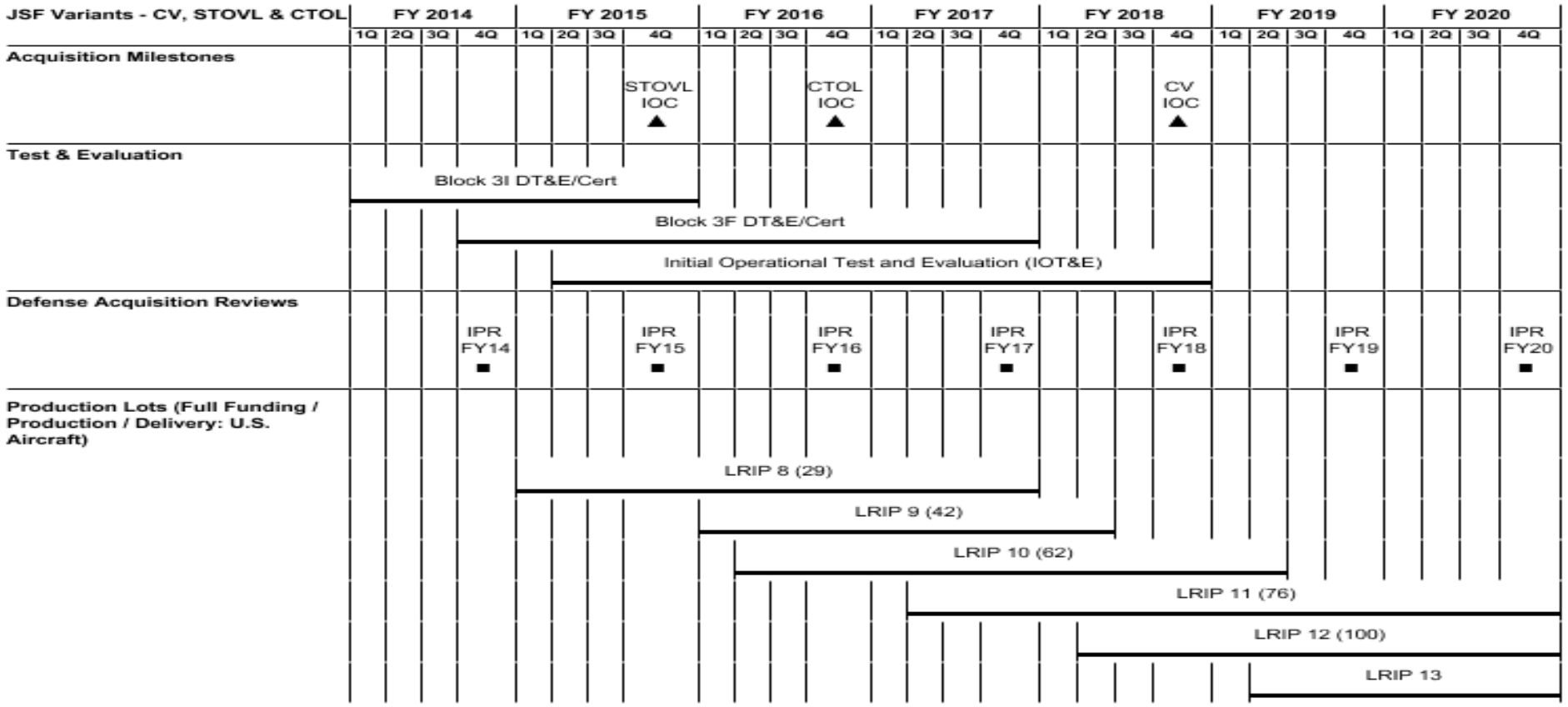
Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	Project (Number/Name) 2262 / *Joint Strike Fighter EMD STOVL*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

JSF EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2262 / *Joint Strike Fighter EMD STOVL*



2016PB - 0604800M - 2262

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2262 / *Joint Strike Fighter EMD STOVL*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
JSF Variants - CV, STOVL & CTOL				
Acquisition Milestones: STOVL Initial Operational Capability	4	2015	4	2015
Acquisition Milestones: CTOL Initial Operational Capability	4	2016	4	2016
Acquisition Milestones: CV Initial Operational Capability	4	2018	4	2018
Test & Evaluation: Test and Evaluation: Block 3I DT&E/Cert	1	2014	4	2015
Test & Evaluation: Test and Evaluation: Block 3F DT&E/Cert	4	2014	4	2017
Test & Evaluation: Test and Evaluation: Initial Operational Test and Evaluation (IOT&E)	2	2015	4	2018
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-14	4	2014	4	2014
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-15	4	2015	4	2015
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-16	4	2016	4	2016
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-17	4	2017	4	2017
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-18	4	2018	4	2018
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-19	4	2019	4	2019
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-20	4	2020	4	2020
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 8 Full Funding / Production / Delivery	1	2015	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2262 / *Joint Strike Fighter EMD STOVL*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 9 Full Funding / Production / Delivery	1	2016	2	2018
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 10 Full Funding / Production / Delivery	2	2016	2	2019
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 11 Full Funding / Production / Delivery	2	2017	4	2020
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 12 Full Funding / Production / Delivery	2	2018	4	2020
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 13 Full Funding / Production / Delivery	2	2019	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	Project (Number/Name) 3350 / *F-35B Sustainment/Capability Enhancements*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3350: *F-35B Sustainment/ Capability Enhancements*	-	14.332	11.980	31.952	-	31.952	-	-	-	-	-	58.264
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Total cost including United States Navy (USN), United States Marine Corps (USMC), and United States Air Force (USAF) funding is: FY14 $44.951M, FY15 $61.570M, and FY16 $140.390M

R-2A table shown above reflect service funding only.

R-2A (section B)/R-3 displays total combined program (i.e. not Service-specific), including International partners.

D&S Includes:
USAF PE 64800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

A. Mission Description and Budget Item Justification

Funds enhancements to the deployability and suitability of the air system such as low observable (LO) maintenance enhancements, security architecture updates, redesign of obsolete items, and integrated training simulators. These enhancements will provide vital on-demand support to the war-fighter within a deployed environment and are not funded via the existing System Development and Demonstration (SDD) program or tied to Block 4 Operational Flight Program development. Funding will result in achieving targeted suitability, maintainability, and affordability returns employing the F-35 in deployed or austere locations.

Funding at the accomplishment/planned program level is reported as the total of all services as these activities support all aircraft variants. The annual funding contribution between the United States Navy and United States Marine Corps is approximately equal.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Sustainment and Capability Enhancements	30.477	42.236	121.797	-	121.797
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3350 / *F-35B Sustainment/Capability Enhancements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Apply disciplined systems engineering, refinement of requirements, develop and acquire suitability and maintainability of the air system such as decentralized maintenance capabilities, LO maintenance enhancements, security architecture updates, redesign of obsolete items and integrated training simulators. ***FY 2014 Accomplishments:*** Conducted systems engineering, technology maturation, integration and test planning for Deployability and Suitability enhancements. ***FY 2015 Plans:*** Continue to conduct systems engineering, technical maturation, integration and test planning for suitability and deployability enhancements. ***FY 2016 Base Plans:*** Continue to conduct systems engineering, technical maturation, integration and test planning for suitability and deployability enhancements. Increase is to perform sustaining engineering, development and test activities necessary to gain capacity, compatibility, and expansion in wiring, power, wing conduits, etc. in support of electronic warfare. ***FY 2016 OCO Plans:*** N/A					
Title: Development Support	11.846	14.745	14.417	-	14.417
Articles:	-	-	-	-	-
Description: Initiate support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. ***FY 2014 Accomplishments:*** Continued development enhancement support for Deployable Autonomic Logisitics Information System, decentralized maintenance capabilities, Low Observable maintenance enhancements, security architecture updates, redesign of obsolete items and integrated training simulators. ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3350 / *F-35B Sustainment/Capability Enhancements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue to initiate development enhancement support for Deployable Autonomic Logistics Information System, decentralized maintenance capabilities, Low Observable maintenance enhancements, security architecture updates, redesign of obsolete items, and integrated training simulators. ***FY 2016 Base Plans:*** Continue to initiate development enhancement support for Deployable Autonomic Logistics Information System, decentralized maintenance capabilities, Low Observable maintenance enhancements, security architecture updates, redesign of obsolete items, and integrated training simulators. ***FY 2016 OCO Plans:*** N/A					
Title: Development Test and Evaluation	2.628	4.589	4.176	-	4.176
Articles:	-	-	-	-	-
Description: Verification and testing for deployability and suitability enhancements. ***FY 2014 Accomplishments:*** Initiated verification of test articles, evaluation strategy and metrics in preparation for testing of deployability and suitability enhancements. ***FY 2015 Plans:*** Continue to initiate government test and evaluation of capability enhancements for Deployable Autonomic Logistics Information system, and LO maintenance enhancements. ***FY 2016 Base Plans:*** Continue to initiate government test and evaluation of capability enhancements for Deployable Autonomic Logistics Information system, and LO maintenance enhancements. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	44.951	61.570	140.390	-	140.390
Joint Strike Fighter 0604800F	16.200	32.593	71.461	-	71.461
Joint Strike Fighter 0604800N	14.419	16.997	36.977	-	36.977
Navy Subtotals	14.332	11.980	31.952	-	31.952

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3350 / *F-35B Sustainment/Capability Enhancements*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDT&E/0604800F: *Joint Strike Fighter*	600.360	535.296	517.980	-	517.980	323.446	114.595	5.291	5.365	Continuing	Continuing
• International: *International Partner (SDD/FOD)*	10.311	15.000	17.000	-	17.000	22.000	27.450	-	-	Continuing	Continuing
• APAF/0207142F: *F-35 Joint Strike Strike Fighter*	2,889.602	3,691.046	5,260.212	-	5,260.212	5,356.041	6,109.330	6,023.688	5,526.504	-	50,007.077
• RDT&E/0604800N/2261: *JT Strike Fighter (JSF) - EMD*	409.616	485.263	468.000	-	468.000	443.434	45.647	0.736	0.751	Continuing	Continuing
• APN/0605B: *F-35 Joint Strike Fighter STOVL Spares*	88.304	64.194	111.569	-	111.569	76.703	29.756	100.362	136.763	Continuing	Continuing
• APN/0147C: *F-35 Joint Strike Fighter CV*	79.016	29.400	48.630	-	48.630	91.908	111.898	126.003	204.132	3,733.206	5,719.322
• APN/0605C: *F-35 Joint Strike Fighter CV Spares*	25.809	28.200	59.914	-	59.914	58.795	42.726	35.247	38.394	Continuing	Continuing
• MC/0207142F: *USAF MILCON*	56.000	66.700	132.850	-	132.850	124.000	-	-	-	1,328.000	2,238.050
• APAF/0204142F: *USAF Modification Funding*	126.777	187.646	70.167	-	70.167	310.237	294.229	260.071	259.791	Continuing	Continuing
• FOD/0207142F: *USAF Follow-on Development*	3.000	24.477	110.428	-	110.428	243.520	311.476	334.116	340.093	Continuing	Continuing
• 0207142F/USAF: *USAF Spares*	91.414	236.418	238.673	-	238.673	245.991	326.971	368.702	372.588	-	2,790.845
• OPN/4267: *Autonomic Logistics Information System (ALIS)*	3.389	-	-	-	-	-	-	-	-	-	19.105
• USAF/OPAF PE 27142F: *OPAF*	1.431	4.463	3.858	-	3.858	2.333	2.374	2.415	-	Continuing	Continuing
• APN/0592: *F-35 STOVL Series*	111.158	215.819	256.106	-	256.106	170.624	175.250	16.752	17.641	Continuing	Continuing
• APN/0593: *F-35 CV Series*	29.950	20.502	68.527	-	68.527	47.294	50.707	17.214	17.484	Continuing	Continuing
• RDT&E/0604800N/3352: *F-35C Sustainment/ Capability Enhancements*	14.419	16.997	36.977	-	36.977	-	-	-	-	-	68.393
• RDT&E/0604810M/2935: *F-35C Follow-on Development Marine Corps*	-	10.399	59.265	-	59.265	120.028	157.257	168.502	171.946	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3350 / *F-35B Sustainment/Capability Enhancements*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• USAF SDD BP 653832: *Deployability and Suitability Enhancements*	16.200	32.593	71.461	-	71.461	-	-	-	-	-	134.421
• PAF/0207142F: *JSF CTOL Advance Procurement*	339.553	291.880	438.808	-	438.808	528.560	522.180	497.720	506.000	19,787.624	24,451.221
• DCA/0207142F: *Dual Capable Aircraft (DCA)*	-	15.615	4.967	-	4.967	25.795	27.770	37.681	49.575	Continuing	Continuing
• APN/0147: *F-35 Joint Strike Fighter CV*	1,028.415	848.552	897.542	-	897.542	848.056	1,217.562	1,496.303	1,606.088	32,734.961	51,085.532
• APN PE BP0152C: *Advance Procurement (STOVL) BP0152C*	103.195	143.885	203.060	-	203.060	226.148	136.872	139.562	142.353	2,900.408	4,834.934
• APN PE BP0152: *Advance Procurement (STOVL) BP0152*	1,172.248	1,184.410	1,483.414	-	1,483.414	2,049.754	2,713.087	2,796.129	2,810.155	26,147.806	43,146.851
• DoN MILCON: *DoN JSF MILCON*	-	131.904	94.420	-	94.420	230.900	64.660	121.990	119.800	Continuing	Continuing
• International 2: *International Procurement*	1,954.600	2,975.641	4,175.668	-	4,175.668	6,006.257	7,809.829	7,962.298	7,166.485	Continuing	Continuing
• OPN/4268: *Logistics Information System (ALIS)*	-	5.516	3.893	-	3.893	2.136	3.909	3.774	3.854	Continuing	Continuing
• MC/0207597F: *USAF MILCON*	-	-	65.400	-	65.400	34.000	18.900	21.000	-	-	139.300
• RDT&E/0604800N/C261: *JSF Block 4 USN Cong*	1.500	-	-	-	-	-	-	-	-	-	1.500
• International 3: *International FoD*	-	10.200	44.500	-	44.500	128.965	157.602	169.315	171.636	Continuing	Continuing
• OPN 902010: *ALIS Spares and Repair Parts*	1.010	-	-	-	-	-	-	-	-	-	1.010
• OPN 902010 S8JC: *Aviation Support Equipment (ALIS)*	-	1.576	2.946	-	2.946	1.948	1.940	1.957	1.995	Continuing	Continuing
• USAF O&M: *USAF OPAF: BA01: PE 207142F*	112.183	217.556	302.952	-	302.952	360.107	452.906	555.687	858.671	Continuing	Continuing
• USAF OPAF: *USAF OPAF: BA01: PE 207142F*	1.431	4.463	3.858	-	3.858	2.333	2.374	2.415	-	Continuing	Continuing
• RDT&E/0604810N/2936: *JSF Follow-on Development Navy*	-	10.622	47.579	-	47.579	103.564	134.250	145.580	148.975	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3350 / *F-35B Sustainment/Capability Enhancements*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Implement JSF Joint Executive Steering Board/Configuration Steering Board approved enhancements to existing capabilities through existing contracts using the engineering change proposal process. When appropriate, new cost type contracts may be established.

E. Performance Metrics

The following are the key performance parameters from the F-35 Selected Acquisition Report:

Performance Metrics reflect Key Program Performance data.

Combat Radius
Conventional Take Off and Landing (CTOL) Does Not Meet Requirement
Carrier Variant (CV) Meets Tripwire Requirement
Short Take Off Vertical Landing (STOVL) Meets/Exceeds Tripwire Requirement

CV Recovery
Maximum Approach Speed Meets Requirement In Tripwire Band

STOVL Performance
Flat Deck (High-High-High Profile Fuel) Meets Requirement In Tripwire Band
Ski Jump (High-Medium-Medium-High Profile Fuel) Meets Requirement In Tripwire Band
Vertical Landing Bring Back Meets Requirement In Tripwire Band

Interoperability
Net Ready Criteria- Meets Requirement In Tripwire Band

Radio Frequency Signature Meets/Exceeds Tripwire Requirement

Force Protection
CB Pilot Protection (New Key Performance Parameters Per CN3) - Meets/Exceeds Tripwire Requirement

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3350 / *F-35B Sustainment/Capability Enhancements*

Mission Reliability
CTOL Meets/Exceeds Tripwire Requirement
CV Exceeds Operational Requirements Document Objective
STOVL United States Marine Corps Meets/Exceeds Tripwire Requirement
STOVL United Kingdom Meets/Exceeds Tripwire Requirement

Sortie Generation Rate
CTOL Meets/Exceeds Tripwire Requirement
CV Meets/Exceeds Tripwire Requirement
Short Take Off Vertical Landing (STOVL) United States Marine Corps Meets/Exceeds Tripwire Requirement
STOVL UK Meets/Exceeds Tripwire Requirement

Logistics Footprints
Conventional Take Off and Landing (CTOL) Meets/Exceeds Tripwire Requirement
STOVL USMC Meets/Exceeds Tripwire Requirement

Logistics Footprint- Volume
Carrier Variant (CV) Exceeds Operational Requirements Document (ORD) Objective
STOVL USMC Exceeds ORD Objective
STOVL UK Meets/Exceeds Tripwire Requirement

Logistics Footprint-Weight
Carrier Variant (CV)Exceeds Operations Requirements Document (ORD) Objective
STOVL USMC Exceeds ORD Objective
STOVL UK Meets/Exceeds Tripwire Requirement

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	Project (Number/Name) 3350 / *F-35B Sustainment/Capability Enhancements*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Development LM Deployability Suitability	C/CPFF	Lockheed Martin : Fort Worth, TX	0.000	30.837	Mar 2014	42.236	Mar 2015	121.797	Mar 2016	-		121.797	-	194.870	194.870
		Subtotal	0.000	30.837		42.236		121.797		-		121.797	-	194.870	194.870

Remarks

Cumulative Award Fee earned for Lockheed Martin 0%.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	Various : Various	0.000	10.846	Mar 2014	13.745	Mar 2015	13.417	Mar 2016	-		13.417	-	38.008	-
		Subtotal	0.000	10.846		13.745		13.417		-		13.417	-	38.008	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	Various : Various	0.000	2.268	Jun 2014	4.589	Jun 2015	4.176	Mar 2016	-		4.176	-	11.033	-
		Subtotal	0.000	2.268		4.589		4.176		-		4.176	-	11.033	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	Various : Various	0.000	1.000	Dec 2013	1.000	Dec 2014	1.000	Dec 2015	-		1.000	-	3.000	-
		Subtotal	0.000	1.000		1.000		1.000		-		1.000	-	3.000	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	Project (Number/Name) 3350 / *F-35B Sustainment/Capability Enhancements*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	0.000	44.951		61.570		140.390		-		140.390	-	246.911	-
Joint Strike Fighter 0604800F	-	16.200		32.593		71.461		-		71.461			-
Joint Strike Fighter 0604800N	-	14.419		16.997		36.977		-		36.977			-
Project Cost Totals	0.000	14.332		11.980		31.952		-		31.952	-	246.911	-

Remarks

NOTE: Prior Years reflect $14.167 USAF/Total $14.167

FY 2014 reflects $16.200M USAF/$14.419M USN/$14.332M USMC/$0.000M International/Total $44.951M

FY 2015 reflects $32.593M USAF/$16.997M USN/$11.980M USMC/$0.000M International/Total $61.570M

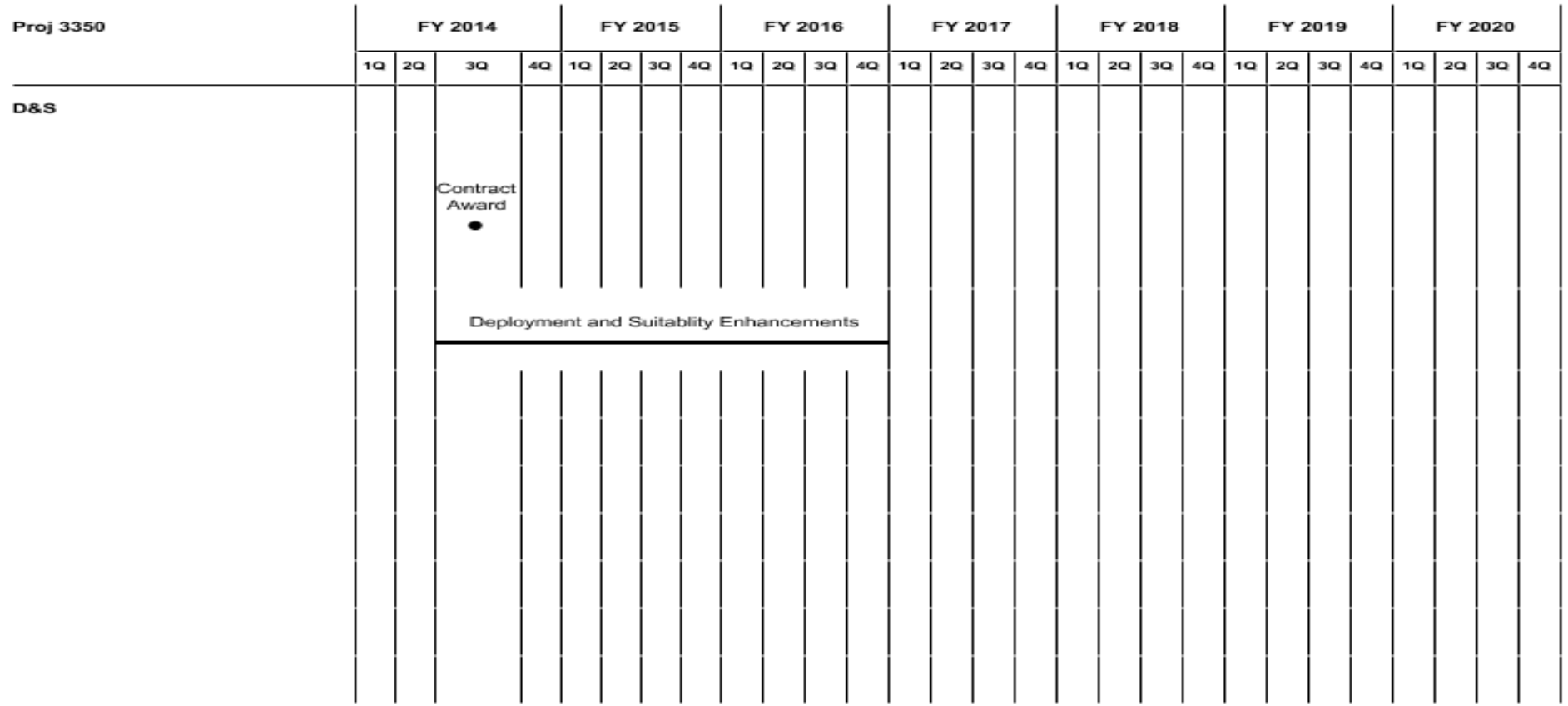
FY 2016 reflects $71.461M USAF/$36.977USN/$31.952M USMC/$0.000M International/Total $140.390M

R-2A (section B)/R-3 displays total combined program (i.e. not Service-specific), including International partners.

JSF EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3350 / *F-35B Sustainment/Capability Enhancements*



2016OSD - 0604800M - 3350

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3350 / *F-35B Sustainment/Capability Enhancements*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3350				
D&S: D&S Contract Award	3	2014	3	2014
D&S: D&S Deployment and Suitability Enhancements	3	2014	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	Project (Number/Name) 9999 / *Congressional Adds*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9999: *Congressional Adds*	-	1.500	-	-	-	-	-	-	-	-	-	1.500
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

FY 2014 reflects $0.000M USAF/$1.500M USN/$1.500M USMC/$0.000 International Partners/Total $3.000M

A. Mission Description and Budget Item Justification

Congressional Add. Provides funding to produce, staff, and gain approval of a Block 4 Capability Development Document.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015
Congressional Add: JSF Block 4 - USN Cong ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A	1.500	-
Congressional Add: JSF Block 4 - USMC Cong ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A	1.500	-
Congressional Adds Subtotals	3.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not required for Congressional Add.

E. Performance Metrics

Not required for Congressional Add.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	Project (Number/Name) 9999 / *Congressional Adds*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission and Threat Analysis for Capability Development Document	C/CPFF	Lockheed Martin : Fort Worth, TX	0.000	1.184	Aug 2014	-		-		-		-	-	1.184	-
Radar Capability Requirements Analysis	Various	DARPA : Various	0.000	0.126	Jul 2014	-		-		-		-	-	0.126	-
		Subtotal	0.000	1.310		-		-		-		-	-	1.310	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical and Analytic Support to CDD Development and Staffing	SS/T&M	Various : Various	0.000	1.406	Mar 2014	-		-		-		-	-	1.406	-
		Subtotal	0.000	1.406		-		-		-		-	-	1.406	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support and CDD Preparations	Various	Various : Various	0.000	0.284	Mar 2014	-		-		-		-	-	0.284	-
		Subtotal	0.000	0.284		-		-		-		-	-	0.284	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	0.000	3.000		-		-		-		-	-	3.000	-
Joint Strike Fighter 0804800N	-	1.500		-		-		-		-			-
Project Cost Totals	0.000	1.500		-		-		-		-	-	3.000	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	Project (Number/Name) 9999 / *Congressional Adds*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

NOTE:

FY 2014 reflects $0.000M USAF/$1.500 USN/$1.500M USMC/$0.000M International/Total $3.000M

R-2A (section B)/R-3 displays total combined program (i.e. not Service-specific), including International partners.

JSF BLOCK 4 Includes:
USN PE 0604800N Project Unit C261
USMC PE 0604800M Project Unit C260

JSF EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 9999 / *Congressional Adds*

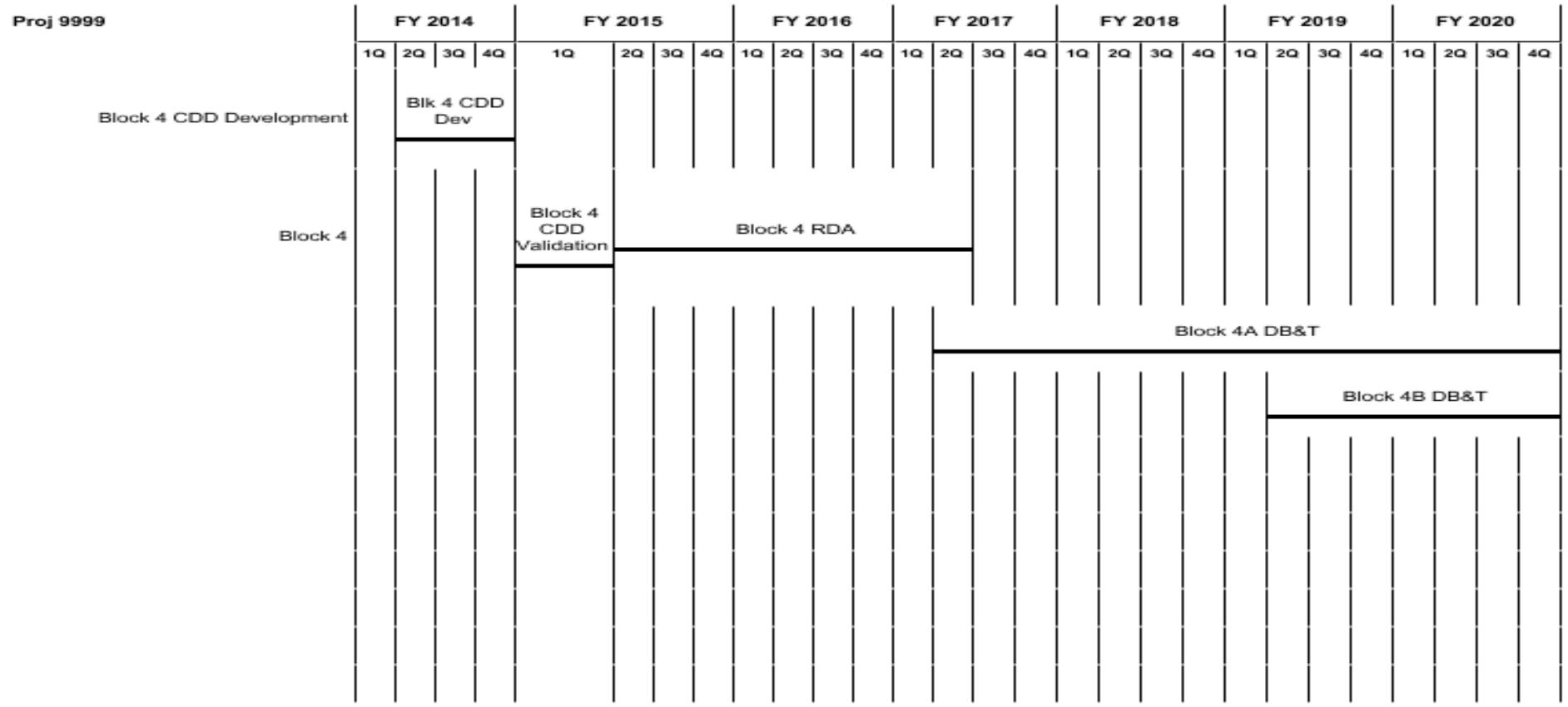


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800M / *(U)Joint Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9999				
Block 4 CDD Development: CDD Development	2	2014	4	2014
Block 4: Block 4: CDD Validation	1	2015	1	2015
Block 4: Block 4: Requirements Development and Analysis	2	2015	2	2017
Block 4: Block 4A: Design, Build and Test	2	2017	4	2020
Block 4: Block 4B: Design, Build and Test	2	2019	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy												Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604800N *I JT Strike Fighter (JSF) - EMD*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	44,598.298	425.340	502.260	504.736	-	504.736	443.185	45.436	0.574	0.615	-	46,520.444
2261: *Joint Strike Fighter EMD*	44,598.298	409.421	485.263	467.759	-	467.759	443.185	45.436	0.574	0.615	-	46,450.551
3352: *F-35C Sustainment/ Capability Enhancements*	0.000	14.419	16.997	36.977	-	36.977	-	-	-	-	-	68.393
9999: *Congressional Adds*	0.000	1.500	-	-	-	-	-	-	-	-	-	1.500
MDAP/MAIS Code: 198												

A. Mission Description and Budget Item Justification

The F-35 Lightning II Fighter program is developing a family of highly common, affordable, next generation, multi-role aircraft to meet the needs of the USMC, USN, USAF and international partners. The three variants are the F-35A Conventional Takeoff and Landing (CTOL); F-35B Short Takeoff and Vertical Landing (STOVL); and the F-35C Carrier Variant (CV). Maximum commonality among the variants, consistent with National Disclosure Policy, will minimize life cycle costs. FY2016 continues development and testing of the F-35. As the initial capabilities are being delivered from the System Development and Demonstration (SDD) program, planning for Follow-on Development (FoD) continues. Capability requirements are being matured and FoD planning continues based upon the approved Fifth Generation Fighter Modernization Initial Capabilities Document (ICD), an approved Electronic Warfare ICD, and the results of an OSD Tiger Team Review. FY2016 F-35 FoD activity supports development of Follow-on Development Increment 1 Capability Development Document (CDD). Follow-on Development will provide capability enhancements, required systems upgrades and cost improvements through an incremental acquisition approach.

Additionally, the F-35 JSF Operational Requirements Document (ORD) calls for the F-35A (CTOL) Variant Air Vehicle to have the capabilities and provisions for Dual Capable Aircraft (DCA) operations in the first post SDD block upgrade. DCA refers to the capability to carry and deliver conventional and non-conventional weapons. DCA operation for the F-35A is internal carriage of two B-61s. Due to extensive certification requirements, the DCA capability planning and design will begin in Block 4A and continue through testing and to extensive certification requirements, the DCA capability planning and design will begin in Block 4A and continue through testing and certification in Block 4B.

The United Kingdom, other International Partner nations, and Foreign Military Sales customers are also participants in the JSF program. The program shown here reflects USN, USMC, USAF, and International Partner funding.

Funding at the accomplishment/planned program level is reported as the total of all services and partners as these activities support all aircraft variants.

The SDD budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for USN and USAF use.

FY07: 1 CTOL flight test article
FY08: 1 STOVL flight test article; 1 STOVL ground test article

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604800N *I JT Strike Fighter (JSF) - EMD*

FY09: 1 STOVL flight test article; 2 CTOL ground test articles
FY10: 6 flight test articles: 3 CTOL, 2 STOVL, 1 CV; 3 ground test articles: 1 STOVL, 2 CV
FY11: 4 flight test articles: 1 CTOL, 1 STOVL, 2 CV
FY13: 1 CV flight test article

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SDD because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	440.745	516.456	613.245	-	613.245
Current President's Budget	425.340	502.260	504.736	-	504.736
Total Adjustments	-15.405	-14.196	-108.509	-	-108.509
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-14.196			
• Reprogrammings	-0.195	-			
• SBIR/STTR Transfer	-15.210	-			
• Program Adjustments	-	-	-	-	-
• Rate/Misc Adjustments	-	-	-108.509	-	-108.509

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Project: 9999: *Congressional Adds*		
Congressional Add: *JSF Block 4 - USMC Cong*	1.500	-
Congressional Add: *JSF Block 4 - USN Cong*	1.500	-
Congressional Add Subtotals for Project: 9999	3.000	-
Congressional Add Totals for all Projects	3.000	-

Change Summary Explanation

The FY 2016 funding request was reduced by $68.755 million to account for the availability of prior year execution balances.

Adjustments are funding realignments. In Fiscal Year 2015 Appropriations Act, FoD moved to separate Program Element.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy										Date: February 2015		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604800N / *JT Strike Fighter (JSF) - EMD*				Project (Number/Name) 2261 / *Joint Strike Fighter EMD*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
2261: *Joint Strike Fighter EMD*	44,598.298	409.421	485.263	467.759	-	467.759	443.185	45.436	0.574	0.615	-	46,450.551
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Total cost including United States Navy (USN), United States Marine Corps (USMC), International partner contributions and United States Air Force (USAF) funding are: FY14 $1,414.340, FY15 $1,522.627M, and FY16 $1,508.688M R-2 data reflects variant unique funding only.

R-2A(section B)/R-3 displays total combined Program (i.e. not Service specific), including International partners.

JSF EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

A. Mission Description and Budget Item Justification

The F-35 Joint Strike Fighter (JSF) Program will develop and field an affordable, highly common family of next generation strike aircraft for the USN, USAF, USMC and allies. The three variants are the F-35A Conventional Takeoff and Landing (CTOL); F-35B Short Takeoff and Vertical Landing (STOVL); and the F-35C Aircraft Carrier suitable Variant (CV). The CTOL will be a stealthy multi-role aircraft, primary air-to-ground for the Air Force to replace the F-16 and A-10 and complement the F-22. The STOVL variant will be a multi-role strike fighter aircraft to replace the AV-8B and F/A-18 for the Marine Corps, replace the Sea Harrier and GR 7 for the United Kingdom, and replace the AV-8 currently employed by the Italian Navy. The Carrier Variant (CV) will provide the Department of the Navy a multi-role, stealthy strike fighter aircraft to complement the F/A-18E/F.

The United Kingdom, other International Partner nations, and Foreign Military Sales customers are also participants in the Joint Strike Fighter program. The program shown here reflects United States Navy (USN), United States Marine Corps, United States Air Force (USAF), and International Partner funding.

The top-line Program Element reflects the unique variant for each Service. Funding at the accomplishment/planned program level is reported as the total of all services and partners as these activities support all aircraft variants.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*

The SDD budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for USN and USAF use.

FY07: 1 CTOL flight test article
FY08: 1 STOVL flight test article; 1 STOVL ground test article
FY09: 1 STOVL flight test article; 2 CTOL ground test articles
FY10: 6 flight test articles: 3 CTOL, 2 STOVL, 1 CV; 3 ground test articles: 1 STOVL, 2 CV
FY11: 4 flight test articles: 1 CTOL, 1 STOVL, 2 CV
FY13: 1 CV flight test article

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: System Development and Demonstration (SDD)	825.925	777.318	799.105	-	799.105
Articles:	-	-	-	-	-
Description: SDD execution of the Air System (Lockheed Martin) including International Commonality Effort; includes airframe,vehicle and mission systems, autonomic logistics, systems engineering & test efforts.					
FY 2014 Accomplishments: Continue SDD execution of Air System Lockheed Martin, including International Commonality Effort which include, airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS in accordance with variant IOC.					
FY 2015 Plans: Continue SDD execution of Air System Lockheed Martin, including International Commonality Effort which include, airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS in accordance with variant IOC.					
FY 2016 Base Plans: Continue SDD execution of Air System Lockheed Martin, including International Commonality Effort which include, airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS in accordance with variant IOC.					
FY 2016 OCO Plans: N/A					
Title: F135 Propulsion System	148.826	195.378	177.048	-	177.048
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: SDD execution of the F135 Propulsion System (Pratt & Whitney) including International Commonality Effort; includes testing, autonomic logistics, integration & performing technology maturation efforts. ***FY 2014 Accomplishments:*** Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that includes engine testing, autonomic logistics, integration and performing technology maturation efforts. ***FY 2015 Plans:*** Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that includes engine testing, autonomic logistics, integration and performing technology maturation efforts. ***FY 2016 Base Plans:*** Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that includes engine testing, autonomic logistics, integration and performing technology maturation efforts. ***FY 2016 OCO Plans:*** N/A					
Title: Systems Engineering (SE)	22.212	24.310	25.021	-	25.021
Articles:	-	-	-	-	-
Description: SDD SE including systems operations requirements analysis, program integration, requirements integration, and interoperability support. ***FY 2014 Accomplishments:*** Continued SDD SE that includes systems operations requirements analysis, program integration, requirements intergration, and interoperability support. ***FY 2015 Plans:*** Continue SDD SE, including systems operations requirements analysis, program integration, requirements integration, and interoperability support. ***FY 2016 Base Plans:*** Continue SDD SE, including systems operations requirements analysis, program integration, requirements integration, and interoperability support. ***FY 2016 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Title: Development Test and Evaluation (DT&E)	308.406	384.711	399.122	-	399.122
Articles:	-	-	-	-	-
Description: Government DT&E/Operational Testing (OT) in support of first flight of test aircraft. Elements of DT&E include preparation for flight testing and weapons integration testing. ***FY 2014 Accomplishments:*** Continue government DT&E/OT in support of test aircraft. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand air vehicle envelope and support mission systems testing (include initial Block 2B). Elements of DT&E include preparation for flight testing, weapons integration testing, and component capabilities testing. ***FY 2015 Plans:*** Continue government DT&E in support of test aircraft. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand air vehicle envelope and support mission systems testing. Elements of DT&E include flight testing, weapons integration testing, and component capabilities testing. ***FY 2016 Base Plans:*** Government DT&E/Operational Testing (OT) in support of first flight of test aircraft. Elements of DT&E include preparation for flight testing and weapons integration testing. ***FY 2016 OCO Plans:*** N/A					
Title: Development Support	108.971	140.910	108.392	-	108.392
Articles:	-	-	-	-	-
Description: SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. ***FY 2014 Accomplishments:*** Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. Development Support decrease is due to across the board reduction between both services. ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. Development Support decrease is due to across the board reduction between both services. ***FY 2016 Base Plans:*** Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. Development Support decrease is due to across the board reduction between both services. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1,414.340	1,522.627	1,508.688	-	1,508.688
Joint Strike Fighter 0604800F	600.360	535.296	517.980	-	517.980
Joint Strike Fighter 0604800M	394.248	487.068	505.949	-	505.949
International Partner	10.311	15.000	17.000	-	17.000
Navy Subtotals	409.421	485.263	467.759	-	467.759

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDT&E/0604800F: *Joint Strike Fighter SDD*	600.360	535.296	517.980	-	517.980	323.446	114.595	5.291	5.365	Continuing	Continuing
• International: *International Partner (SDD)*	10.311	15.000	17.000	-	17.000	22.000	27.450	-	-	Continuing	Continuing
• APAF/0207142F: *F-35 Joint Strike Strike Fighter*	2,889.602	3,691.046	5,260.212	-	5,260.212	5,356.041	6,109.330	6,023.688	5,526.504	-	50,007.077
• RDT&E/0604800M/2262: *JT Strike Fighter (JSF) - EMD*	394.248	487.068	505.949	-	505.949	398.976	87.145	8.014	8.473	Continuing	Continuing
• APN/0605B: *F-35 Joint Strike Fighter STOVL Spares*	88.304	64.194	111.569	-	111.569	76.703	29.756	100.362	136.763	Continuing	Continuing
• APN/0147C: *F-35 Joint Strike Fighter CV AP*	79.016	29.400	48.630	-	48.630	91.908	111.898	126.003	204.132	3,733.206	5,719.322

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN/0605C: *F-35 Joint Strike Fighter CV Spares*	25.809	28.200	59.914	-	59.914	58.795	42.726	35.247	38.394	Continuing	Continuing
• MC/0207142F: *USAF MILCON*	56.000	66.700	132.850	-	132.850	124.000	-	-	-	1,328.000	2,238.050
• APAF/0204142F: *USAF Modification Funding*	126.777	187.646	70.167	-	70.167	310.237	294.229	260.071	259.791	Continuing	Continuing
• FOD/0207142F 675346: *USAF Follow-on Development*	3.000	24.477	110.428	-	110.428	243.520	311.476	334.116	340.093	Continuing	Continuing
• 0207142F/USAF: *USAF Spares*	91.414	236.418	238.673	-	238.673	245.991	326.971	368.702	372.588	Continuing	Continuing
• OPN/4267: *Logistics Information System (ALIS)*	3.389	-	-	-	-	-	-	-	-	-	19.105
• USAF/OPAF PE 27142F: *OPAF*	1.431	4.463	3.858	-	3.858	2.333	2.374	2.415	-	Continuing	Continuing
• APN/0592: *F-35 STOVL Series*	111.158	215.819	256.106	-	256.106	170.624	175.250	16.752	17.641	Continuing	Continuing
• APN/0593: *F-35 CV Series*	29.950	20.502	68.527	-	68.527	47.294	50.707	17.214	17.484	Continuing	Continuing
• RDT&E/0604800M/3350: *F-35B Sustainment/ Capability Enhancements*	14.332	11.980	31.952	-	31.952	-	-	-	-	-	58.264
• RDT&E/0604810M/2935: *JSF Follow-on Development Marine Corps*	-	10.399	59.265	-	59.265	120.028	157.257	168.502	171.946	Continuing	Continuing
• USAF SDD BP 653832: *Deployability and Suitability Enhancements*	16.200	32.593	71.461	-	71.461	-	-	-	-	-	134.421
• PAF/0207142F: *JSF CTOL Advance Procurement*	339.553	291.880	438.808	-	438.808	528.560	522.180	497.720	506.000	19,787.624	24,451.221
• DCA/0207142F 676011: *Dual Capable Aircraft (DCA)*	-	15.615	4.967	-	4.967	25.795	27.770	37.681	49.575	Continuing	Continuing
• APN/0147: *F-35 Joint Strike Fighter CV*	1,028.415	848.552	897.542	-	897.542	848.056	1,217.562	1,496.303	1,606.088	32,734.961	51,085.532
• APN/0152C: *F-35 Joint Strike Fighter STOVL AP*	103.195	143.885	203.060	-	203.060	226.148	136.872	139.562	142.353	2,900.408	4,834.934
• APN/0152: *F-35 Joint Strike Fighter STOVL*	1,172.248	1,184.410	1,483.414	-	1,483.414	2,049.754	2,713.087	2,796.129	2,810.155	26,147.806	43,146.851

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• DoN MILCON: *DoN JSF MILCON*	-	131.904	94.420	-	94.420	230.900	64.660	121.990	119.800	Continuing	Continuing
• International 2: *International Procurement*	1,954.600	2,975.641	4,175.668	-	4,175.668	6,006.257	7,809.829	7,962.298	7,166.485	Continuing	Continuing
• OPN/4268: *Logistics Information System (ALIS)*	-	5.516	3.893	-	3.893	2.136	3.909	3.774	3.854	Continuing	Continuing
• MC/0207597F: *USAF MILCON*	-	-	65.400	-	65.400	34.000	18.900	21.000	-	-	139.300
• RDT&E/0604800M/C260: *JSF Block 4 USMC Cong*	1.500	-	-	-	-	-	-	-	-	-	1.500
• International 3: *International FoD*	-	10.200	44.500	-	44.500	128.965	157.602	169.315	171.636	Continuing	Continuing
• OPN 902010: *ALIS Spares and Repair Parts*	1.010	-	-	-	-	-	-	-	-	-	1.010
• OPN 902010 S8JC: *Aviation Support Equipment (ALIS)*	-	1.576	2.946	-	2.946	1.948	1.940	1.957	1.995	Continuing	Continuing
• USAF O&M: *USAF OPAF: BA01: PE 207142F*	112.183	217.556	302.952	-	302.952	360.107	452.906	555.687	858.671	Continuing	Continuing
• USAF OPAF: *USAF OPAF: BA01: PE 207142F*	1.431	4.463	3.858	-	3.858	2.333	2.374	2.415	-	Continuing	Continuing
• RDT&E/0604810N/2936: *JSF Follow-on Development Navy*	-	10.622	47.579	-	47.579	103.564	134.250	145.580	148.975	Continuing	Continuing

Remarks

D. Acquisition Strategy

The SDD program consists of a cost-reimbursement contract awarded to Lockheed Martin Aeronautics Company to develop the F-35 Air System, consisting of three aircraft variants and its associated logistics support system, for the U.S. Services and international participants. Similarly, a cost-reimbursement contract was awarded to Pratt & Whitney to develop the F135 propulsion system. Ground and flight testing will be conducted during development to accomplish validation and verification, with the extensive use of modeling and simulation to offset the risk of this large, complex, and concurrent lifecycle program. A comprehensive logistics support environment, including an integrated training system for aircrew, maintenance, and support personnel, is also being developed.

On 25 April 2011, the Department of Defense terminated the development of the General Electric Rolls-Royce Fighter Engine Team F136 propulsion system.

The F-35 Program has made international involvement a key element of the acquisition strategy. This includes international partnership in the development, production, and sustainment phases of the lifecycle. Additional international participation includes Foreign Military Sales arrangements.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*

In Fiscal Year 2007, separate cost-type contracts were awarded to Lockheed Martin Aeronautics Company and Pratt & Whitney to begin low rate initial production for F-35 air vehicles, propulsion systems, and sustainment for the fielded systems. Transition to fixed-price-type procurement contracts occurred with the fourth low rate lot. To provide logistics support for delivered aircraft, Performance-Based Logistics cost-type contracts will be awarded to Lockheed Martin Aeronautics Company and Pratt & Whitney.

At the completion of Low Rate Initial Production, a Defense Acquisition Board review, and Milestone Decision Authority approval, the F-35 Program will enter Full Rate Production. Fixed-price procurement contracts will be awarded for F-35 air vehicles and propulsion systems for the U.S. Services and international participants.

E. Performance Metrics

The following are the key performance parameters from the F-35 Selected Acquisition Report:

Performance Metrics reflect Key Program Performance data.

Combat Radius
Conventional Take Off and Landing Does Not Meet Requirement
Carrier Variant (CV) Meets Tripwire Requirement
Short Take Off Vertical Landing (STOVL) Meets/Exceeds Tripwire Requirement

CV Recovery
Maximum Approach Speed Meets Requirement In Tripwire Band

STOVL Performance
Flat Deck (High-High-High Profile Fuel) Meets Requirement In Tripwire Band
Ski Jump (High-Medium-Medium-High Profile Fuel) Meets Requirement In Tripwire Band
Vertical Landing Bring Back Meets Requirement In Tripwire Band

Interoperability
Net Ready Criteria- Meets Requirement In Tripwire Band

Radio Frequency Signature Meets/Exceeds Tripwire Requirement

Force Protection
CB Pilot Protection (New Key Performance Parameters Per CN3) - Meets/Exceeds Tripwire Requirement

Mission Reliability

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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Conventional Take Off and Landing (CTOL) Meets/Exceeds Tripwire Requirement
Carrier Variant (CV) Exceeds Operational Requiremets Document Objective
Short Takeoff and Vertical Landing (STOVL) United States Marine Corps (USMC) Meets/Exceeds Tripwire Requirement
STOVL United Kingdom (UK) Meets/Exceeds Tripwire Requirement

Sortie Generation Rate
CTOL Meets/Exceeds Tripwire Requirement
CV Meets/Exceeds Tripwire Requirement
STOVL USMC Meets/Exceeds Tripwire Requirement
STOVL UK Meets/Exceeds Tripwire Requirement

Logistics Footprints
CTOL Meets/Exceeds Tripwire Requirement
STOVL USMC Meets/Exceeds Tripwire Requirement

Logistics Footprint- Volume
CV Exceeds Operational Requirements Document (ORD) Objective
STOVL USMC Exceeds ORD Objective
STOVL UK Meets/Exceeds Tripwire Requirement

Logistics Footprint-Weight
CV Exceeds ORD Objective
STOVL USMC Exceeds ORD Objective
STOVL UK Meets/Exceeds Tripwire Requirement

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development - SDD	C/CPAF	Lockheed Martin : Ft. Worth, TX	29,353.962	771.581	Dec 2013	579.983	Dec 2014	701.085	Dec 2015	-		701.085	977.230	32,383.841	32,383.841
Primary Hardware Development - Award Fee	C/CPAF	Lockheed Martin : Ft. Worth, TX	1,596.990	53.549	Dec 2013	94.000	Dec 2014	98.020	Dec 2015	-		98.020	97.648	1,940.207	1,940.207
Primary Hardware Development - D-0022	C/CPFF	Lockheed Martin : Ft. Worth, TX	27.025	0.120	Dec 2013	-		-		-		-	-	27.145	27.145
Primary Hardware Development -D-0005	C/CPFF	Lockheed Martin : Ft. Worth, TX	2.230	0.675	Dec 2013	1.200	Dec 2014	-		-		-	-	4.105	4.105
Primary Hardware Development - LRIP 0083	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	-	Dec 2013	0.135	Dec 2014	-		-		-	-	0.135	0.135
Primary Hardware Development -BOA	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	-		102.000	Dec 2014	-		-		-	-	102.000	102.000
Primary Hardware Development	C/CPAF	Pratt and Whitney : Hartford, CT	6,885.440	128.626	Dec 2013	180.611	Dec 2014	156.980	Dec 2015	-		156.980	55.381	7,407.038	7,407.038
Primary Hardware Development - Award Fee	C/CPAF	Pratt and Whitney : Hartford, CT	633.452	20.200	Dec 2013	14.767	Dec 2014	20.068	Dec 2015	-		20.068	-	688.487	688.487
Systems Engineering	Various	Various : Various	380.697	18.473	Nov 2013	22.367	Nov 2014	22.646	Dec 2015	-		22.646	14.365	458.548	458.548
Prior Year No Longer Funded in FYDP	Various	Various : Various	2,843.788	-		-		-		-		-	-	2,843.788	2,843.788
		Subtotal	41,723.584	993.224		995.063		998.799		-		998.799	1,144.624	45,855.294	45,855.294

Remarks

Cumulative Award Fee earned in prior years for Lockheed Martin is 82%.
Cumulative Award Fee earned in prior years for Pratt and Whitney is 91%.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support - AFFTC/Eglin	Various	Eglin AFB : Eglin, FL	112.290	9.690	Nov 2013	7.712	Nov 2014	6.244	Nov 2015	-		6.244	6.562	142.498	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support - AFLCMC/AFRL	Various	AFLCMC/AFRL : Various	61.065	1.834	Nov 2013	1.927	Nov 2014	3.565	Nov 2015	-		3.565	1.228	69.619	-
Engine Test and Evaluation Support - AEDC/Fuel	Various	Various : Various	155.502	16.158	Nov 2013	37.073	Nov 2014	20.115	Nov 2015	-		20.115	-	228.848	-
Development Support - Miscellaneous	Various	Various : Various	85.874	13.432	Nov 2013	28.843	Nov 2014	22.315	Nov 2015	-		22.315	16.992	167.456	-
Software Development Support	Various	NAWC WD : China Lake, CA	115.896	24.450	Nov 2013	17.306	Nov 2014	18.659	Nov 2015	-		18.659	11.536	187.847	-
Development Support	Various	NAWC AD : Patuxent River, MD	344.363	24.711	Nov 2013	35.420	Nov 2014	27.994	Nov 2015	-		27.994	20.054	452.542	-
Prior Year No Longer Funded in FYDP	Various	Various : Various	77.076	-		-		-		-		-	-	77.076	-
		Subtotal	952.066	90.275		128.281		98.892		-		98.892	56.372	1,325.886	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test and Evaluation	Various	NAWC WD : China Lake, CA	35.213	2.735	Nov 2013	2.383	Nov 2014	2.383	Nov 2015	-		2.383	2.383	45.097	-
Developmental Test and Evaluation	Various	NAWC AD : Patuxent River, MD	497.459	94.849	Nov 2013	128.007	Nov 2014	172.360	Nov 2015	-		172.360	-	892.675	-
Developmental Test and Evaluation	Various	Edwards AFB : Edwards AFB, CA	484.744	64.769	Nov 2013	69.390	Nov 2014	73.535	Nov 2015	-		73.535	13.101	705.539	-
Developmental Test and Evaluation - Other (including Classified PIDs)	Various	Various : Various	112.744	57.117	Nov 2013	65.161	Nov 2014	55.204	Nov 2015	-		55.204	4.134	294.360	-
Operational Test and Evaluation Support	Various	WEPS/Eglin : Various	27.829	-		-		-		-		-	-	27.829	-
Operational Test and Evaluation Support	Various	OT-AFOTEC/ AFFTC : Kirkland	129.427	28.601	Nov 2013	65.060	Nov 2014	35.600	Nov 2015	-		35.600	151.848	410.536	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800N / *JT Strike Fighter (JSF) - EMD*	Project (Number/Name) 2261 / *Joint Strike Fighter EMD*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		AFB, NM/Eglin AFB, FL													
Operational Test and Evaluation Support	Various	OT-JITC/OPTEC : Various	8.363	7.988	Nov 2013	20.709	Nov 2014	24.414	Nov 2015	-		24.414	69.426	130.900	-
		Subtotal	1,295.779	256.059		350.710		363.496		-		363.496	240.892	2,506.936	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Business Integration - Cost ACT I	SS/CPFF	ACT I : Arlington, VA	10.938	1.021	Dec 2013	-	Dec 2014	-		-		-	-	11.959	11.959
Security Mantech	C/FP	Mantech : Arlington, VA	65.899	9.000	Dec 2013	-		-		-		-	-	74.899	74.899
Program Engineering Support	C/CPFF	First Principles : Arlington, VA	6.840	1.919	Dec 2013	2.000	Dec 2014	-		-		-	-	10.759	10.759
AFLCMC Civilian Pay	Various	AFLCMC CIVPAY : Wright Patterson, AFB, OH	36.354	26.697	Oct 2013	27.994	Oct 2014	28.120	Oct 2015	-		28.120	12.225	131.390	131.390
Program Management Support	C/CPFF	Wyle : Arlington, VA	126.371	1.109	Dec 2013	-		-		-		-	-	127.480	127.480
IT Support	C/CPFF	CGI BOSS : Arlington, VA	202.077	14.009	Dec 2013	-		-		-		-	-	216.086	216.086
Program Management Support	C/CPFF	Allutiiq : Arlington, VA	0.700	0.717	Dec 2013	0.727	Dec 2014	0.536	Dec 2015	-		0.536	1.705	4.385	4.385
Facilities BOSS	WR	Various : Various	11.079	6.514	Dec 2013	8.775	Dec 2014	7.476	Dec 2015	-		7.476	16.076	49.920	49.920
IT Support	Various	Various : Various	2.767	4.126	Dec 2013	5.775	Dec 2014	5.907	Dec 2015	-		5.907	7.521	26.096	26.096
Travel and Misc	Various	Various : Various	17.501	1.327	Nov 2013	1.808	Nov 2014	1.870	Nov 2015	-		1.870	3.552	26.058	26.058
Program Management Support	Various	Jacobs BOSS : Arlington, VA	0.000	6.208	Nov 2013	-		-		-		-	-	6.208	6.208
Program Management Support	Various	Cost/FM/EV : Arlington, VA	0.000	2.000	Nov 2013	-		3.457	Nov 2015	-		3.457	7.193	12.650	12.650

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	Andrews AFB : Camp Springs, MD	0.000	0.135	Nov 2013	1.494	Nov 2014	0.135	Nov 2015	-		0.135	0.405	2.169	2.169
Prior Year No Longer Funded in FYDP	Various	Various : Various	146.343	-		-		-		-		-	-	146.343	146.343
		Subtotal	626.869	74.782		48.573		47.501		-		47.501	48.677	846.402	846.402

Remarks

Cumulative Award Fee earned in prior years for Stanley is 99%.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	44,598.298	1,414.340		1,522.627		1,508.688		-		1,508.688	1,490.565	50,534.518	-
Joint Strike Fighter 0604800F	-	600.360		535.296		517.980		-		517.980			-
Joint Strike Fighter 0604800M	-	394.248		487.068		505.949		-		505.949			-
International Partner	-	10.311		15.000		17.000		-		17.000			-
Project Cost Totals	44,598.298	409.421		485.263		467.759		-		467.759	1,490.565	50,534.518	-

Remarks

NOTE 1: Prior Years reflect $19,903.759M USAF/$17,980.360M USN/$1,802.784 USMC /$4,911.395 International/Total $44,598.298

FY 2014 reflects $600.360 USAF/$409.421M USN/$394.248M USMC/$10.311M International/Total $1,414.340M

FY 2015 reflects $535.296M USAF/$485.263M USN/$487.068M USMC/$15.000M International/Total $1,522.627M

FY 2016 reflects $517.980M USAF/$467.759 USN/$505.949M USMC/$17.000M International/Total $1,508.688M

NOTE 2:R-2A/R-3 displays total combined program (i.e. not Service-specific), including International partners. Funding for JSF Engineering and Manufacturing Development (EMD) and JSF Deployability and Suitability Enhancements (D&S).

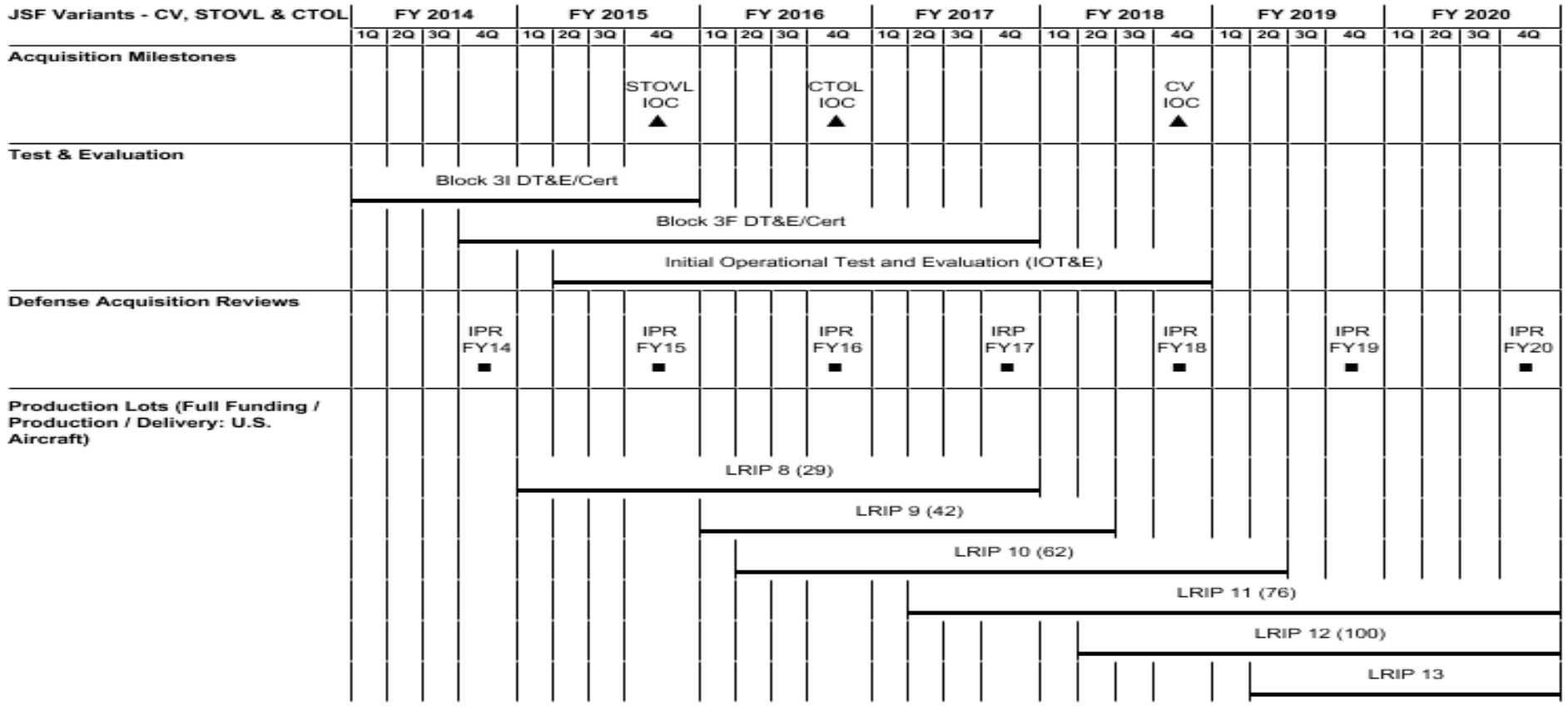
JSF EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800N / *JT Strike Fighter (JSF) - EMD*	Project (Number/Name) 2261 / *Joint Strike Fighter EMD*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*



2016PB - 0604800N - 2261

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
JSF Variants - CV, STOVL & CTOL				
Acquisition Milestones: STOVL Initial Operational Capability	4	2015	4	2015
Acquisition Milestones: CTOL Initial Operational Capability	4	2016	4	2016
Acquisition Milestones: CV Initial Operational Capability	4	2018	4	2018
Test & Evaluation: Test and Evaluation: Block 3I DT&E/Cert	1	2014	4	2015
Test & Evaluation: Test and Evaluation: Block 3F DT&E/Cert	4	2014	4	2017
Test & Evaluation: Test and Evaluation: Initial Operational Test and Evaluation (IOT&E)	2	2015	4	2018
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-14	4	2014	4	2014
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-15	4	2015	4	2015
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-16	4	2016	4	2016
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-17	4	2017	4	2017
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-18	4	2018	4	2018
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-19	4	2019	4	2019
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-20	4	2020	4	2020
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 8 Full Funding / Production / Delivery	1	2015	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 2261 / *Joint Strike Fighter EMD*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 9 Full Funding / Production / Delivery	1	2016	2	2018
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 10 Full Funding / Production / Delivery	2	2016	2	2019
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 11 Full Funding / Production / Delivery	2	2017	4	2020
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 12 Full Funding / Production / Delivery	2	2018	4	2020
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 13 Full Funding / Production / Delivery	2	2019	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800N / *JT Strike Fighter (JSF) - EMD*	Project (Number/Name) 3352 / *F-35C Sustainment/Capability Enhancements*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3352: *F-35C Sustainment/ Capability Enhancements*	-	14.419	16.997	36.977	-	36.977	-	-	-	-	-	68.393
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Total cost including United States Navy (USN), United States Marine Corps (USMC), and United States Air Force (USAF) funding is: FY14 $44.951M, FY15 $61.570M, and FY16 $140.390M

R-2A table shown above reflect service funding only.

R-2A (section B)/R-3 displays total combined program (i.e. not Service-specific), including International partners.

D&S Includes:
USAF PE 64800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

A. Mission Description and Budget Item Justification

Funds enhancements to the deployability and suitability of the air system such as low observable (LO) maintenance enhancements, security architecture updates, redesign of obsolete items, and integrated training simulators. These enhancements will provide vital on-demand support to the war-fighter within a deployed environment and are not funded via the existing System Development and Demonstration (SDD) program or tied to Block 4 Operational Flight Program development. Funding will result in achieving targeted suitability, maintainability, and affordability returns employing the F-35 in deployed or austere locations.

-Funding at the accomplishment/planned program level is reported as the total of all services as these activities support all aircraft variants. The annual funding contribution between the United States Navy and United States Marine Corps is approximately equal.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Sustainment and Capability Enhancements	30.477	42.236	121.797	-	121.797
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3352 / *F-35C Sustainment/Capability Enhancements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Apply disciplined systems engineering, refinement of requirements, develop and acquire suitability and maintainability of the air system such as decentralized maintenance capabilities, LO maintenance enhancements, security architecture updates, redesign of obsolete items and integrated training simulators. ***FY 2014 Accomplishments:*** Conduct systems engineering, technology maturation, integration and test planning for Deployability and Suitability enhancements. ***FY 2015 Plans:*** Continue to conduct systems engineering, technical maturation, integration and test planning for suitability and deployability enhancements. ***FY 2016 Base Plans:*** Continue to conduct systems engineering, technical maturation, integration and test planning for suitability and deployability enhancements. Increase is to perform sustaining engineering, development and test activities necessary to gain capacity, compatibility, and expansion in wiring, power, wing conduits, etc. in support of electronic warfare. ***FY 2016 OCO Plans:*** N/A					
Title: Development Support	11.846	14.745	14.417	-	14.417
Articles:	-	-	-	-	-
Description: Initiate SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. ***FY 2014 Accomplishments:*** Continue development enhancement support for Deployable Autonomic Logisitics Information System, decentralized maintenance capabilities, Low Observable maintenance enhancements, security architecture updates, redesign of obsolete items and integrated training simulators. ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3352 / *F-35C Sustainment/Capability Enhancements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue to initiate development enhancement support for Deployable Autonomic Logistics Information System, decentralized maintenance capabilities, Low Observable maintenance enhancements, security architecture updates, redesign of obsolete items, and integrated training simulators. ***FY 2016 Base Plans:*** Continue to initiate development enhancement support for Deployable Autonomic Logistics Information System, decentralized maintenance capabilities, Low Observable maintenance enhancements, security architecture updates, redesign of obsolete items, and integrated training simulators. ***FY 2016 OCO Plans:*** N/A					
Title: Development Test and Evaluation	2.628	4.589	4.176	-	4.176
Articles:	-	-	-	-	-
Description: Verification and testing for deployability and suitablilty enhancements. ***FY 2014 Accomplishments:*** Initiate verification of test articles, evaluation strategy and metrics in preparation for testing of deployability and suitability enhancements. ***FY 2015 Plans:*** Continue to initiate government test and evaluaton of capability enhancements for Deployable Autonomic Logistics Information System, and LO maintenance enhancements. ***FY 2016 Base Plans:*** Continue to initiate government test and evaluaton of capability enhancements for Deployable Autonomic Logistics Information System, and LO maintenance enhancements. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	44.951	61.570	140.390	-	140.390
Joint Strike Fighter 0604800F	16.200	32.593	71.461	-	71.461
Joint Strike Fighter 0604800M	14.332	11.980	31.952	-	31.952
Navy Subtotals	14.419	16.997	36.977	-	36.977

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3352 / *F-35C Sustainment/Capability Enhancements*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDT&E/0604800F: *Joint Strike Fighter*	600.360	535.296	517.980	-	517.980	323.446	114.595	5.291	5.365	Continuing	Continuing
• International: *International Partner (SDD/FOD)*	10.311	15.000	17.000	-	17.000	22.000	27.450	-	-	Continuing	Continuing
• APAF/0207142F: *F-35 Joint Strike Strike Fighter*	2,889.602	3,691.046	5,260.212	-	5,260.212	5,356.041	6,109.330	6,023.688	5,526.504	-	50,007.077
• RDT&E/0604800M/2262: *JT Strike Fighter (JSF) - EMD*	394.248	487.068	505.949	-	505.949	398.976	87.145	8.014	8.473	Continuing	Continuing
• APN/0605B: *F-35 Joint Strike Fighter STOVL Spares*	88.304	64.194	111.569	-	111.569	76.703	29.756	100.362	136.763	Continuing	Continuing
• APN/0147C: *F-35 Joint Strike Fighter CV*	79.016	29.400	48.630	-	48.630	91.908	111.898	126.003	204.132	3,733.206	5,719.322
• APN/0605C: *F-35 Joint Strike Fighter CV Spares*	25.809	28.200	59.914	-	59.914	58.795	42.726	35.247	38.394	Continuing	Continuing
• MC/0207142F: *USAF MILCON*	56.000	66.700	132.850	-	132.850	124.000	-	-	-	1,328.000	2,238.050
• APAF/0204142F: *USAF Modification Funding*	126.777	187.646	70.167	-	70.167	310.237	294.229	260.071	259.791	Continuing	Continuing
• FOD/0207142F: *USAF Follow-on Development*	3.000	24.477	110.428	-	110.428	243.520	311.476	334.116	340.093	Continuing	Continuing
• 0207142F/USAF: *USAF Spares*	91.414	236.418	238.673	-	238.673	245.991	326.971	368.702	372.588	-	2,790.845
• OPN/4267: *Autonomic Logistics Information System (ALIS)*	3.389	-	-	-	-	-	-	-	-	-	19.105
• USAF/OPAF PE 27142F: *OPAF*	1.431	4.463	3.858	-	3.858	2.333	2.374	2.415	-	Continuing	Continuing
• APN/0592: *F-35 STOVL Series*	111.158	215.819	256.106	-	256.106	170.624	175.250	16.752	17.641	Continuing	Continuing
• APN/0593: *F-35 CV Series*	29.950	20.502	68.527	-	68.527	47.294	50.707	17.214	17.484	Continuing	Continuing
• RDT&E/0604800M/3350: *F-35C Sustainment/ Capability Enhancements*	14.332	11.980	31.952	-	31.952	-	-	-	-	-	58.264
• RDT&E/0604810M/2935: *JSF Follow-on Development Marine Corps*	-	10.399	59.265	-	59.265	120.028	157.257	168.502	171.946	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3352 / *F-35C Sustainment/Capability Enhancements*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• USAF SDD BP 653832: *Deployability and Suitability Enhancements*	16.200	32.593	71.461	-	71.461	-	-	-	-	-	134.421
• PAF/0207142F: *CTOL Advance Procurement*	339.553	291.880	438.808	-	438.808	528.560	522.180	497.720	506.000	19,787.624	24,451.221
• DCA/0207142F: *Dual Capable Aircraft (DCA)*	-	15.615	4.967	-	4.967	25.795	27.770	37.681	49.575	Continuing	Continuing
• APN/0147: *F-35 Joint Strike Fighter CV*	1,028.415	848.552	897.542	-	897.542	848.056	1,217.562	1,496.303	1,606.088	32,734.961	51,085.532
• APN/0152C: *Advance Procurement (STOVL) BP0152C*	103.195	143.885	203.060	-	203.060	226.148	136.872	139.562	142.353	2,900.408	4,834.934
• APN/0152: *Advance Procurement (STOVL) BP0152*	1,172.248	1,184.410	1,483.414	-	1,483.414	2,049.754	2,713.087	2,796.129	2,810.155	26,147.806	43,146.851
• DoN MILCON: *DoN JSF MILCON*	-	131.904	94.420	-	94.420	230.900	64.660	121.990	119.800	Continuing	Continuing
• International 2: *International Procurement*	1,954.600	2,975.641	4,175.668	-	4,175.668	6,006.257	7,809.829	7,962.298	7,166.485	Continuing	Continuing
• OPN/4268: *Logistics Information System (ALIS)*	-	5.516	3.893	-	3.893	2.136	3.909	3.774	3.854	Continuing	Continuing
• MC/0207597F: *USAF MILCON*	-	-	65.400	-	65.400	34.000	18.900	21.000	-	-	139.300
• RDT&E/0604800M/C260: *JSF Block 4 USMC Cong*	1.500	-	-	-	-	-	-	-	-	-	1.500
• International 3: *International FoD*	-	10.200	44.500	-	44.500	128.965	157.602	169.315	171.636	Continuing	Continuing
• OPN 902010: *ALIS Spares and Repair Parts*	1.010	-	-	-	-	-	-	-	-	-	1.010
• OPN 902010 S8JC: *Aviation Support Equipment (ALIS)*	-	1.576	2.946	-	2.946	1.948	1.940	1.957	1.995	Continuing	Continuing
• USAF O&M: *USAF OPAF: BA01: PE 207142F*	112.183	217.556	302.952	-	302.952	360.107	452.906	555.687	858.671	Continuing	Continuing
• USAF OPAF: *USAF OPAF: BA01: PE 207142F*	1.431	4.463	3.858	-	3.858	2.333	2.374	2.415	-	Continuing	Continuing
• RDT&E/0604810N/2936: *JSF Follow-on Development Navy*	-	10.622	47.579	-	47.579	103.564	134.250	145.580	148.975	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3352 / *F-35C Sustainment/Capability Enhancements*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Implement Joint Strike Fighter Joint Executive Steering Board/Configuration Steering Board approved enhancements through existing contracts using the engineering change proposal process. When appropriate, new cost type contracts may be established.

E. Performance Metrics

The following are the key performance parameters from the F-35 Selected Acquisition Report:

Performance Metrics reflect Key Program Performance data.

Combat Radius
Conventional Take Off and Landing (CTOL) Does Not Meet Requirement
Carrier Variant (CV) Meets Tripwire Requirement
Short Take Off Vertical Landing (STOVL) Meets/Exceeds Tripwire Requirement

CV Recovery
Maximum Approach Speed Meets Requirement In Tripwire Band

STOVL Performance
Flat Deck (High-High-High Profile Fuel) Meets Requirement In Tripwire Band
Ski Jump (High-Medium-Medium-High Profile Fuel) Meets Requirement In Tripwire Band
Vertical Landing Bring Back Meets Requirement In Tripwire Band

Interoperability
Net Ready Criteria- Meets Requirement In Tripwire Band

Radio Frequency Signature Meets/Exceeds Tripwire Requirement

Force Protection
CB Pilot Protection (New Key Performance Parameters Per CN3) - Meets/Exceeds Tripwire Requirement

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3352 / *F-35C Sustainment/Capability Enhancements*

Mission Reliability
CTOL Meets/Exceeds Tripwire Requirement
CV Exceeds Operational Requirements Document Objective
STOVL United States Marine Corps Meets/Exceeds Tripwire Requirement
STOVL United Kingdom Meets/Exceeds Tripwire Requirement

Sortie Generation Rate
CTOL Meets/Exceeds Tripwire Requirement
CV Meets/Exceeds Tripwire Requirement
Short Take Off Vertical Landing (STOVL) United States Marine Corps Meets/Exceeds Tripwire Requirement
STOVL UK Meets/Exceeds Tripwire Requirement

Logistics Footprints
Conventional Take Off and Landing (CTOL) Meets/Exceeds Tripwire Requirement
STOVL USMC Meets/Exceeds Tripwire Requirement

Logistics Footprint- Volume
Carrier Variant (CV) Exceeds Operational Requirements Document (ORD) Objective
STOVL USMC Exceeds ORD Objective
STOVL UK Meets/Exceeds Tripwire Requirement

Logistics Footprint-Weight
Carrier Variant (CV)Exceeds Operations Requirements Document (ORD) Objective
STOVL USMC Exceeds ORD Objective
STOVL UK Meets/Exceeds Tripwire Requirement

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3352 / *F-35C Sustainment/Capability Enhancements*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Development LM Deployability Suitability	C/CPFF	Lockheed Martin : Fort Worth, TX	0.000	30.837	Mar 2014	42.236	Mar 2015	121.797	Mar 2016	-		121.797	-	194.870	194.870
		Subtotal	0.000	30.837		42.236		121.797		-		121.797	-	194.870	194.870

Remarks

Cumulative Award Fee earned for Lockheed Martin 0%.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	Various : Various	0.000	10.846	Mar 2014	13.745	Mar 2015	13.417	Mar 2016	-		13.417	-	38.008	-
		Subtotal	0.000	10.846		13.745		13.417		-		13.417	-	38.008	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	Various : Various	0.000	2.268	Jun 2014	4.589	Jun 2015	4.176	Mar 2016	-		4.176	-	11.033	-
		Subtotal	0.000	2.268		4.589		4.176		-		4.176	-	11.033	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	Various : Various	0.000	1.000	Dec 2013	1.000	Dec 2014	1.000	Dec 2015	-		1.000	-	3.000	-
		Subtotal	0.000	1.000		1.000		1.000		-		1.000	-	3.000	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800N / *JT Strike Fighter (JSF) - EMD*	Project (Number/Name) 3352 / *F-35C Sustainment/Capability Enhancements*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	0.000	44.951		61.570		140.390		-		140.390	-	246.911	-
Joint Strike Fighter 0604800F	-	16.200		32.593		71.461		-		71.461			-
Joint Strike Fighter 0604800M	-	14.332		11.980		31.952		-		31.952			-
Project Cost Totals	0.000	14.419		16.997		36.977		-		36.977	-	246.911	-

Remarks

NOTE: Prior Years reflect $14.167 USAF/Total $14.167

FY 2014 reflects $16.200M USAF/$14.419M USN/$14.332M USMC/$0.000M International/Total $44.951M

FY 2015 reflects $32.593M USAF/$16.997M USN/$11.980M USMC/$0.000M International/Total $61.570M

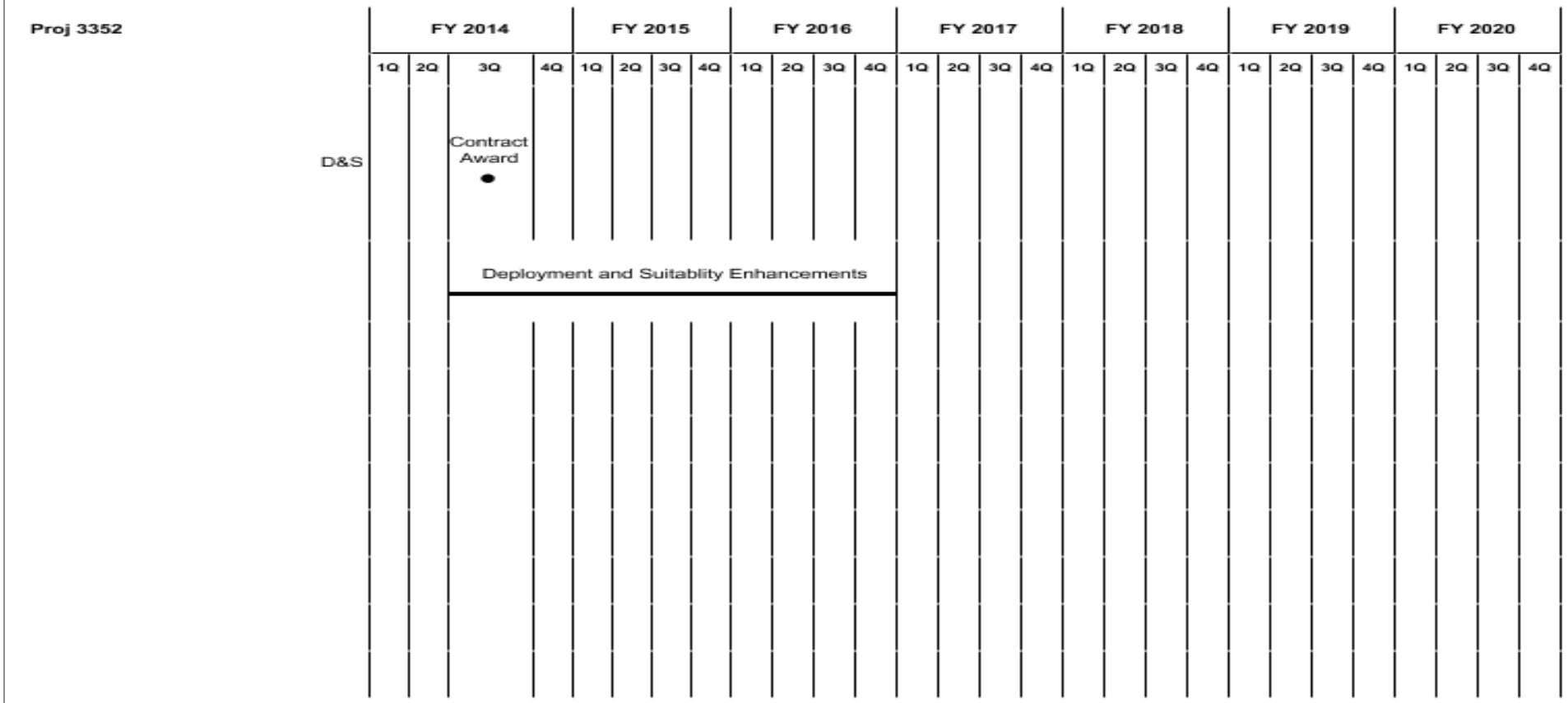
FY 2016 reflects $71.461M USAF/$36.977USN/$31.952M USMC/$0.000M International/Total $140.390M

R-2A (section B)/R-3 displays total combined program (i.e. not Service-specific), including International partners.

JSF EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3352 / *F-35C Sustainment/Capability Enhancements*



2016OSD - 0604800N - 3352

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 3352 / *F-35C Sustainment/Capability Enhancements*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3352				
D&S: D&S Contract Award	3	2014	3	2014
D&S: D&S Deployment and Suitability Enhancements	3	2014	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800N / *JT Strike Fighter (JSF) - EMD*	Project (Number/Name) 9999 / *Congressional Adds*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9999: *Congressional Adds*	-	1.500	-	-	-	-	-	-	-	-	-	1.500
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

FY 2014 reflects $0.000M USAF/$1.500M USN/ $1.500M USMC/$0.000M International Partners/Total $3.000M

A. Mission Description and Budget Item Justification

Congressional Add. Provides funding to produce, staff, and gain approval of a Block 4 Capability Development Document.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015
Congressional Add: JSF Block 4 - USMC Cong ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A	1.500	-
Congressional Add: JSF Block 4 - USN Cong ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A	1.500	-
Congressional Adds Subtotals	3.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not required for Congressional Add.

E. Performance Metrics

Not required for Congressional Add.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800N / *JT Strike Fighter (JSF) - EMD*	Project (Number/Name) 9999 / *Congressional Adds*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission and Threat Analysis for Capability Development Document	C/CPFF	Lockheed Martin : Fort Worth, TX	0.000	1.184	Aug 2014	-		-		-		-	-	1.184	-
Radar Capability Requirements Analysis	Various	DARPA : Various	0.000	0.126	Jul 2014	-		-		-		-	-	0.126	-
		Subtotal	0.000	1.310		-		-		-		-	-	1.310	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical and Analytic Support to CDD Development and Staffing	SS/T&M	Various : Various	0.000	1.406	Mar 2014	-		-		-		-	-	1.406	-
		Subtotal	0.000	1.406		-		-		-		-	-	1.406	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support and CDD Preparations	Various	Various : Various	0.000	0.284	Mar 2014	-		-		-		-	-	0.284	-
		Subtotal	0.000	0.284		-		-		-		-	-	0.284	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	0.000	3.000		-		-		-		-	-	3.000	-
Joint Strike Fighter 0604800M	-	1.500		-		-		-		-			-
Project Cost Totals	0.000	1.500		-		-		-		-	-	3.000	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800N / *JT Strike Fighter (JSF) - EMD*	Project (Number/Name) 9999 / *Congressional Adds*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

NOTE:

FY 2014 reflects $0.000M USAF/$1.500 USN/$1.500M USMC/$0.000M International/Total $3.000M

R-2A (section B)/R-3 displays total combined program (i.e. not Service-specific), including International partners.

JSF BLOCK 4 Includes:
USN PE 0604800N Project Unit C261
USMC PE 0604800M Project Unit C260

JSF EMD Includes:
USAF PE 0604800F BPAC 653831
USN PE 0604800N Project Unit 2261
USMC PE 0604800M Project Unit 2262

D&S Includes:
USAF PE 0604800F BPAC 653832
USN PE 0604800N Project Unit 3352
USMC PE 0604800M Project Unit 3350

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 9999 / *Congressional Adds*

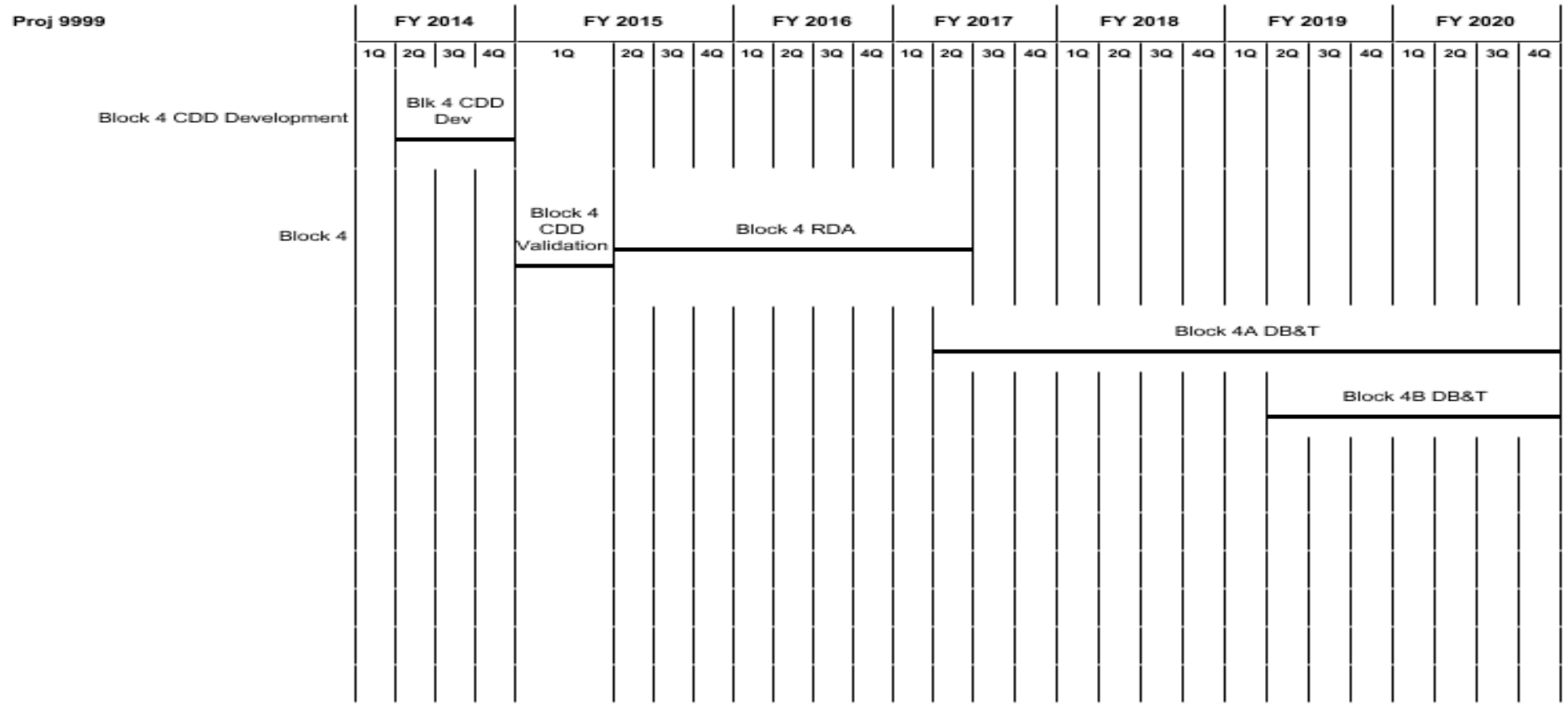


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604800N / *JT Strike Fighter (JSF) - EMD*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9999				
Block 4 CDD Development: CDD Development	2	2014	4	2014
Block 4: Block 4: CDD Validation	1	2015	1	2015
Block 4: Block 4: Requirements Development and Analysis	2	2015	2	2017
Block 4: Block 4A: Design, Build and Test	2	2017	4	2020
Block 4: Block 4B: Design, Build and Test	2	2019	4	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604810M *I Joint Strike Fighter Follow On Development - MC*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	-	10.399	59.265	-	59.265	120.028	157.257	168.502	171.946	Continuing	Continuing
2935: *JSF Follow On Development - Marine Corps*	0.000	-	10.399	59.265	-	59.265	120.028	157.257	168.502	171.946	Continuing	Continuing
MDAP/MAIS Code: 198												

A. Mission Description and Budget Item Justification

The F-35 Lightning II Fighter program is developing a family of highly common, affordable, next generation, multi-role aircraft to meet the needs of the USMC, USN, USAF and international partners. The three variants are the F-35A Conventional Takeoff and Landing (CTOL); F-35B Short Takeoff and Vertical Landing (STOVL); and the F-35C Carrier Variant (CV). Maximum commonality among the variants, consistent with National Disclosure Policy, will minimize life cycle costs.

F-35 Follow-on Development (FoD) provides continuing incremental upgrades of the three F-35 variants and associated ground equipment. The FoD acquisition strategy is based upon incremental block development of capabilities with each increment consisting of two development cycles. FoD will provide capability enhancements, required systems upgrades and cost improvements through an incremental acquisition approach. FoD capability planning includes an efficient transition from F-35 System Development and Demonstration (SDD) to FoD. As SDD development activities ramp down, the FoD program will assume responsibility for new development and the maintenance of associated developmental infrastructure. FoD capability planning includes Block 4A and 4B Engineering and Manufacturing Development efforts from FY16 through FY20 followed by DT and OT testing in 2020/2021 with IOC of capabilities in 2022.

Additionally, the F-35 JSF Operational Requirements Document (ORD) calls for the F-35A (CTOL) Variant Air Vehicle to have the capabilities and provisions for Dual Capable Aircraft (DCA) operations in the first post SDD block upgrade. DCA refers to the capability to carry and deliver conventional and non-conventional weapons. DCA operation for the F-35A is internal carriage of two B-61s. Due to extensive certification requirements, the DCA capability planning and design will begin in Block 4A and continue through testing and to extensive certification requirements, the DCA capability planning and design will begin in Block 4A and continue through testing and certification in Block 4B.

The United Kingdom, other International Partner nations, and Foreign Military Sales customers are also participants in the JSF program. The program shown here reflects USN, USMC, USAF, and International Partner funding.

Funding at the accomplishment/planned program level is reported as the total of all services and partners as these activities support all aircraft variants.

The SDD budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for USN and USAF use.

FY07: 1 CTOL flight test article
FY08: 1 STOVL flight test article; 1 STOVL ground test article

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604810M *I Joint Strike Fighter Follow On Development - MC*

FY09: 1 STOVL flight test article; 2 CTOL ground test articles
FY10: 6 flight test articles: 3 CTOL, 2 STOVL, 1 CV; 3 ground test articles: 1 STOVL, 2 CV
FY11: 4 flight test articles: 1 CTOL, 1 STOVL, 2 CV
FY13: 1 CV flight test article

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SDD because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	10.399	59.265	-	59.265
Total Adjustments	-	10.399	59.265	-	59.265
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	10.399			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	59.265	-	59.265

Change Summary Explanation

Adjustments are funding realignments. In FY 2015 Appropriations Act, FoD moved to this Program Element, separate from System Development & Demonstration (SDD).

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604810M / *Joint Strike Fighter Follow On Development - MC*	Project (Number/Name) 2935 / *JSF Follow On Development - Marine Corps*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2935: *JSF Follow On Development - Marine Corps*	-	-	10.399	59.265	-	59.265	120.028	157.257	168.502	171.946	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Total cost including International partner contributions, USN, USMC, and USAF funding: FY2014 $6.000M; FY15 $55.698M; FY16 $261.772M.

R-2A table shown above reflects service funding only.

R-2A (section B)/R-3 displays combined program for JSF Follow-on Development (FoD).

JSF FoD Includes:
USAF PE 0207142F BPAC 675346
USN PE 0604810N Project Unit 2936
USMC PE 0604810M Project Unit 2935
USN PE 0604800N Project Unit 9999(FY14): $1.500M
USMC PE 0604800M Project Unit 9999 (FY14): $1.500M
International Partnership Contributions

A. Mission Description and Budget Item Justification

F-35 FoD provides continuing incremental upgrades of the three F-35 variants and associated ground equipment. The FoD acquisition strategy is based upon incremental block development of capabilities with each increment consisting of two development cycles. FoD capability planning includes an efficient transition from F-35 System Development and
Demonstration (SDD) to Follow-on Development. As SDD development activities ramp down, the FoD program will assume responsibility for new development and the maintenance of associated developmental infrastructure. FoD capability planning includes Block 4A and 4B Engineering and Manufacturing Development efforts from FY16 through FY20 followed by
DT and OT testing in 2020/2021 with IOC of capabilities in 2022.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Air Vehicle Follow-on Development	4.333	55.698	259.435	-	259.435
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604810M / *Joint Strike Fighter Follow On Development - MC*	**Project (Number/Name)** 2935 / *JSF Follow On Development - Marine Corps*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Capability planning effort will focus on mission requirements analysis, early engineering, risk reduction and preparations leading to formal acquisition approval of Block 4. Program planning will consist of engineering and development support for defining, managing and the acquisition of capability enhancements required to address threats indicated in the Electronic Warfare Initial Capabilities Document (ICD) and the Fifth Generation Fighter Modernization ICD. ***FY 2014 Accomplishments:*** Follow-on Development (FoD) activity supports development and validation of FoD Increment 1 Capability Development Document. ***FY 2015 Plans:*** Requirements analysis and technical requirements development, systems engineering, and technical planning. A combined Systems Requirements Review and Systems Functional Review is planned followed by development of the Block 4 preliminary design. ***FY 2016 Base Plans:*** Requirements analysis and technical requirements development, systems engineering, and technical planning. A combined Systems Requirements Review and System Functional Review is planned followed by development of the Block 4 preliminary design. ***FY 2016 OCO Plans:*** N/A					
Title: Development Support	1.667	-	2.337	-	2.337
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Technical and Analytical Support. ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604810M / *Joint Strike Fighter Follow On Development - MC*	**Project (Number/Name)** 2935 / *JSF Follow On Development - Marine Corps*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Initiate development support for defining, managing and acquiring the envisioned F-35B capability enhancements identified in approved requirements documents. ***FY 2016 Base Plans:*** Initiate development support for defining, managing and acquiring the F-35B capability enhancements identified in approved requirements documents. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	6.000	55.698	261.772	-	261.772
0207142F JSF FOLLOW ON DEVELOPMENT	3.000	24.477	110.428	-	110.428
0604810N JSF FOLLOW ON DEVELOPMENT	-	10.622	47.579	-	47.579
International FoD	-	10.200	44.500	-	44.500
C261 JSF Block 4 Congressional Add	1.500	-	-	-	-
C260 JSF Block 4 Congressional Add	1.500	-	-	-	-
Navy Subtotals	-	10.399	59.265	-	59.265

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDT&E/0604810N/2636: *F-35C Follow-on Development*	-	10.622	47.579	-	47.579	103.564	134.250	145.580	148.975	Continuing	Continuing
• USAF/FOD/0207142F: *USAF Follow-on Development*	3.000	24.477	110.428	-	110.428	243.520	311.476	334.116	340.093	Continuing	Continuing
• RDT&E/0604800N/9999: *Congressional Add*	1.500	-	-	-	-	-	-	-	-	-	1.500
• RDT&E/0604800M/9999: *Congressional Add*	1.500	-	-	-	-	-	-	-	-	-	1.500
• International: *International FoD*	-	10.200	44.500	-	44.500	128.965	157.602	169.315	171.636	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604810M / *Joint Strike Fighter Follow On Development - MC*	**Project (Number/Name)** 2935 / *JSF Follow On Development - Marine Corps*

D. Acquisition Strategy

To enable the ability to adjust to potential discrepancies discovered during SDD Block 3 Test and Evaluation, the engineering and development planning support for FoD will be procured under a cost type contract. A fee provision will be used to target and motivate contractor performance. A separate Basic Ordering Agreement or Indefinite quantity/Indefinite Delivery contract is planned to provide a long term approach to upgrading and maintaining laboratories and test aircraft. Both Development Support and Management Services will
primarily use CPFF Delivery Orders.

E. Performance Metrics

Overall FoD Performance Metrics will reflect Key Performance Parameters established in the F-35 FoD Capability Development Document.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604810M / *Joint Strike Fighter Follow On Development - MC*	Project (Number/Name) 2935 / *JSF Follow On Development - Marine Corps*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prime LM	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	2.463	Dec 2013	53.017	Dec 2014	258.654	Dec 2015	-		258.654	2,358.189	2,672.323	2,672.323
Prime LM IDIQ 13-D-0005	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	1.600	Dec 2013	-		-		-		-	-	1.600	1.600
Systems Engineering	Various	Various : Various	0.000	-		0.781	Dec 2014	0.781	Dec 2015	-		0.781	25.944	27.506	27.506
		Subtotal	0.000	4.063		53.798		259.435		-		259.435	2,384.133	2,701.429	2,701.429

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	NAWC AD : Patuxent, MD	0.000	-		-		1.355	Dec 2015	-		1.355	Continuing	Continuing	Continuing
Development Support	MIPR	Eglin AFB : Eglin AFB, FL	0.000	-		-		0.982	Dec 2015	-		0.982	-	0.982	-
Development Support	Various	Various : Various	0.000	1.667	Dec 2013	-		-		-		-	-	1.667	-
		Subtotal	0.000	1.667		-		2.337		-		2.337	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Functional Wyle	C/CPFF	Wyle : Arlington, VA	0.000	0.270	Dec 2013	1.900	Dec 2014	-		-		-	-	2.170	2.170
		Subtotal	0.000	0.270		1.900		-		-		-	-	2.170	2.170

Remarks

Cost to Complete, Total Cost, and Target Value are Continuing. When program baseline is estalished and development contract awarded, values will be established.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604810M / *Joint Strike Fighter Follow On Development - MC*	Project (Number/Name) 2935 / *JSF Follow On Development - Marine Corps*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	0.000	6.000		55.698		261.772		-		261.772	-	-	-
0207142F JSF FOLLOW ON DEVELOPMENT	-	3.000		24.477		110.428		-		110.428			-
0604810N JSF FOLLOW ON DEVELOPMENT	-	-		10.622		47.579		-		47.579			-
International FoD	-	-		10.200		44.500		-		44.500			-
C261 JSF Block 4 Congressional Add	-	1.500		-		-		-		-			-
C260 JSF Block 4 Congressional Add	-	1.500		-		-		-		-			-
Project Cost Totals	0.000	-		10.399		59.265		-		59.265	-	-	-

Remarks

FY 2014 reflects $3.000M USAF/$1.500 USN/$1.500M USMC/$0.000M International/Total $6.000M

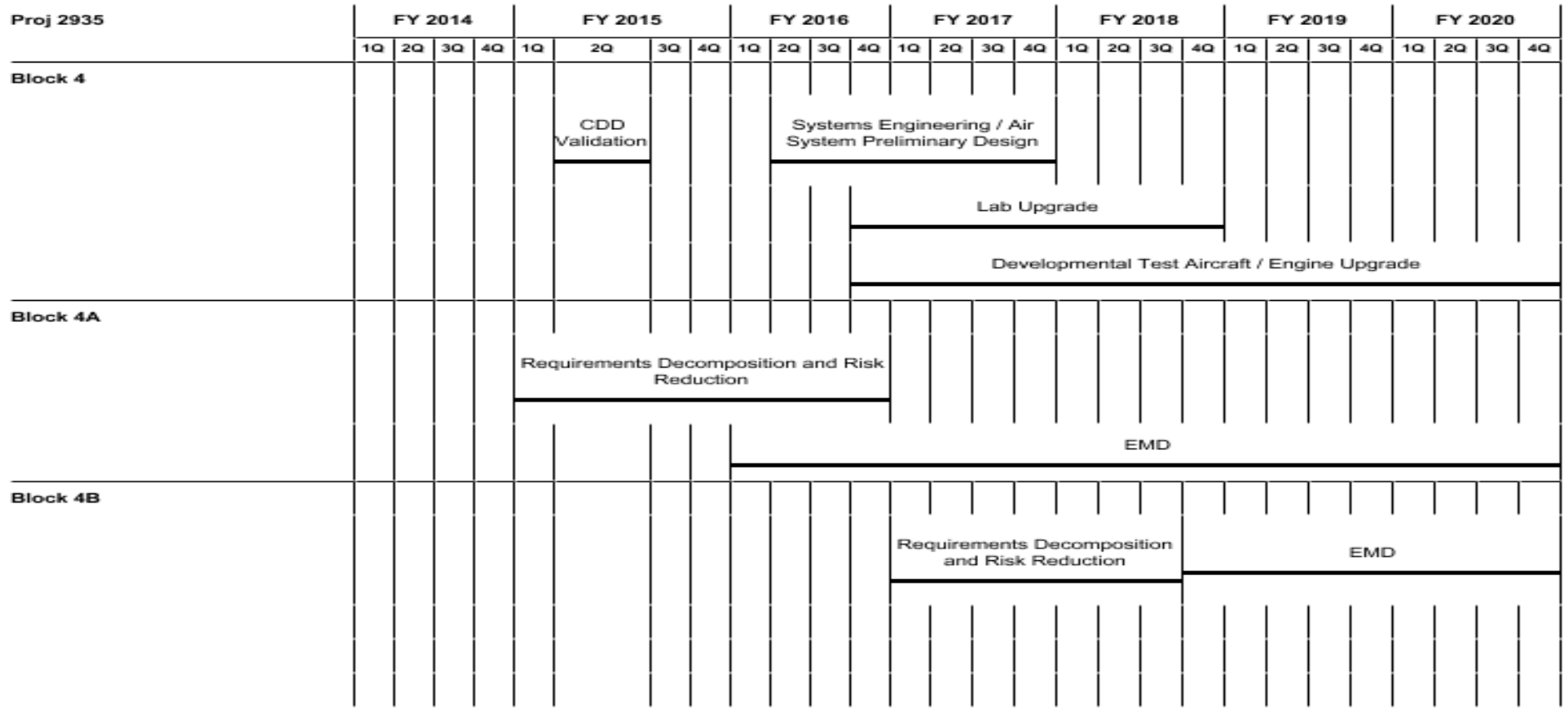
FY 2015 reflects $24.477 USAF/$10.622 USN/$10.399M USMC/$10.200M International/Total $55.698M

FY 2016 reflects $110.428 USAF/$47.579 USN/$59.2655M USMC/$44.500M International/Total $261.772M

R-2A (section B)/R-3 displays total combined program (i.e. not Service-specific), including International partners.

JSF Follow on Development Includes:
USAF PE 0207142F BPAC 675346
USN PE 0604810N Project Unit 2936
USMC PE 0604810M Project Unit 2935
USN PE 0604800N Project Unit 9999 (FY14): $1.500
USMC PE 0604800M Project Unit 999 (FY14) : $1.500

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604810M / *Joint Strike Fighter Follow On Development - MC*	**Project (Number/Name)** 2935 / *JSF Follow On Development - Marine Corps*



2016PB - 0604810M - 2935

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604810M / *Joint Strike Fighter Follow On Development - MC*	**Project (Number/Name)** 2935 / *JSF Follow On Development - Marine Corps*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2935				
Block 4: CDD Validation	2	2015	2	2015
Block 4: Systems Engineering / Air System Preliminary Design	2	2016	4	2017
Block 4: Lab Upgrade	4	2016	4	2018
Block 4: Developmental Test Aircraft / Engine Upgrade	4	2016	4	2020
Block 4A: Requirements Decomposition and Risk Reduction	1	2015	4	2016
Block 4A: EMD	1	2016	4	2020
Block 4B: Requirements Decomposition and Risk Reduction	1	2017	3	2018
Block 4B: EMD	4	2018	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604810N *I Joint Strike Fighter Follow On Development - Navy*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	-	10.622	47.579	-	47.579	103.564	134.250	145.580	148.975	Continuing	Continuing
2936: *JSF Follow On Development - Navy*	0.000	-	10.622	47.579	-	47.579	103.564	134.250	145.580	148.975	Continuing	Continuing
MDAP/MAIS Code: 198												

A. Mission Description and Budget Item Justification

The F-35 Lightning II Fighter program is developing a family of highly common, affordable, next generation, multi-role aircraft to meet the needs of the USMC, USN, USAF and international partners. The three variants are the F-35A Conventional Takeoff and Landing (CTOL); F-35B Short Takeoff and Vertical Landing (STOVL); and the F-35C Carrier Variant (CV). Maximum commonality among the variants, consistent with National Disclosure Policy, will minimize life cycle costs.

F-35 Follow-on Development (FoD) provides continuing incremental upgrades of the three F-35 variants and associated ground equipment. The FoD acquisition strategy is based upon incremental block development of capabilities with each increment consisting of two development cycles. FoD will provide capability enhancements, required systems upgrades and cost improvements through an incremental acquisition approach. FoD capability planning includes an efficient transition from F-35 System Development and Demonstration (SDD) to FoD. As SDD development activities ramp down, the FoD program will assume responsibility for new development and the maintenance of associated developmental infrastructure. FoD capability planning includes Block 4A and 4B Engineering and Manufacturing Development efforts from FY16 through FY20 followed by DT and OT testing in 2020/2021 with IOC of capabilities in 2022.

Additionally, the F-35 JSF Operational Requirements Document (ORD) calls for the F-35A (CTOL) Variant Air Vehicle to have the capabilities and provisions for Dual Capable Aircraft (DCA) operations in the first post SDD block upgrade. DCA refers to the capability to carry and deliver conventional and non-conventional weapons. DCA operation for the F-35A is internal carriage of two B-61s. Due to extensive certification requirements, the DCA capability planning and design will begin in Block 4A and continue through testing and to extensive certification requirements, the DCA capability planning and design will begin in Block 4A and continue through testing and certification in Block 4B.

The United Kingdom, other International Partner nations, and Foreign Military Sales customers are also participants in the JSF program. The program shown here reflects USN, USMC, USAF, and International Partner funding.

Funding at the accomplishment/planned program level is reported as the total of all services and partners as these activities support all aircraft variants.

The SDD budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for USN and USAF use.

FY07: 1 CTOL flight test article
FY08: 1 STOVL flight test article; 1 STOVL ground test article

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604810N *I Joint Strike Fighter Follow On Development - Navy*

FY09: 1 STOVL flight test article; 2 CTOL ground test articles
FY10: 6 flight test articles: 3 CTOL, 2 STOVL, 1 CV; 3 ground test articles: 1 STOVL, 2 CV
FY11: 4 flight test articles: 1 CTOL, 1 STOVL, 2 CV
FY13: 1 CV flight test article

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SDD because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	10.622	47.579	-	47.579
Total Adjustments	-	10.622	47.579	-	47.579
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	10.622			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	47.579	-	47.579

Change Summary Explanation

The FY 2016 funding request was reduced by $7.567 million to account for the availability of prior year execution balances.

Adjustments are funding realignments. In FY 2015 Appropriations Act, FoD moved to this Program Element, separate from System Development & Demonstration (SDD).

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604810N / *Joint Strike Fighter Follow On Development - Navy*	Project (Number/Name) 2936 / *JSF Follow On Development - Navy*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2936: *JSF Follow On Development - Navy*	-	-	10.622	47.579	-	47.579	103.564	134.250	145.580	148.975	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

Note

Total cost including International partner contributions, USN, USMC, and USAF funding: FY2014 $6.000M; FY15 $55.698M; FY16 $261.772M.

R-2A table shown above reflects service funding only.

R-2A (section B)/R-3 displays combined program for JSF Follow-on Development (FoD).

JSF FoD Includes:
USAF PE 0207142F BPAC 675346
USN PE 0604810N Project Unit 2936
USMC PE 0604810M Project Unit 2935
USN PE 0604800N Project Unit 9999(FY14): $1.500M
USMC PE 0604800M Project Unit 9999 (FY14): $1.500M
International Partner Contributions

A. Mission Description and Budget Item Justification

F-35 FoD provides continuing incremental upgrades of the three F-35 variants and associated ground equipment. The FoD acquisition strategy is based upon incremental block development of capabilities with each increment consisting of two development cycles. FoD capability planning includes an efficient transition from F-35 System Development and
Demonstration (SDD) to Follow-on Development. As SDD development activities ramp down, the FoD program will assume responsibility for new development and the maintenance of associated developmental infrastructure. FoD capability planning includes Block 4A and 4B Engineering and Manufacturing Development efforts from FY16 through FY20 followed by
DT and OT testing in 2020/2021 with IOC of capabilities in 2022.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Air Vehicle Follow-on Development	4.333	55.698	259.435	-	259.435
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604810N / *Joint Strike Fighter Follow On Development - Navy*	**Project (Number/Name)** 2936 / *JSF Follow On Development - Navy*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Description: Capability planning effort will focus on mission requirements analysis, early engineering, risk reduction and preparations leading to formal acquisition approval of Block 4. Program planning will consist of engineering and development support for defining, managing and the acquisition of capability enhancements required to address threats indicated in the Electronic Warfare ICD, the Fifth Generation Fighter Modernization ICD. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Requirements analysis and technical requirements development, systems engineering, and technical planning. A combined Systems Requirements Review and System Functional Review is planned followed by development of the Block 4 preliminary design. ***FY 2016 OCO Plans:*** N/A					
Title: Development Support	1.667	-	2.337	-	2.337
Articles:	-	-	-	-	-
Description: Technical and Analytical Support ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604810N / *Joint Strike Fighter Follow On Development - Navy*	**Project (Number/Name)** 2936 / *JSF Follow On Development - Navy*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Initiate development support for defining, managing and acquiring the F-35B capability enhancements identified in approved requirements documents. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	6.000	55.698	261.772	-	261.772
0207142F JSF FOLLOW ON DEVELOPMENT	3.000	24.477	110.428	-	110.428
0604810M JSF FOLLOW ON DEVELOPMENT	-	10.399	59.265	-	59.265
International FoD	-	10.200	44.500	-	44.500
C261 JSF Block 4 Congressional Add	1.500	-	-	-	-
C260 JSF Block 4 Congressional Add	1.500	-	-	-	-
Navy Subtotals	-	10.622	47.579	-	47.579

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDT&E/0604810M/2635: *F-35C Follow-on Development*	-	10.399	59.265	-	59.265	120.028	157.257	168.502	171.946	Continuing	Continuing
• USAF/FOD/0207142F: *USAF Follow-on Development*	3.000	24.477	110.428	-	110.428	243.520	311.476	334.116	340.093	Continuing	Continuing
• RDT&E/0604800N/9999: *Congressional Add*	1.500	-	-	-	-	-	-	-	-	-	1.500
• RDT&E/0604800M/9999: *Congressional Add*	1.500	-	-	-	-	-	-	-	-	-	1.500
• International: *International FoD*	-	10.200	44.500	-	44.500	128.965	157.602	169.315	171.636	Continuing	Continuing

Remarks

D. Acquisition Strategy

To enable the ability to adjust to potential discrepancies discovered during SDD Block 3 Test and Evaluation, the engineering and development planning support for FoD will be procured under a cost type contract. A fee provision will be used to target and motivate contractor performance. A separate Basic Ordering Agreement or

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604810N / *Joint Strike Fighter Follow On Development - Navy*	**Project (Number/Name)** 2936 / *JSF Follow On Development - Navy*

Indefinite quantity/Indefinite Delivery contract is planned to provide a long term approach to upgrading and maintaining laboratories and test aircraft. Both Development Support and Management Services will primarily use CPFF Delivery Orders.

E. Performance Metrics

Overall FoD Performance Metrics will reflect Key Performance Parameters established in the F-35 FoD Capability Development Document.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604810N / *Joint Strike Fighter Follow On Development - Navy*	Project (Number/Name) 2936 / *JSF Follow On Development - Navy*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prime LM	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	2.463	Dec 2013	53.017	Dec 2014	258.654	Dec 2015	-		258.654	2,358.189	2,672.323	2,672.323
Prime LM IDIQ 13-D-0005	C/CPFF	Lockheed Martin : FT. Worth, TX	0.000	1.600	Dec 2013	-		-		-		-	-	1.600	1.600
Systems Engineering	Various	Various : Various	0.000	-		0.781	Dec 2014	0.781	Dec 2015	-		0.781	25.944	27.506	27.506
		Subtotal	0.000	4.063		53.798		259.435		-		259.435	2,384.133	2,701.429	2,701.429

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	NAWC AD : Paxtuxent, MD	0.000	-		-		1.355	Dec 2015	-		1.355	Continuing	Continuing	Continuing
Development Support	MIPR	Eglin AFB : Eglin AFB,Eglin AFB, Fl	0.000	-		-		0.982	Dec 2015	-		0.982	-	0.982	-
Development Support	Various	Various : Various	0.000	1.667	Dec 2013	-		-		-		-	-	1.667	-
		Subtotal	0.000	1.667		-		2.337		-		2.337	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Functional Wyle	C/CPFF	Wyle : Arlington, VA	0.000	0.270	Dec 2013	1.900	Dec 2014	-		-		-	-	2.170	2.170
		Subtotal	0.000	0.270		1.900		-		-		-	-	2.170	2.170

Remarks

Cost to Complete, Total Cost, and Target Value are Continuing. When program baseline is estalished and development contract awarded, values will be established.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604810N / *Joint Strike Fighter Follow On Development - Navy*	Project (Number/Name) 2936 / *JSF Follow On Development - Navy*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	0.000	6.000		55.698		261.772		-		261.772	-	-	-
0207142F JSF FOLLOW ON DEVELOPMENT	-	3.000		24.477		110.428		-		110.428			-
0604810M JSF FOLLOW ON DEVELOPMENT	-	-		10.399		59.265		-		59.265			-
International FoD	-	-		10.200		44.500		-		44.500			-
C261 JSF Block 4 Congressional Add	-	1.500		-		-		-		-			-
C260 JSF Block 4 Congressional Add	-	1.500		-		-		-		-			-
Project Cost Totals	0.000	-		10.622		47.579		-		47.579	-	-	-

Remarks

FY 2014 reflects $3.000M USAF/$1.500 USN/$1.500M USMC/$0.000M International/Total $6.000M

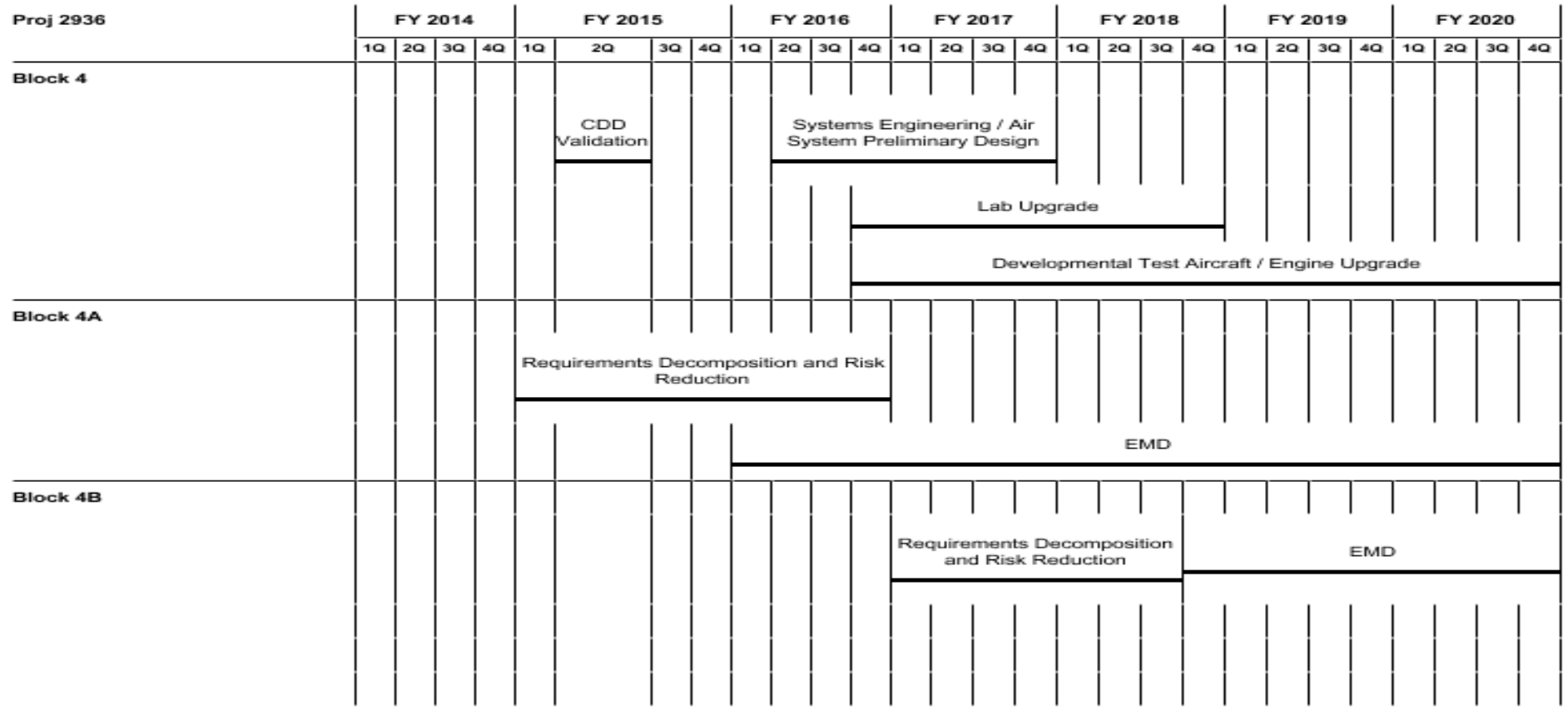
FY 2015 reflects $24.477 USAF/$10.622 USN/$10.399M USMC/$10.200M International/Total $55.698M

FY 2016 reflects $110.428 USAF/$47.579 USN/$59.2655M USMC/$44.500M International/Total $261.772M

R-2A (section B)/R-3 displays total combined program (i.e. not Service-specific), including International partners.

JSF Follow on Development Includes:
USAF PE 0207142F BPAC 675346
USN PE 0604810N Project Unit 2936
USMC PE 0604810M Project Unit 2935
USN PE 0604800N Project Unit 9999 (FY14): $1.500
USMC PE 0604800M Project Unit 999 (FY14) : $1.500

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604810N / *Joint Strike Fighter Follow On Development - Navy*	**Project (Number/Name)** 2936 / *JSF Follow On Development - Navy*



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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0604810N / *Joint Strike Fighter Follow On Development - Navy*	**Project (Number/Name)** 2936 / *JSF Follow On Development - Navy*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2936				
Block 4: CDD Validation	2	2015	2	2015
Block 4: Systems Engineering / Air System Preliminary Design	2	2016	4	2017
Block 4: Lab Upgrade	4	2016	4	2018
Block 4: Developmental Test Aircraft / Engine Upgrade	4	2016	4	2020
Block 4A: Requirements Decomposition and Risk Reduction	1	2015	4	2016
Block 4A: EMD	1	2016	4	2020
Block 4B: Requirements Decomposition and Risk Reduction	1	2017	3	2018
Block 4B: EMD	4	2018	4	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605013M *I Marine Corps IT Dev/Mod*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	68.922	4.787	2.887	5.914	-	5.914	5.591	4.418	8.263	2.564	Continuing	Continuing
2906: *Marine Corps IT*	68.922	4.787	2.887	5.914	-	5.914	5.591	4.418	8.263	2.564	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program establishes, sustains, and continuously refines computing platforms and Information Technology (IT) services as tested, certified and reusable components of a Marine Corps IT framework that spans the range of military operations.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	5.564	2.887	5.158	-	5.158
Current President's Budget	4.787	2.887	5.914	-	5.914
Total Adjustments	-0.777	-	0.756	-	0.756
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.617	-			
• SBIR/STTR Transfer	-0.159	-			
• Rate/Misc Adjustments	-0.001	-	0.756	-	0.756

Change Summary Explanation

The funding increase from FY15 to FY16 supports the Marine Corps Enterprise Information Services (MCEITS) and Risk Management Initiative (RMI) programs.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605013M / *Marine Corps IT Dev/Mod*				Project (Number/Name) 2906 / *Marine Corps IT*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
2906: *Marine Corps IT*	68.922	4.787	2.887	5.914	-	5.914	5.591	4.418	8.263	2.564	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Defense Message System (DMS) and follow-on/replacement systems, as directed by the Joint Staff and HQMC Command, Control, Communications and Computers (C4), meet the organizational messaging requirement for all classification levels from General Services (GENSER) through Top Secret/Sensitive Compartmented Information (TS/SCI). Telos Automated Message Handling System (AMHS) is the current implementation that provides Web-interface for system administration and for user messaging (including readers). Organizational messages are used to direct and commit resources, provide user authentication, non-repudiation, confidentiality, and integrity. It also maintains an archive and retrospective search capability to the warfighter and requires security at the Class 4 level (currently implemented with Fortezza and Certificate Authority Workstations). The Defense Information Systems Agency (DISA) is the lead agency and Global System Manager (GSM) for DMS products. The Department of Defense Intelligence Information System (DODIIS) is the Operations Manager for the Intelligence Community (IC) to support TS/SCI messaging. There are ongoing efforts at the service and DISA level to transition from the DMS system to alternative mechanisms for the transfer of organizational information. FY14 DMS will continue to conduct research and analysis to assist in the transition to the next generation DMS occurring between FY12-15 in order to test and certify possible organizational messaging solutions/capabilities that are DISA compliant. Additionally, DMS will research the feasibility of migrating all Marine Corps organizational messaging capabilities into MCEITS/Enterprise Site. Starting in FY15, DMS has transitioned to a new name of Organizational Messaging Service (OMS). FY16 OMS will continue research the feasibility of the migrating of all Marine Corps organizational messaging capabilities into MCEITS/Enterprise Site.

Marine Corps Training Information Management System (MCTIMS) replaced the mainframe program By Name Assignment, which managed all Marine Corps school seats and interfaced with other service's school seat management programs. MCTIMS is the Marine Corps' official program of record for training and education management and is the single data source which the Training and Education Command (TECOM) relies on to manage training personnel, training seats, students, and other training resources. MCTIMS is the enterprise application upon which standards based instruction, education, and training is built, delivered, tracked, and evaluated. MCTIMS is establishing the unit training management module for all ground forces. This module will provide commanders an enterprise level application, which brings standardization in planning and scheduling training, recording of training against units and individual Marines, provides training assessments and reports combat readiness to Department of Defense (DOD) systems. FY14 funding was planned for Development of Enhanced Registration capability of Marines/Students and a Prerequisite and Registration Screening Tool. FY15 funding is planned for development of Front End Analysis Module and Integration Training Data Warehouse (TrDW) Planning. FY16 funding is planned for continued development of Front End Analysis Module and modernization of training modules.

Manpower Operations Systems (MOS) is a portfolio of enterprise IT systems and modules that support manpower business operations for the Total Force (active and reserve). The investment in the portfolio improves dataflow and increases reliability, functionality, and accuracy of data while reducing the manpower required to operate and maintain these systems/operations. Development is partially driven by regulatory and policy changes mandated by Congress, DOD, Department of the Navy (DON), and United States Marine Corps (USMC). These systems support all five tiers of Manpower: 1) Individual Marine, 2) Small Unit Leader; 3) Unit, 4) Installation Personnel Administration Center (IPAC)/Disbursing Echelon, and 5) Headquarters Marine Corps (HQMC) Manpower and Reserve Affairs (M&RA)/ Defense Finance and Accounting Service. The MOS portfolio provides support in functional areas such as permanent change of station assignments, retention, mobilization, manpower planning, line of duty determination, personnel accountability, individual augmentation, personnel records management and maintenance, management of case

incidents, civilian professional development planning, pay entitlement determinations, promotion and performance evaluations and self-service/visibility of personnel data. MOS programs interface with other systems to provide manpower data and web services functionality for pay and personnel transactions between systems. Systems in the portfolio include the Web-enabled Manpower Assignment Support System (WebMASS), Performance Evaluation System (PES), Total Force Retention System (TFRS), Optical Digital Imaging - Records Management System (ODI-RMS), Manpower Mobilization Assignment System (MMAS), and the Requirements, Transition and Manpower Management System (RTAMMS) Total Force Administration System (TFAS) (composed of the Secure Personnel Accountability (SPA) Module, Automated Performance Evaluation System (APES) and the Drill Management Module (DMM)).

Marine Corps Enterprise Information Technology Services (MCEITS) provides an overarching portfolio of capabilities to deliver "Power to the Edge" for the Marine Corps. Born from an effort to establish a Continuity of Operations Plan of HQMC Automated Information Systems, MCEITS enables realignment of the existing USMC environment of applications, databases, networks, and facilities into an integrated architecture of programs to deliver new information technology capabilities based on a common infrastructure and shared services. MCEITS is a unifying framework of both the Enterprise Services to be delivered, and the infrastructure and systems which must be deployed to enable delivery of those services. Initially it will encompass the Operational, Technical, and Systems architectures of the enterprise environment. However, ultimately it will extend to transform information access both in garrison and in the deployed environment. Combined with policy, procedure and standards provided by HQMC (C4), MCEITS will allow for architectural standardization, consolidated management, and seamless interoperability of and access to the data residing in currently fielded applications (business and tactical). Testing efforts will be focused on MCEITS provided services operating within a Service Oriented Architecture environment. MCEITS will ensure the ability to host services and applications in a Web Services enabled environment. MCEITS enables services to be federated throughout the Marine Corps to include Content Discover and Delivery, Collaboration and Text Chat, between the service consumer and provider. Efforts for MCEITS will focus on technical refresh of the software and hardware infrastructure, modernizing and enhancing MCEITS high availability, automation and service management with continued Pre-Planned Product Improvements (P3I) efforts. The funding increase from FY15 to FY16 is due to program adjustments which realigned resources for more efficient execution.

Marine Corps Recruiting Information Support System (MCRISS) is an enterprise level system to automate administrative procedures for the recruiting station operations. This customized automated System, centered on procedures in the Guidebook for Recruiters, Volume I, dramatically improves efficiency and effectiveness in Marine Corps recruiting. Furthermore, Military Entrance Processing Command requires Marine Corps recruiting to provide information in electronic format only. MCRISS is the Marine Corps Recruiting Command's program to manage applicant processing from commitment to accession/commission into the Marine Corps and Marine Corps Reserve. This enterprise approach allows for efficient sharing of information about potential recruits and recruiter screening efforts, yielding a more cost effective process. FY14 funding supported Design and development of Recruiter Client Development, Training Application Tool Development & Web Based Training (WBT) module. FY15 funding is planned for Automated Waiver Processing Tool and MCEITS Migration. FY16 funding is planned for development of modernization and enhanced capabilities for recruiter support system.

Defense Readiness Reporting System (DRRS-MC) is the next generation of Marine Corps authoritative system for force registration and readiness reporting. The DRRS-MC is a web-based and net-centric system providing readiness reporting via the Netcentric Unit Status Report (NetUSR)-Marine Corps (input) tool, enabling units to register and report their training, equipment (including Chemical, Biological, Radiological and Nuclear [CBRN]); personnel; missions and mission essential tasks (METs) readiness status. The Marine Readiness Management Output Tool (MRMOT) allows users to view current and historical readiness information using graphical user interface screens to efficiently display information. MRMOT is an executive information system in that it begins at a summary level and allows a "drill-down" capability to access detailed readiness information. FY13 - FY14 funding also supported the Global Force Management (GFM) - Data Initiative (DI) to consume

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

Force Structure from Marine Corps Org Server (MCOS); conduct mapping, link and maintain Organizational Unique Identifier (OUID) and Unit Identification Code (UIC) relationships. No additional system development is anticipated in FY15 - FY16.

Paperless Office/Acquisition (PA) funding supports development and enhancement of Purchase Request (PR) Builder which is the Marine Corps enterprise solution for the electronic generation of purchase requests, funding documents, miscellaneous payments, and serves as the front-end system for feeding the DOD enterprise contracting writing system Standard Procurement System (SPS). Development and enhancement of PR Builder is required to ensure financial and contracting functional requirements and Marine Corps business processes are developed, designed, tested and implemented within the system. PR Builder is also undergoing requirements definition and estimation for v4.3. Once these requirements are delivered to the Program Manager (PM) from the service integrators, modifications to the contract to support the requirements will be initiated. Future DOD, DON, and USMC initiatives that will need to be researched and developed include support or adherence to: Standard Financial Information Structure (SFIS), Standard Line of Accounting (SLOA), and Purchase Request Data Standards (PRDS).

Risk Management Initiative (RMI) funding addresses outdated Safety systems, capability gaps and support logistics Information Technology (IT) portfolio rationalization. When completed, RMI will consolidate DoN risk management requirements into a single Program of Record (POR) and provide modern Safety capabilities for the military component of the Navy Total Force (both active and reserve). The USN serves as the lead for this effort with the Marine Corps providing a fair share towards development starting in FY16 (~20%). RMI capability consists of four distinct increments of capability: (1) Streamlined Incident Reporting (SIR), (2) Single Point of Entry (SPOE), (3) Safety Program Management (SPM), (4) Analysis and Dissemination (A&D). These four pillars will enable agile responses to business rule changes, automation of routine actions, improvement of data integrity and facilitation of self-service for organizations and individuals. This is a new start effort in FY16 under this Program Element and Project.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: DEFENSE READINESS REPORTING SYSTEM-MARINE CORPS (DRRS-MC)	0.271	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed support of the Global Force Management (GFM) - Data Initiative (DI) to consume Force Structure from Marine Corps Org Server (MCOS); conduct mapping, link and maintain Organizational Unique Identifier (OUID) and Unit Identification Code (UIC) relationships.					
FY 2015 Plans: N/A					
FY 2016 Base Plans: N/A					
FY 2016 OCO Plans: N/A					
Title: ORGANIZATIONAL MESSAGING SERVICE (OMS) / DEFENSE MESSAGE SYSTEM (DMS)	0.022	-	0.168	-	0.168

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued to conduct research and analysis to assist in the transition to the next generation DMS occurring between FY12-15 in order to test and certify possible organizational messaging solutions/capabilities that are DISA compliant. Additionally, DMS will research the feasbility of migrating all Marine Corps organizational messaging capabilities into MCEITS/Enterprise Site. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Continue to research the feasibility of migrating of all Marine Corps organizational messaging capabilities into MCEITS/Enterprise Site. ***FY 2016 OCO Plans:*** N/A					
Title: MARINE CORPS TRAINING INFORMATION MANAGEMENT SYSTEM (MCTIMS)	0.001	0.291	0.458	-	0.458
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Initiated development of Enhanced Registration capability for Marines/Students as well as a Prerequisite and Registration Screening Tool. ***FY 2015 Plans:*** Initiate development of Front End Analysis Module and Integration Training Data Warehouse (TrDW) Planning. ***FY 2016 Base Plans:*** Continue development of Front End Analyis Module and modernization of training modules. ***FY 2016 OCO Plans:*** N/A					
Title: MARINE CORPS ENTERPRISE INFORMATION TECHNOLOGY SERVICES (MCEITS)	0.799	1.814	3.858	-	3.858
Articles:	-	-	-	-	-
FY 2014 Accomplishments: -Initiated the integration, testing and transitioning of the technically refreshed software and hardware infrastructure of the first Enterprise IT Center in Kansas City.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Initiated scaling of the technical refresh and the infrastructure capacity to host additional applications planned to migrate. ***FY 2015 Plans:*** -Continue integrating, testing and transitioning of refreshed software and hardware infrastructure of the first Enterprise IT Center in Kansas City. -Continue scaling of the techical refresh and infrastructure capacity for planned migrated applications. ***FY 2016 Base Plans:*** -Continue to scale infrastructure capacity to host additional applications planned to migrate. -Initiate analysis, research and design of the MCEITS Development Environment. ***FY 2016 OCO Plans:*** N/A					
Title: PAPERLESS ACQUISITION (PA)	-	0.144	0.444	-	0.444
Articles:	-	-	-	-	-
Description: PAPERLESS ACQUISITION (PA) ***FY 2014 Accomplishments:*** No FY14 Funding. ***FY 2015 Plans:*** Initiate support for Engineering Change Proposals (ECPs). ***FY 2016 Base Plans:*** Continue support for Engineering Change Proposals (ECPs). ***FY 2016 OCO Plans:*** N/A					
Title: MANPOWER OPERATIONS SYSTEMS	3.694	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Initiated the development of a tool to inform and provide analysis for the IT planning process within M&RA and Marine Corps Recruiting Command. The tool will ensure that the IT planning process is aligned with Enterprise Architecture and further supports the identification cost avoidance initiatives.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
-Initiated development of an interface application (replacing dis-functional, antiquated current interface) for Optical Digital Imaging-Records Management System (ODI-RMS). ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: MARINE CORPS RECRUITING INFORMATION SUPPORT SYSTEM (MCRISS) ***Articles:*** ***FY 2014 Accomplishments:*** - N/A ***FY 2015 Plans:*** Initiate design, development and implementation of Automated Waiver Processing Tool; and MCEITS Migration. ***FY 2016 Base Plans:*** Initiate development of modernization and enhanced capabilities for recruiter support system. ***FY 2016 OCO Plans:*** - N/A	- -	0.638 -	0.196 -	- -	0.196 -
Title: SAFETY - RISK MANAGEMENT INITIATIVE (RMI) ***Articles:*** ***Description:*** RISK MANAGEMENT INITIATIVE (RMI) The RMI program is a consolidation of Navy and Marine Corps risk management requirements into a single safety system, thus eliminating the need to modify multiple legacy systems. The USN servers as the lead for this effort with the Marine Corps providing a fair share towards the research and development of the RMI system starting in FY16 (~20%). Refer to USN PE 0605013N / Information Technology Development; Project 2905.L39 / BUPERS IT ***FY 2014 Accomplishments:***	- -	- -	0.790 -	- -	0.790 -

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- N/A ***FY 2015 Plans:*** - N/A ***FY 2016 Base Plans:*** - Initiate contract award for Safety Program Management (SPM) and Analysis & Dissemination (A&D). - Initiate SPM and A&D Design & Business Case Analyses (BCAs). - Complete Testing Phase for Streamline Incident Reporting (SIR) and Single Point of Entry (POE). - Initiate Test Readiness Review (TRR) and Production Readiness Review efforts for SIR & SPOE. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	4.787	2.887	5.914	-	5.914

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• PMC/4617 - DRRS: *Defense Readiness Reporting System (DRRS)*	0.152	-	-	-	-	-	-	-	-	-	0.205
• PMC/4630 - MCTIMS: *MC Training Info Management System*	0.184	0.220	0.225	-	0.225	0.229	0.235	0.010	0.010	-	1.113
• PMC/4630 - MCRISS: *MC Recruiting Info Support System*	0.051	0.060	0.050	-	0.050	0.049	0.049	0.049	0.050	-	0.358
• PMC/4630 - PA: *Paperless Office/Acquisition*	0.213	-	0.123	-	0.123	-	0.123	0.125	0.128	-	0.712
• PMC/4630-MCEITS: *MC Enterprise IT Services*	25.576	1.355	2.492	-	2.492	2.983	2.609	30.747	31.369	-	97.131
• PMC/4630 - OMS: *Organizational Messaging Service (OMS)*	0.298	0.099	1.046	-	1.046	-	-	0.002	0.002	-	1.447
• PMC/4617 - MOS: *Manpower Operations Systems (MOS)*	0.767	0.499	0.396	-	0.396	0.297	0.242	0.247	0.253	-	2.701
• RDTE/0605013N - RMI: *Risk Management Initiative*	2.239	1.790	2.960	-	2.960	-	-	-	-	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• PMC/4620 Items<5M: *Items Under 5M*	-	-	0.100	-	0.100	-	0.100	-	0.100	-	0.300

Remarks

D. Acquisition Strategy

Defense Message System (DMS) is a Joint Acquisition Category (ACAT) IAM program. It is Assistant Secretary Defense Command, Control, Communication and Intelligence mandated. Each year the Joint Interoperability Test Command (JITC) runs Operational Test (OT) assessments on DMS software versions and maintenance releases. Marine Corps participation is vital to ensuring that the implementation of DMS is interoperable with all DOD CINCs, services, and agencies. Furthermore, as follow-on organizational messaging solutions for DMS are being identified, materiel solution analysis activities will be conducted. Starting in FY15, DMS has transitioned to a new name of Organizational Messaging Service (OMS).

Marine Corps Training Information System (MCTIMS) will utilize an evolutionary strategy with incremental development methodology. MCTIMS is structured in a module format that allows for phasing of development without having to reengineer the entire system to add significant new capability. MCTIMS utilizes a firm-fixed price contracting strategy to reduce risk to the government. MCTIMS is a fully integrated system, emphasizing code re-use between modules to reduce cost and improve program stability.

Manpower Operations Systems (MOS) within this portfolio follows an Evolutionary Acquisition (EA) approach: 1. Define, develop, and deliver an initial or "core" capability based on mature technology. 2. "Core" capability will be incrementally improved over an extended period of time. Incremental Development Model: 1. Iterative cycles of requirements definition, design, build and evaluation. The contracting strategy across the portfolio is to utilize competitive firm-fixed price contracts.

Marine Corps Enterprise Information Technology Services (MCEITS) will be implemented using an initial increment (with 2 releases for each EITC location) followed by P3Is providing an operationally effective and suitable capability in the shortest time possible. The program will deliver an initial capability and continue integration and production of the system in accordance with the USMC Information Enterprise Strategy. The objective is to balance needs with available commercial and government solutions and resources, and to rapidly provide capabilities to the Marines. This strategy is supported by an Indefinite Delivery Indefinite Quantity contracting vehicle which will allow the contractor to provide the full range of capabilities, services and solutions necessary to satisfy the requirements through incremental implementation of technology, processes and capabilities. Capabilities will be delivered through individual task orders to ensure technology and services are inserted according to the overall program goals, user requirements and program schedule.

Paperless Acquisition (PA) will use an incremental development methodology utilizing short development periods. The contracting strategy is to use a firm-fixed price contract to reduce risk to government, with additional capabilities defined by a Marine Corps Configuration Control Board and delivered to the service integrator as a modification to the contract. The delivery of small functional capabilities allows for measurable enhancements to the base system while keeping Post Deployment System Support costs relatively low.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

Marine Corps Recruiting Information Support System (MCRISS) capitalizes on centrally located data with secure web and wireless web enabled entry. MCRISS utilizes a modular/incremental development to maintain system operability while providing continued development. Contracting strategy includes competitive firm-fixed price contracts.

Defense Readiness Reporting System-Marine Corps (DRRS-MC) will use an EA strategy. DRRS-MC will consist of three phases: 1. Provide basic readiness reporting capabilities for both the input tool and output tool 2. Provide for auto-population and enhanced trending capabilities. 3. Additional system interfaces and a cross-domain solution. The DRRS-MC software architecture is based on commercial products used throughout Government and Industry. The supporting products, underlying technologies and technical skills are not unique and are readily available. There are no limitations within industry to prevent any interested sources from submitting a proposal. Many of the corporations providing enterprise solutions to the USMC, DON and DoD are potential sources as the DRRS-MC Systems Integrator.

Risk Management Initiative (RMI) consolidates risk management requirements into a single system utilizing a single vendor Indefinite Delivery / Indefinite Quantity (IDIQ). The USN serves as the lead for the RMI effort with the Marine Corps providing a fair share towards development starting in FY16. The approach for RMI is an incremental COTS configuration model providing usable increments of capability within 24-month cycles after funds certification for each. Development of the Streamlined Incident Reporting and Single Point of Entry capability increments via separate task orders using RDT&E beginning in FY14. Safety Program Management and Analysis & Dissemination will be initiated with FY16 RDT&E.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013M / *Marine Corps IT Dev/Mod*	Project (Number/Name) 2906 / *Marine Corps IT*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TFSMS -Dev	C/FPIF	SAIC : McLean, VA	16.760	-		-		-		-		-	-	16.760	-
DRRS - Sys Integrator Dev	C/FPIF	SAIC : Dumfries, VA	0.793	0.271	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
MCEITS P3I Efforts	C/IDIQ	SAIC : McLean VA	2.623	-		1.472	Feb 2015	1.517	Feb 2016	-		1.517	Continuing	Continuing	Continuing
Paperless Ofc Acq Dev	C/FFP	TBD : TBD	0.484	-		0.144	Aug 2015	0.444	Aug 2016	-		0.444	Continuing	Continuing	Continuing
MOS ODI-RMS Interface Dev	C/FFP	CGI : Dumfries, VA	0.000	0.418	Sep 2014	-		-		-		-	-	0.418	-
MOS M&RA Roadmap	C/FP	HumanTouch, LLC : McLean, VA	2.001	3.276	Nov 2014	-		-		-		-	-	5.277	-
DMS	C/FFP	TBD : TBD	0.323	0.022	Jan 2015	-		-		-		-	-	0.345	-
MCTIMS Enhanced Registration of Marines/ Students	C/FP	TBD : TBD	0.000	0.001	Jan 2015	-		-		-		-	-	0.001	-
MCTIMS Handheld/Mobile App Interface & Integration TrDW Planning	C/FP	InfoReliance : Fairfax, VA	0.000	-		0.291	Apr 2015	0.200	Apr 2016	-		0.200	-	0.491	-
MCTIMS Training Modules Modernization	C/FP	InfoReliance : Fairfax, VA	0.000	-		-		0.258	Apr 2016	-		0.258	-	0.258	-
MCRISS MCEITS Migration	C/FP	CGI : Dumfries, VA	0.000	-		0.206	Apr 2015	-		-		-	-	0.206	-
MCRISS Automated Waiver Processing Tool	C/FP	CGI : Dumfries, VA	0.000	-		0.432	Apr 2015	-		-		-	-	0.432	-
MCRISS Modernization and enhanced Capabilities Development	C/FP	CGI : Dumfries, VA	0.000	-		-		0.196	Apr 2016	-		0.196	-	0.196	-
RMI	C/BA	SPAWAR: : San Diego, CA	0.000	-		-		0.790	Jan 2016	-		0.790	-	0.790	-
Prior Years Cumulative Funding	Various	Various : Various	19.043	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	42.027	3.988		2.545		3.405		-		3.405	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013M / *Marine Corps IT Dev/Mod*	Project (Number/Name) 2906 / *Marine Corps IT*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Cumulative Funding	Various	Various : Various	14.876	-		-		-		-		-	-	14.876	-
DMS MCEITS Migration Study	C/FFP	TBD : TBD	0.000	-		-		0.168	Aug 2016	-		0.168	-	0.168	-
MCEITS HSI Support	WR	NSWC : Dahlgren VA	0.000	0.160	Oct 2014	-		0.105	Jun 2016	-		0.105	-	0.265	-
MCEITS EITC Support	WR	SPAWAR : Charleston SC	0.000	-		0.206	Jan 2015	1.594	May 2016	-		1.594	-	1.800	-
		Subtotal	14.876	0.160		0.206		1.867		-		1.867	-	17.109	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MCEITS Enterprise Architecture	Various	Various : Various	10.345	0.106	Jan 2015	0.136	Aug 2015	-		-		-	Continuing	Continuing	Continuing
Prior Years Cumulative Funding	Various	Various : Various	0.653	-		-		-		-		-	-	0.653	-
MCEITS Modeling & Simulation	C/FFP	TSC : Silver Spring MD	1.021	0.533	Aug 2014	-		0.642	Aug 2016	-		0.642	Continuing	Continuing	Continuing
		Subtotal	12.019	0.639		0.136		0.642		-		0.642	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	68.922	4.787		2.887		5.914		-		5.914	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

MCEITS Program Schedule

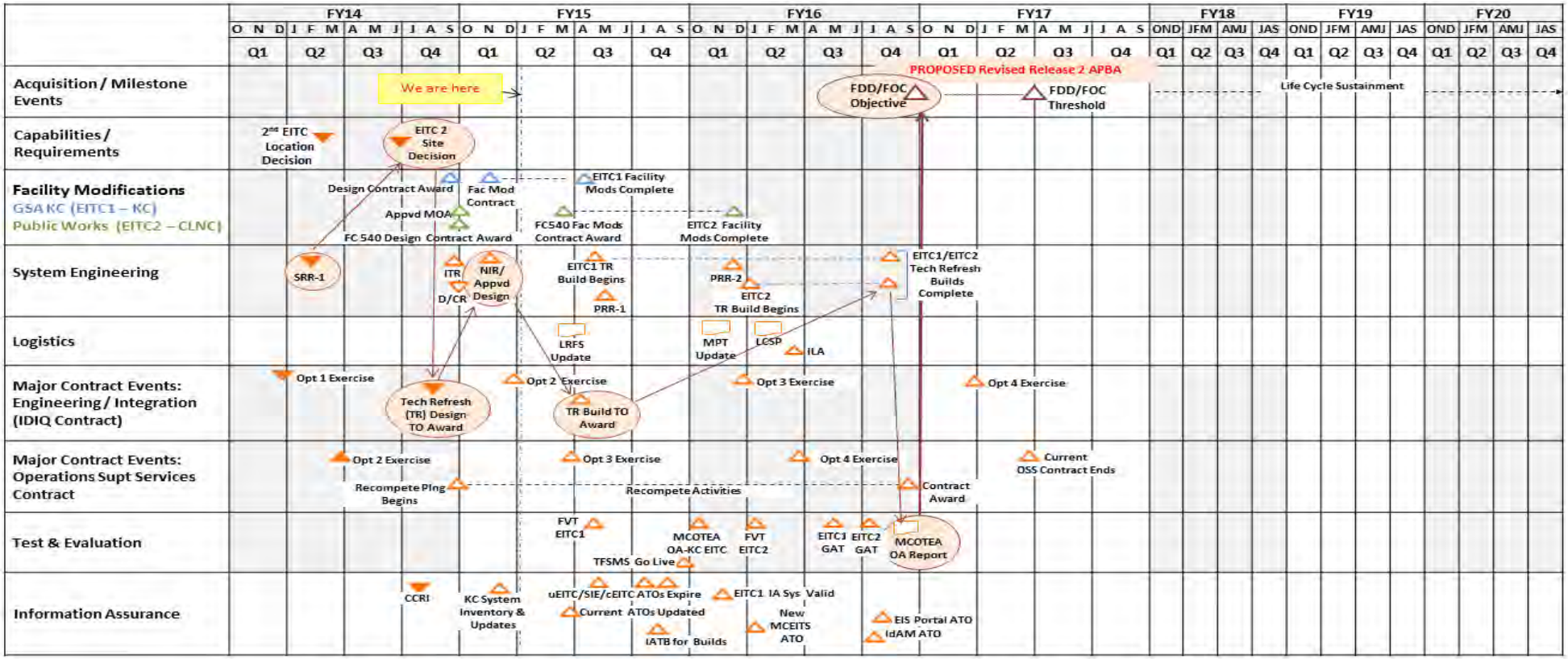


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

MCTIMS SCHEDULE

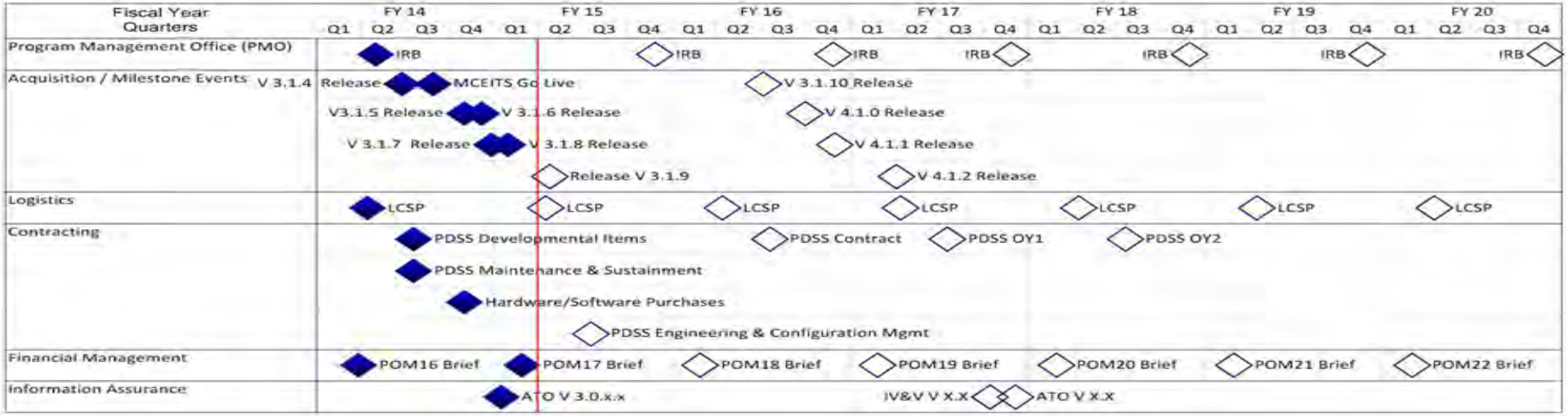


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

MCRISS SCHEDULE

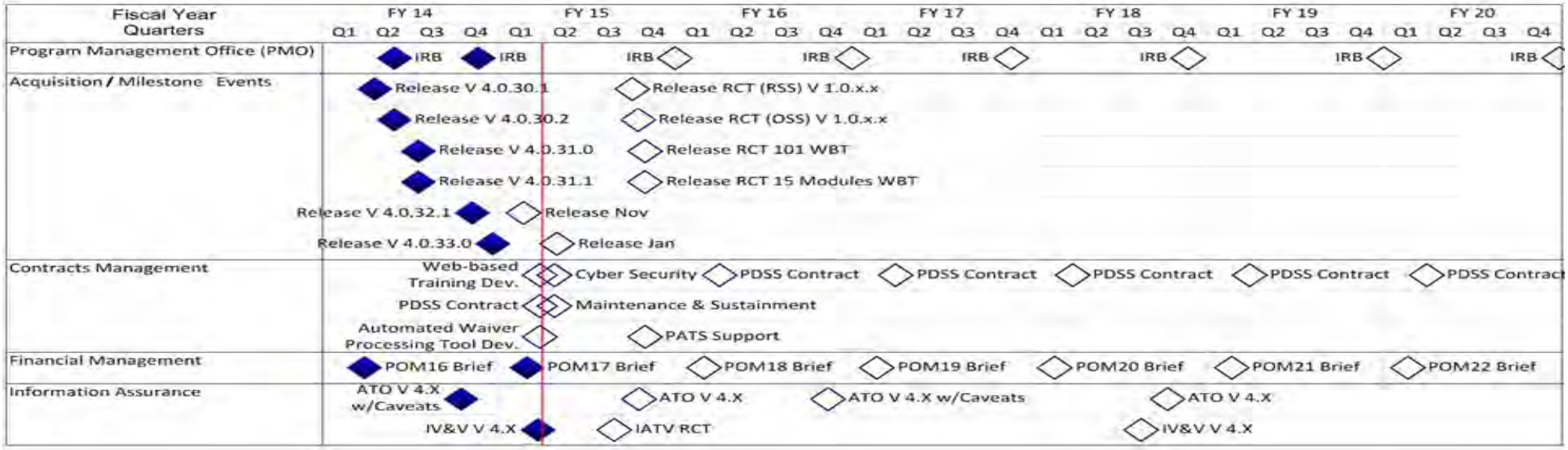


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

DMS/OMS

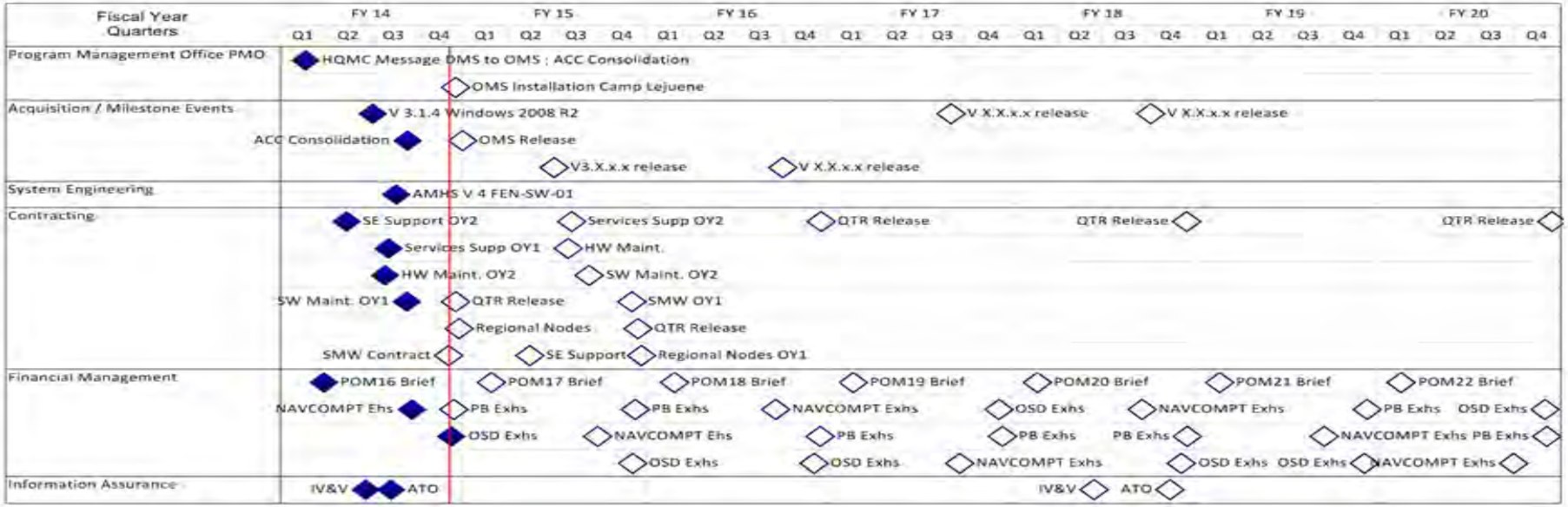


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

PA Systems (MCPC 501404)

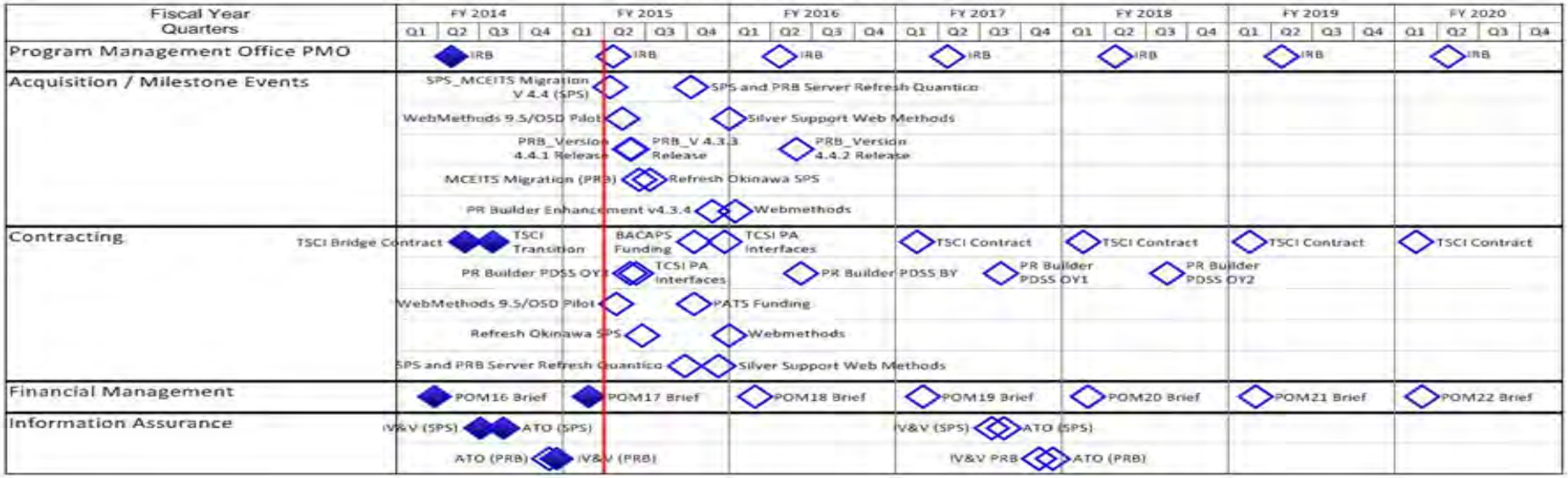
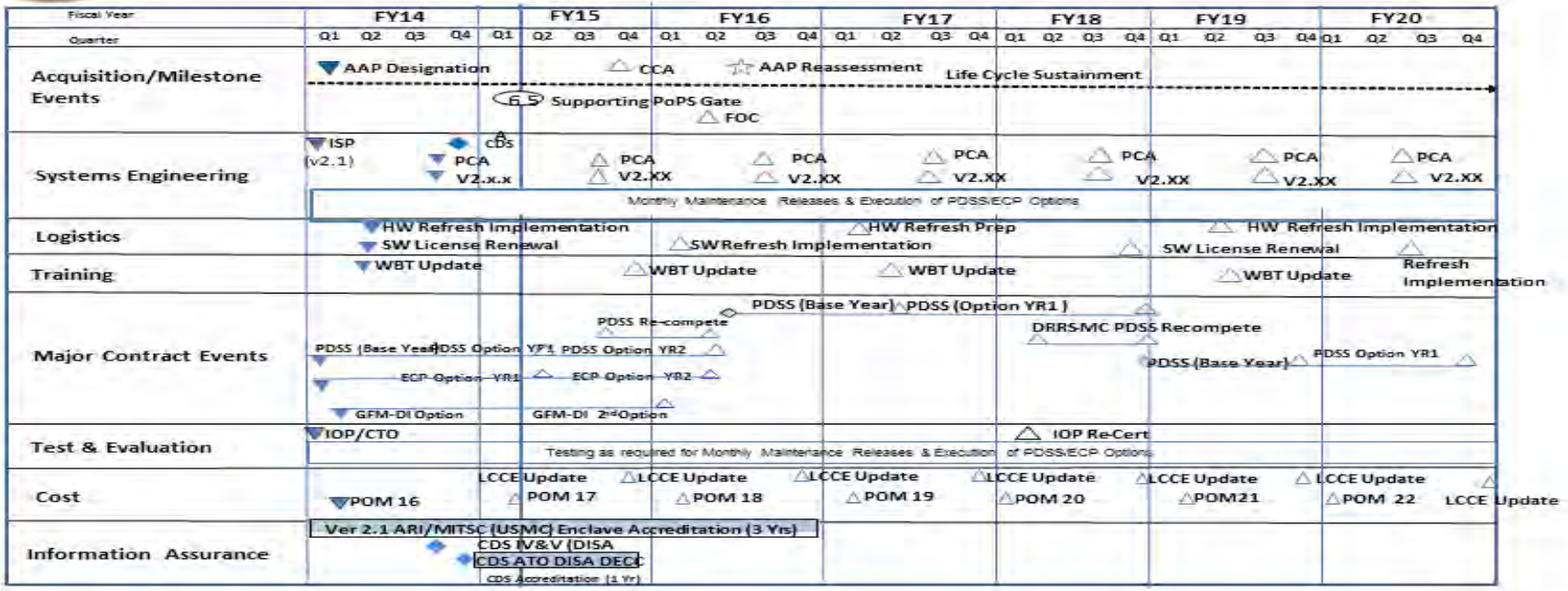


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

DRRS-MC Program Schedule



MCPC–670212

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013M / *Marine Corps IT Dev/Mod*	**Project (Number/Name)** 2906 / *Marine Corps IT*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2906				
Increment 1 Full Operational Capability (FOC) (MCEITS)	3	2017	3	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605013N *I Information Technology Development*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	158.041	51.748	66.317	89.711	-	89.711	99.939	76.126	54.019	39.873	Continuing	Continuing
2901.: *AAUSN IT*	13.661	9.715	6.147	25.395	-	25.395	42.013	27.539	17.443	2.495	Continuing	Continuing
2903: *NAVAIR IT*	1.355	0.508	0.699	6.431	-	6.431	5.779	5.730	0.599	0.612	Continuing	Continuing
2904: *NAVSEA IT*	100.480	16.754	28.173	24.816	-	24.816	20.174	19.273	17.191	17.567	Continuing	Continuing
2905.: *BUPERS IT*	15.130	15.699	14.690	13.476	-	13.476	14.709	10.069	7.652	7.823	Continuing	Continuing
3167: *Joint Technical Data Integration (JTDI)*	19.434	1.914	2.848	8.122	-	8.122	5.887	4.642	3.943	4.029	Continuing	Continuing
3185: *Joint Airlift Information System (JALIS)*	0.773	0.272	0.337	0.340	-	0.340	0.342	0.352	0.361	0.368	Continuing	Continuing
9406: *Maintenance Data Warehouse*	7.208	6.886	13.423	11.131	-	11.131	11.035	8.521	6.830	6.979	Continuing	Continuing

A. Mission Description and Budget Item Justification

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DEPARTMENT OF NAVY TASKING RECORDS AND CONSOLIDATED KNOWLEDGE ENTERPRISE REPOSITORY (DoN TRACKER)
The DoN lacks standard Records Management (RM) and Task Management (TM) policy & processes for users as well as the organization required to meet current Federal and Departmental mandates. These non-standard and decentralized processes result in inefficient business operations from duplication of effort, long & protracted process cycle times, ineffective compliance with statutes and poor decision support. DoN TRACKER addresses these issues through an enterprise-wide solution designed & developed to meet reengineered business processes and requirements. Prior investment implemented a certified, compliant and open source solution via a Small Business Innovative Research (SBIR) Phase III contract.

The diverse Navy user base continues to update its business processes, operational workflows, and policy guidelines for RM and TM. These changes result in requirements for new capabilities and improved performance of the baseline system.

ELECTRONIC PROCUREMENT SYSTEM (EPS)
EPS will replace the Standard Procurement System (SPS). Program Executive Office / Enterprise Information Systems (PEO/EIS) will act as the Program Manager. EPS will be a modular and web-based system built in a Service Oriented Architecture.

2901 BSO 22

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605013N *I Information Technology Development*

DONAA IT - The Modernization Initiative includes multiple projects with RDT&E requirements: Multiple Threat Alert Center (MTAC), Data Modernization & Analytical Tools, Knowledge Network (K-Net), Consolidated Law Enforcement Operations Center (CLEOC), and Data Modernization of the Secretariat Automated Resources Management Information System (SARMIS). RDTEN funding will optimize DONAA's capability to make necessary improvements to various Secretariat systems. This modernization will ensure compliance with continued financial emerging requirements. Enhancement of financial auditability will be in compliance with DOD security system requirements.

Multiple Threat Alert Center (MTAC): The Post-Cole Secretary of the Navy Anti-terrorism/Force Protection Task Force identified the need for NCIS to enhance the Multiple Threat Alert Center (MTAC). The MTAC provides key anti-terrorism/force protection products in response to Fleet tasking and is critical to Fleet protection during current Overseas Contingency Operations (OCO). This project provides funding for the development of an IT system to track the movement of NCIS special agents deployed in advance of DoN in-transit units. The ability to track and communicate with these agents is necessary in order to forward threat data to those forward deployed agents and to task them to respond to emerging threats. Funding is required for equipment and contractor support to modify COTS software.

Data Modernization & Analytical Tools: NCIS data collection, filtering, and analysis infrastructure is unable to handle the increased flow of terrorism investigative and threat reporting of the Post 9/11 era. NCIS must revitalize its infrastructure and its data and investigation management capabilities to effectively counter current terrorist threats. The three main components of this portfolio investment are data modernization, knowledge management, and investigation management.

Knowledge Network (K-Net): K-Net is a Data Modernization & analytical tool being developed and soon deployed that greatly enhances NCIS's technological arsenal. K-Net implements an integrated NCIS approach for identifying, capturing, evaluating, retrieving, and sharing all of NCIS's knowledge and expertise. To that end, K-Net is a knowledge management system that improves NCIS's ability to search, analyze, fuse, and distribute both national intelligence and law enforcement information. The envisioned end state for K-Net is a secure, intuitive, web environment that is the one stop shop where applications, data, and tools are easily accessible to all of NCIS users to effectively and securely fulfill their mission regardless of when and where they operate.

Consolidated Law Enforcement Operations Center (CLEOC): The Naval Criminal Investigative Service (NCIS) enhancement of CLEOC will enable meeting Law Enforcement (LE) reporting requirements, satisfy Congressional mandates for the Defense Incident-Based Reporting System (DIBRS) and improve functionality across the Naval criminal justice community.

Department of the Navy Criminal Justice Information System (DONCJIS): The Naval Criminal Investigative Service (NCIS) is the Executive Agent (EA) for the Department of the Navy Criminal Justice Information System (DONCJIS). This system provides a cradle to grave criminal justice and law enforcement information system. The system enables multiple communities within the DON to share criminal justice and law enforcement information. Funding is required for contractor support to develop, test, train, deploy and implement this application.

2903 NAVAIR IT - JCMIS: The Joint Configuration Management Information System (JCMIS) Program is Department of Defense (DoD) standard software system for complete and integrated configuration management (CM) of weapon systems from acquisition to disposal. JCMIS efficiently manages all product structure data, including complex interrelationship between assemblies and subassemblies, technical documentation and the parts that comprise the item. JCMIS is designed to

manage and control configuration data to support the DoD business processes. Accurate, complete and accessible configuration data is critical to the successful operations of DoD weapon systems or tracked assets. Mission readiness and operational capabilities are enhanced by JCMIS, as instant consistent integrated configuration data is readily available to operators, maintainers and logistics personnel. This system is a CM tool available DoD wide to support all potential customers. JCMIS provides users with a common database infrastructure to ensure compatibility, quality, and consistency of CM processes and provides configuration managers and analysts the validated CM information necessary for accurate maintenance, spare procurements, reliability and safety analysis, and mission readiness. Funding is budgeted to support the services of re-hosting and testing of COTS upgrades to ensure objective performance of JCMIS is achieved.

Total Force Cyber Awakening (TFCA)- Cyber Warfare consists of many different aspects to include sabotage of our weapon systems, networks as well as enablement of missions. Nation and non-nation state actors are acquiring and employing more advanced cyber-attacks in order to exploit our networks and aviation systems challenging our technological edge. The threats and capabilities are real and range from exploiting capabilities, overloading weapons systems and logistics supply chains, to jamming signals or taking control of weapons systems. We must defend against adversarial cyber-attacks while contributing to the exploitation of cyber warfare capabilities.

To meet these challenges and address the Chief of Naval Operations priorities and tasking, these research and development efforts are specifically focused on Naval Air Systems Command weapon or control systems and programs to ensure warfighting effectiveness as part of integrated / multi-platform kill chains. These research and development efforts will strengthen our cyber posture by developing research, development, test and evaluation capabilities and solutions to deter, detect, and mitigate cyber threats and safeguard classified naval aviation systems and platforms from "cradle to grave." These solutions will be integrated into the acquisition of weapons systems to enhance security, increase lethality, and improve resiliency in the expected operational environments. Our weapon or control systems are unique in the aforementioned environments and mission, but also in the presence of numerous non-traditional access points and trusted cyber relationships required for operational environments.

2904 NAVSEA IT - This program includes the funding for Information Technology (IT) support at NAVSEA, managed by the NAVSEA 04 Program Management Office (PMO-IT) for the support and sustainment of maritime shore maintenance and includes multiple modernization efforts to insure effectiveness of Fleet maintenance systems as part of the current Navy Maritime Maintenance Enterprise Solution (NMMES). These efforts include retirement and/or replacement of costly legacy systems, transition planning and systems engineering for integration with national and enterprise interim and future solutions. These efforts align with direction to insure that proposed interim solutions support a planned, single maintenance solution end state, as well as direction to align with data center consolidation plans proposed across the FYDP. It includes the modernization of Naval Shipyard and Regional Maintenance Centers' Maintenance, Repair and Overhaul (MRO) production tools. This includes modifications/enhancements to Shipyard IT systems, such as Advanced Industrial Management (AIM); Project Scheduling and Sequencing (PSS); Workload and Performance Systems; the COST and MAT systems, and other solutions such as the Electronic Technical Working Document (eTWD) Initiative. The goal of PMO-IT is to provide modernization, migration and consolidation of obsolete legacy systems to the next generation of centrally hosted tools supporting Fleet Maintenance and national systems for the Navy.

2905 - BUPERS IT

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605013N *I Information Technology Development*

BILLET BASED DISTRIBUTION (BBD)
The objective of BBD is to replace the current inventory-based requisition generation process with automated functionality driven by requirements--an inventory-balanced and position-based process. This methodology will increase personnel readiness, improve fit and provide clear visibility to the impact on mission readiness at the billet level. BBD will facilitate maximizing the contributions of every member of the Navy workforce by delivering competency-based career paths.

The BBD effort commenced in FY12 and Phase 1A was delivered in FY14. Phase 1B began in FY14 and will be completed in FY15. Phase 1C will begin in FY15 and will be completed in FY16. Phase 1C will allow direct command-level input to enlisted placement for the alignment and realignment of Sailors. FY16 investment completes BBD Phase IC. The cumulative effect of these investments implements the modernization necessary to achieve the automated, requirements-driven billet requisition & filling process and completes the systems engineering reviews, software design & development necessary to provide user interactive capability implementing the people-to-position objective.

MY NAVY PORTAL (MNP)
MNP seeks to consolidate and eliminate multiple portals and eliminates the need for Sailors to use various applications crossing multiple lines of business. MNP is a web site providing access to and interaction with information assets, applications, business processes, knowledge bases and communities of interest. MNP is designed to be highly personalized to the individual Sailor. MNP provides technological services commonly used by Sailor-facing applications and will eliminate redundancy in the implementation of those services across the enterprise. The MNP investment implements significant efficiencies by reducing the overall DoN IT footprint, reducing the number of Navy portals, reducing the investment in technology services by business applications and improving the quality of service provided to Sailors and Marines. FY16 investments complete migration of applications presently within the BUPERS On Line into MNP.

TOTAL FORCE MANPOWER MANAGEMENT SYSTEM (TFMMS)
TFMMS modernization will provide the Navy's authoritative source for manpower management by establishing a modern, web-based classified & unclassified environment with increased access, modernized manpower processes and improved cyber defense. The current capability to generate the authoritative, enterprise-wide, naval manpower information products is based on an outdated, non-standard force structure definition. Current capability also has limited user access to the existing mainframe-based environment. The change in capability fundamentally impacts the speed & cost effectiveness of manpower processes. It also enhances Navy readiness by delivering manpower information and timely analysis. This promotes efficiencies in recruiting & accessions, distribution and workforce development.

TFMMS investments in FY16 will complete the web-based environment developed in FY14 and FY15. FY16 funds will also deploy enhanced manpower capabilities including Billet Change Request (BCR) and Activity Maintenance functionality, End Strength Management, Position Authorizations, Extended Workflow and other required capabilities.

APPLICANT RELATIONSHIP MANAGEMENT (ARM)

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
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FY16 investment includes the implementation of ARM capability. ARM is being implemented as a modernization to the Pride Mod Automated Information System (AIS). FY16 investment funds product improvement efforts incorporating biometric signature capability, further reducing paper-based processing of Kits and implementing deferred requirements.

NAVY STANDARD INTEGRATED PERSONNEL SYSTEM (NSIPS)
NSIPS is the Navy's business solution to Human Resources Management for approximately 400,000 Sailors worldwide. NSIPS provides the Navy with a web-based, field-entry, electronic pay and personnel support system and analytical repository for all active duty & reserve Sailors. NSIPS is available worldwide--both ashore and shipboard. NSIPS collects, validates, processes and transfers the data necessary to ensure accurate & timely pay and maintenance of personnel records. NSIPS is pivotal in the processes of mobilization and demobilization.

NSIPS integrates the capabilities of several legacy systems including:
(1) Navy Enlisted System (NES)
(2) Officer Personnel Information System (OPINS)
(3) Inactive Manpower Management Information System (IMAPMIS)
(4) Reserve Headquarters Support (RHS)

NSIPS major components and services currently include:
(1) NSIPS Transactional - Navy field level Personnel transaction system
(2) NSIPS Reporting/Business Intelligence - reporting and ad hoc query tool
(3) Web Afloat - shipboard NSIPS component
(4) Web Adhoc - business intelligence analysis
(5) Career Information Management System (CIMS) - used for career counseling
(6) Navy Retention Monitoring (NRMS) - reports retention statistics
(7) Permanent Change of Station Obligation and Expenditure Management System (POEMS) - used to manage costs associated with Permanent Change of Station (PCS)
(8) Alternate Final Multiple Score (AFMS) - used to determine eligibility to E-7 selection board for SO and SB ratings (9) Health Professionals Incentive Program (HPIP) - manages the development of medical personnel
To address future personnel and pay requirements, the Navy will leverage its investment in NSIPS and take an incremental approach for a rationalized and modernized IT portfolio. FY16 investments continue the implementation of this strategy. In accordance with DCMO ADM Dated 22 October 2013 the IPPS-N line RDT&E funding was moved to the NSIPS line in order to better align funding with the system being modernized.

RISK MANAGEMENT INITIATIVE (RMI)

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
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The goal of the Risk Management Initiative (RMI) is to implement reengineered business processes and consolidate five legacy stovepipe systems into a complementary & supportable RMI capability.

RMI's objective is to address outdated Safety systems, capability gaps and support logistics Information Technology (IT) portfolio rationalization. When completed, RMI will consolidate DoN risk management requirements into a single Program of Record (POR) and provide modern Safety capabilities for the military component of the Navy Total Force (both active and reserve). RMI capability consists of four distinct increments of capability:

(1) Streamlined Incident Reporting (SIR)
(2) Single Point of Entry (SPOE)
(3) Safety Program Management (SPM)
(4) Analysis and Dissemination (A&D)

These four pillars will enable agile responses to business rule changes, automation of routine actions, improvement of data integrity and facilitation of self-service for organizations and individuals.

FY16 investment continues the SPM and A&D activities under development, which will be added to the completed SIR and SPOE increments (SIR capability completes in early FY16).

3167 Joint Technical Data Integration (JTDI) Program - Funding supports the evaluation, testing and integration to develop a JTDI Commercial-Off-The-Shelf (COTS) solution for installation on a Carrier (CV) and Amphibious Assault (L) class ships and up to 104 Navy/Marine Corp aviation activities. JTDI is a digital technical data access, delivery and local O&I level library management toolset and telemaintenance collaboration process enabler. It improves accuracy and timeliness of technical manual and other technical data delivery and minimizes the Fleet's library management burden. JTDI reduces maintenance work hours with saving Return on Investment (ROI) of 2.5:1. It facilitates the transition of the Joint Distance Support and Response (JDSR) Advanced Concept Technology Demonstration (ACTD) for telemaintenance and provides for process efficiencies to support ongoing Aviation Fleet Technical Representative reductions.

3167 Marine Aviation Logistics Enterprise Information Technology (MAL_EIT) - Funding supports the evaluation, development, testing and integration of software and hardware solutions across all US Marine Corps Aviation activities to be used in the planning and execution of geographically distributed, expeditionary Aviation Logistics (AVLOG) chains in support of deployed USMC Air Combat Element operations. The Marine Aviation Logistics Enterprise Information Technology (MAL-EIT) Program is one of four programs contained within the Marine Aviation Logistics Support Program (MALSP) modernization program known as MALSP II. Legacy MALSP is nearly 25 years old and grossly inadequate in IT capability to meet the informational, planning, and C2 needs of a dynamic, geographically distributed nodal AVLOG system. MAL-EIT is a Defense Business System Abbreviated Acquisition Program that will develop and deliver the required IT capability necessary to eliminate the IT related gaps existing in the legacy MALSP.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
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3185 JOINT AIR LOGISTIC INFORMATION SYSTEM (JALIS)
JALIS is a critical element with regard to DoD CONUS and OCONUS Air Logistics assets. JALIS is an operational scheduling and aircraft management system that facilitates real-time data analysis, and is a critical element for management of DoD air logistics assets. JALIS allows DoD organizations to do the following:

(1) Submit airlift requirements for passengers and cargo
(2) Communicate among air logistics flying units to determine aircraft availability on a realtime graphic display
(3) Designate scheduling organizations to compare airlift requirements to available aircraft
(4) Create mission assignments

The development of new JALIS capabilities from prioritized requirements within the Common Movement Management System (CMMS) approved Functional Requirements Document (dated May 2010) will begin in FY16.

9406 Maintenance Data Warehouse/NAVAIR DECKPLATE - The development of the Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE) program is the next generation data warehouse for aircraft maintenance, flight and usage data. It provides a web-based interface to a single source of information currently being stored in multiple Naval Aviation Logistics Data Analysis (NALDA) systems. Through the use of analysis, query and reporting tools the user has the capabilities to effectively obtain readiness data in a near real-time environment, as well as historical data for trend analysis and records reconstruction. DECKPLATE supports the mission of the warfighter who requires a single source of near real-time aviation data in which to base critical readiness decisions. This requires collecting data from authoritative sources into a data warehouse. Because the warfighter only needs to access one database, the time consuming task of collecting various pieces of data form various sources will be reduced and ultimately eliminated. This improves data quality because it reduces the possibility of two systems providing identical data elements, but slightly different data. Data availability is improved through continuous near real-time feeds from the data sources, giving the warfighter the most current information to base decisions. In addition, this also accomplishes a reduction in legacy systems mandated by OPNAV. JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

Condition Based Maintenance Plus (CBM+) - Through automated analysis and decision making processes, the CBM+ Initiative provides Naval Aviation Enterprise with common enabling capabilities which deliver timely data-driven decisional information to optimize aircraft availability and materiel readiness by incorporating health and usage leading indicators into the failure mode mitigation process, enabling the Warfighter to more efficiently meet mission requirements. The CBM+ Initiative increases readiness by streamlining maintenance processes, provide the sustainment base with timely, actionable logistics data not previously available, and enable engineers and acquisition professionals to support system improvements based on CBM+ acquired data results. CBM+ provides the enabling solutions needed to extend the life of current and new acquisition aircraft, realizing savings from reductions in field (organizational and intermediate) maintenance actions, reduced functional check flight hours, mishap mitigation, and reduced parts usage. JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
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Integrated Logistics Support Management System (ILSMS) - The development of the ILSMS program is the next generation analytical tool set for Unit, Aircraft, Engines, Component Readiness and Cost metrics. It will be a web-based tool that will provide the user with validated and aggregated data. ILSMS provides analysts with the means to pull data on type/model/series (TMS) readiness, run detailed component analysis, manage aircraft life by bureau number, request lists of TMSs' top degraders, model the impacts of degraded components on readiness and cost, generate production scenarios, and manage the incorporation of technical directives. ILSMS institutionalizes a data analysis process that is repeatable and establishes a common understanding of readiness and cost degraders among its users. This is also the foundation for working with provider organizations to establish metrics, actionable mitigation plans and milestones. ILSMS will give its users a one stop shop to proactively identify readiness and cost degraders quickly with a consistent methodology across all TMS thus providing a standardized tool to assist programs in reducing total ownership costs. JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	47.807	66.317	107.947	-	107.947
Current President's Budget	51.748	66.317	89.711	-	89.711
Total Adjustments	3.941	-	-18.236	-	-18.236
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	5.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	5.471	-			
• SBIR/STTR Transfer	-1.532	-			
• Program Adjustments	-	-	3.166	-	3.166
• Rate/Misc Adjustments	0.002	-	-21.402	-	-21.402

Change Summary Explanation

The FY 2016 funding request was reduced by $21.1 million to account for the availability of prior year execution balances.

Technical: Not applicable.

Schedule Changes: 3167, Joint Technical Data Integration:
Due to Information Assurance (IA) requirements, Release Titles for JTDI have been changed on the R-4 and R-4a.

Schedule Changes: 3167, Marine Aviation Logistics Support Program II (MALSP II) Expeditionary Pack up Kit (EPUK):

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Due to delay in obtaining Internal Review Board Certification, acquisition schedule and milestones have changed. Titles on the R-4 and R-4a have also changed due to DCA Policy Letter Revision A to MALSP II IOC Requirement dated 10 April 2012 stating title should be MAL-EIT.

Schedule Changes: PU 9406, Maintenance Data Warehouse:
Due to Maintenance Data Warehouse/NAVAIR Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE) being a new start in FY12 and CRA lasting until January 2012, the contract award has been moved from first quarter to second quarter on the R-4 and R-4a.

Changes to PU 9406 Maintenance Data Warehouse (DECKPLATE): Schedule slippage in FY13 to FY15 is due to sequestration in FY13 and other budget cuts in FY14 which hindered the development start of Automated Logistics Environment/Auto Log Set.

Changes to PU 9406 Condition Based Maintenance Plus (CBM+): Schedule changes/corrections reflect actual requirements and dates necessary to meet stated return on investment presented in the original issue sheet requirements for CBM+.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605013N / *Information Technology Development*				Project (Number/Name) 2901. / *AAUSN IT*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
2901.: *AAUSN IT*	13.661	9.715	6.147	25.395	-	25.395	42.013	27.539	17.443	2.495	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

DATA MODERNIZATION & ANALYTICAL TOOLS: The Secretariat Automated Resources Management Information System (SARMIS) is a financial tool used by the Secretariat to formulate, execute, and report changes to organizational resources. DON/AA employs this system to support financial and resource decisions for the entire Secretariat. The system mirrors the capabilities of PBIS, however at a more detailed UIC level. SARMIS produces budget materials, analysis that supports the Secretariat's POM, as well as to generate allocation data. In addition, SARMIS contains organizational manpower data that assists our leaders in making necessary personnel decisions for the Secretariat. This RDTEN funding will optimize DON/AA's capability to make necessary modernization to various Secretariat systems in order to ensure compliance with FIAR and other financial emerging requirements of a clean financial statement. This modernization will provide transparency and enhance the level of financial auditability in the system. RDTEN funding is required to support systems technology upgrades and DOD security system requirements.

CORB IT System Moderization:
The CAPS-II programs is used by the Navy Clemency and Parole Board(NCPB) and the Combat Related Special Compensation Board(CRSC) to process and adjudicate approximately 3,200 cases per year. The current system defects have resulted in additional manhours and reduced reporting functionality. This has created a longer manual process, and hinders adequate and accurate statistical data from being collected or retrieved.

RDTEN funding will be used to modernize the CAPS-II program inorder to meet current IT standards and enhance system capibilities. The system is currently non-serviceable and is not aligned with NCPB and CRSC current mission requirements.
DoN TRACKER
Department of the Navy Tasking, Records and Consolidated Knowledge Enterprise Repository (DoN TRACKER - formerly known as Enterprise Records and Task Management (ERTM)) is a single, auditable, compliant Records and Task Management process, implemented uniformly across all DoN Divisions and Commands, and administered by DoN/AA, to enable efficient and effective execution of Records Management (RM) and Task Management (TM) policy in compliance with statute.

ELECTRONIC PROCUREMENT SYSTEM (EPS)
Provides the Department of the Navy Solution for Electronic Contract Writing replacing the existing Standard Procurement System (SPS) and DoN Integrated Contracting Environment (DICE) capabilities and deficiencies. EPS aligns Contract Writing System (CWS) with Financial Improvement Audit Readiness requirements mandated by Congress and the Department of Navy's goal for an auditable link between financial management and contract writing system. It supports strategic sourcing and seamless exchange of data in addition to evolving to meet changing requirements. The improved capabilities will meet emerging data standards Procurement Data Standards/Procurement Request Data Standards (PDS/PRDS), in addition to complying with OSD Clause Logic Service. EPS meets the intent of the National Defense Authorization Act of 2013 by providing an electronic means to award contracts.

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Increase in FY 16 is required to support the Navy Enterprise Service Bus in developing, configuring, and implementing the interfaces to the financial systems required for the final Contract Writing System. The NEBS serves as the hub to relay procurement data to various finance and other systems of record, such as Navy ERP and STARS. In addition FY 16 funding is required for software configuration, system engineering, testing, gap analysis and development for future contract writing system.

The result of successful EPS implementation shall be a contracting process workforce well informed and completely empowered to writing accurate and timely contracts in support of the warfighter.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: CORB IT System Moderization	-	-	0.500	-	0.500
Articles:	-	-	-	-	-
Description: The Secretariat has numerous requirements to combat cyber security and improve efficiencies. Funding will be used to support the mission of the Combat Related Special Compenstation (CRSC) and the Navy Clemency and Parole Board (NCBP). Modernization of the CAPS-II program will enable the CRSC and NCBP to meet current IT standards and improve their record processing cycle. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Funding will support the modernization of the current system used by Navy Clemency and Parole Board(NCPB) and the Combat Related Special Compensation Board(CRSC) to process and adjudicate approximately 3,200 cases per year. Fufilling this requirement aligns with the Department of Navy's objective to "Drive Innovation Enterprise Transformation" which will maximize Information Technology Efficiencies. ***FY 2016 OCO Plans:*** N/A					
Title: Modernization - Secretariat	0.044	1.147	1.161	-	1.161
Articles:	-	-	-	-	-
Description: The Secretariat has numerous requirements to modernize its financial management system and portal applications. SARMIS will be updated from older technologies to include new FIAR and web based requirements. These upgrades are necessary to continue functionality of the system and ensures timely, accurate and efficient operation of the Secretariat's mission.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2901. / *AAUSN IT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Performed platform and software upgrade within the Navy Secretariat. Continued SARMIS modernization and design ***FY 2015 Plans:*** Continue with moderization of approved system within the Navy Secretariat to include platform and software version updates. ***FY 2016 Base Plans:*** Continue with SARMIS modernization and design within the Navy Secretariat. ***FY 2016 OCO Plans:*** N/A					
Title: DoN TRACKER	4.750	-	0.436	-	0.436
Articles:	-	-	-	-	-
Description: The Department of the Navy Tasking, Records and Consolidated Knowledge Enterprise Repository (DoN TRACKER) will streamline DoN's electronic records and task management processes under a consolidated enterprise solution and will enable the DoN to capture unstructured and structured electronic records, seamlessly manage tasking across and within all commands, ensure uniform metadata of content, provide workflow-enabled reporting, and aid in compliance with all applicable laws, policies, and regulations. In addition, this will eliminate duplicative capabilities and result in cost-saving opportunities and efficiencies. The DoN TRACKER solution will be extended to all authorized, shore-based users across the DoN enterprise, including the Continental United States (CONUS) and Outside the Continental United States (OCONUS)communities. Preliminary program planning conducted. ***FY 2014 Accomplishments:*** SBIR Phase III Contract awarded for DoN TRACKER version 1.0 System will be deployed with Records Management and Task Management capability. Conducted the Preliminary Design Review (PDR) for DoN TRACKER version 1.0. A DON TRACKER development application will be fielded to early Adopters, approximately 300 users, in FY15 as a proof of concept and risk reduction initiative. DON TRACKER will be					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
fielded in a phased roll out to the greater user community (500+ users) starting in FY 16 and ending in FY 18 with Full Operational Capability. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** FY16 plans are as follows: (1) Update program to incorporate enhancements (2) Obtain data rights to updated software (3) Continue DoN TRACKER development & operational testing (a) Test software enhancements (b) Conduct operator testing for user validation (4) Further prioritize user needs and identify capability shortfalls ***FY 2016 OCO Plans:*** N/A					
Title: Electronic Procurement System (EPS)	4.921	5.000	23.298	-	23.298
Articles:	-	-	-	-	-
Description: Funding is required for the Contract Writing System - contractor support required for configuration, integration, testing, training, deployment and implementation of system. ***FY 2014 Accomplishments:*** Completed Analysis of Alternatives (November 2013). Conducted ITR/ASR SETR Critical Actions for the EPS Program include: - Established Governance - Staffing of Program Office - Milestone Documentation - Industry Day Synopsis - Award an 8a set aside to validate new requirements and BPR ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Planned actions for EPS in FY15 include: - System Engineering Testing Requirements (SETR) and Events - Navy Enterprise Service Bus(NESB) development and data mapping required for final Contract Writing System. NESB is the interface required between existing financial systems (i.e., Navy ERP) to EPS. For example, NESB will replace the existing interface between Navy ERP and Standard Procurement System (SPS). - Start Gap Analysis ***FY 2016 Base Plans:*** Planned actions for EPS in FY16 include: - Milestone B - Continue NESB development and data mapping for Contract Writing System. - Continue Gap Analysis - Configure and validate the Navy Enterprise Service Bus (NESB). - Stand up hosting facility - Commence Software configuration, system engineering, testing, gap analysis and development for future contract writing system. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	9.715	6.147	25.395	-	25.395

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• 8106: *Command Support Equipment*	-	-	3.794	-	3.794	5.546	5.766	5.876	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

MODERNIZATION - Contract will be awarded under a competitive, all source, RFP. NO ACAT

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The selected contractor must have knowledge of the existing information systems pertinent to the task. They must also have the corporate experience and a staff of knowledgeable personnel to provide the required services. The task will be monitored by the Contracting Officer Representative (COR), who reviews technical data submissions, system deliverables, and invoices to ensure acceptable contractor performance and scheduled deliveries.

CORB IT System Moderization:
Contract will be awarded under a competitive, all source, RFP. NO ACAT
ELECTRONIC PROCUREMENT SYSTEM (EPS)
Commercial Off-The-Shelf (COTS) contract (full and open competition), close the capability / requirements gap to meet 100% of the DoN Integrated Contracting Environment (DICE) and implement Navy Enterprise Service business for financial interfaces to EPS.
DON TRACKER
Contract awarded for DoN TRACKER on a spiral development type strategy to incorporate updates and enhancements to software builds.

E. Performance Metrics

Program cost, schedule and performance are measured using a systematic approach with approved programs and methods. The results of these measurements are presented to DON/AA management through a governance review board process on a regular basis to determine program effectiveness and to provide new direction as needed to ensure the efficient use of
resources. To monitor and manage the execution of projects in addition to other IT investments, management and governance boards review metrics and key performance indicators that are outlined in various plans. Some of the plans that expound on the data captured to attribute to performance measures include: Project Management Plan, Risk Mitigation Plan, Communication Plan, Procurement Plan, and a Certification & Accreditation Plan.
Other specific performance measurements include:
1. Actual versus planned project scope
2. Actual versus planned time schedule
3. Actual versus planned costs
4. Actual versus planned risks and the mitigation of those risks

CORB IT System Moderization specific performance measurements include:
1. CRSC processes and adjudicates approximately 2,600 cases per year
2. NCPB processes and adjudicates approximately 800 cases per year
DoN TRACKER
Meet acquisition program and system engineering and technical review milestones for development with no outstanding severity 1-3 defects for production release.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2901. / *AAUSN IT*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development (Modernization)	C/FP	CACI : Chantilly, VA	4.555	-	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
Contractor Engineering Support (DONCJIS)	SS/T&M	Interimage Inc. : Manassas, VA	1.272	-		-		-		-		-	-	1.272	-
Software Development	C/FP	Dell Marketing LP : Round Rock, TX	1.938	-	Dec 2013	-		-		-		-	-	1.938	-
Software Development (CLEOC)	C/FP	NSA : Various	0.500	-		-		-		-		-	-	0.500	-
Software Development (EPS)	TBD	NA : NA	0.000	-		-		-		-		-	-	-	-
SYSTEM Moderization	WR	SPAWAYSYSCEN ATLANTIC : CHARLESTON, SC	0.000	0.044	Jan 2014	1.147	Oct 2014	1.161	Oct 2015	-		1.161	-	2.352	-
CORB SYSTEM Modernization	WR	SPAWASYSTEM : CHARLESTON, SC	0.000	-		-		0.500	Oct 2015	-		0.500	-	0.500	-
DoN TRACKER Engineering	C/CPFF	SPAWAR HQ : San Diego, CA	0.000	4.750	Apr 2014	-		0.436	Dec 2015	-		0.436	Continuing	Continuing	Continuing
EPS Data Transition Strategy	Various	NAVSUP BSC : Mechanicsburg, PA	0.197	1.305	Oct 2014	0.200	Oct 2015	-		-		-	-	1.702	-
EPS NESB Development and Mapping	C/FFP	SPAWAR HQ : San Diego, CA	0.000	-		3.300	Apr 2015	1.500	Jan 2016	-		1.500	-	4.800	-
NESB Configuration and Validation	C/CPFF	SPAWAR HQ : San Diego, CA	0.000	-		-		10.000	Apr 2016	-		10.000	Continuing	Continuing	Continuing
Contract Writing System configuration	C/FFP	SPAWAR HQ : San Diego, CA	0.000	-		-		6.066	Jul 2016	-		6.066	Continuing	Continuing	Continuing
		Subtotal	8.462	6.099		4.647		19.663		-		19.663	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2901. / *AAUSN IT*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Acquisition Strategy (EPS) PMO	Various	PEO EIS : Arlington, VA	0.960	0.300	Nov 2014	-		-		-		-	-	1.260	0.300
Cost Analysis (EPS)	C/CPFF	SPAWAR HQ : San Diego, CA	0.377	-		0.300	May 2015	0.500	May 2016	-		0.500	Continuing	Continuing	Continuing
Systems Engineering (EPS)	Various	SPAWAR HQ : San Diego, CA	2.174	1.416	Dec 2014	1.200	Jul 2015	2.000	Oct 2015	-		2.000	Continuing	Continuing	Continuing
Logistics Analysis (EPS)	Various	SSC LANT : Charleston, SC	0.388	0.400	Oct 2014	-		0.416	Oct 2015	-		0.416	Continuing	Continuing	Continuing
8a Requirements Validation (EPS)	C/FFP	SPAWAR HQ : San Diego, CA	0.000	1.500	Sep 2014	-		-		-		-	-	1.500	-
		Subtotal	3.899	3.616		1.500		2.916		-		2.916	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing Preparations (EPS)	WR	SSC LANT : Charleston, SC	0.800	-		-		0.816	Oct 2015	-		0.816	Continuing	Continuing	Continuing
Hosting Facility	C/FFP	SSC LANT : Charleston, SC	0.000	-		-		2.000	Jul 2016	-		2.000	Continuing	Continuing	Continuing
		Subtotal	0.800	-		-		2.816		-		2.816	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EPS Program Support	C/FFP	PEO EIS : Arlington, VA	0.500	-		-		-		-		-	-	0.500	-
		Subtotal	0.500	-		-		-		-		-	-	0.500	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / *Information Technology Development*	Project (Number/Name) 2901. / *AAUSN IT*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	13.661	9.715		6.147		25.395		-		25.395	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2901. / *AAUSN IT*

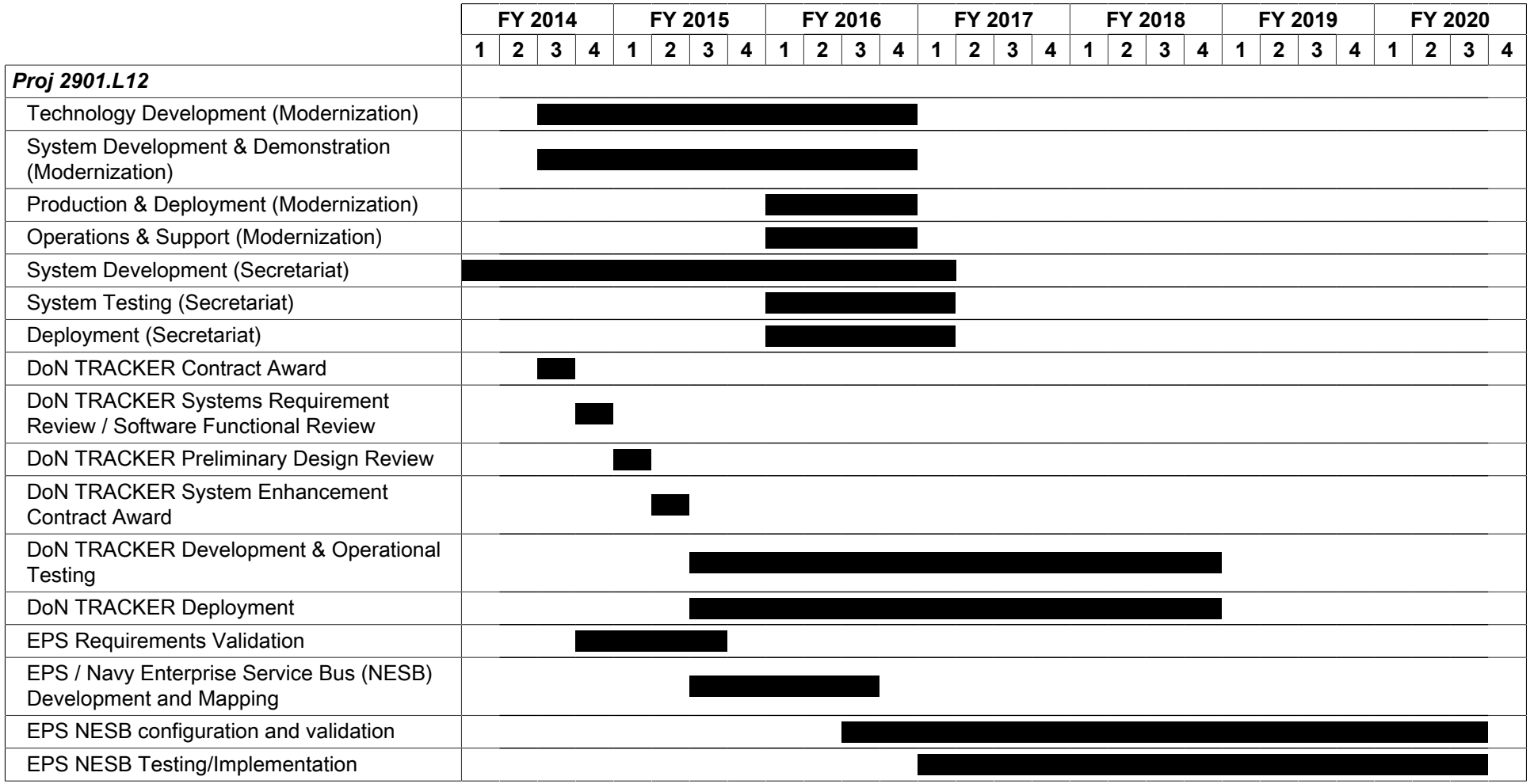


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2901. / *AAUSN IT*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2901.L12				
Technology Development (Modernization)	3	2014	4	2016
System Development & Demonstration (Modernization)	3	2014	4	2016
Production & Deployment (Modernization)	1	2016	4	2016
Operations & Support (Modernization)	1	2016	4	2016
System Development (Secretariat)	1	2014	1	2017
System Testing (Secretariat)	1	2016	1	2017
Deployment (Secretariat)	1	2016	1	2017
DoN TRACKER Contract Award	3	2014	3	2014
DoN TRACKER Systems Requirement Review / Software Functional Review	4	2014	4	2014
DoN TRACKER Preliminary Design Review	1	2015	1	2015
DoN TRACKER System Enhancement Contract Award	2	2015	2	2015
DoN TRACKER Development & Operational Testing	3	2015	4	2018
DoN TRACKER Deployment	3	2015	4	2018
EPS Requirements Validation	4	2014	3	2015
EPS / Navy Enterprise Service Bus (NESB) Development and Mapping	3	2015	3	2016
EPS NESB configuration and validation	3	2016	3	2020
EPS NESB Testing/Implementation	1	2017	3	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605013N / *Information Technology Development*				Project (Number/Name) 2903 / *NAVAIR IT*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
2903: *NAVAIR IT*	1.355	0.508	0.699	6.431	-	6.431	5.779	5.730	0.599	0.612	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Configuration Management Information System (JCMIS): The JCMIS Program is DoD's standard software system for complete and integrated Configuration Management (CM) of weapon systems from acquisition to disposal. JCMIS efficiently manages all product structure data, including complex interrelationship between assemblies and subassemblies, technical documentation and the parts that comprise the item. JCMIS is designed to manage and control configuration data to support the DoD business processes. Accurate, complete and accessible configuration data is critical to the successful operations of DoD weapon systems or tracked assets. Mission readiness and operational capabilities are enhanced by JCMIS, as instant consistent integrated configuration data is readily available to operators, maintainers and logistics personnel. This system is a CM tool available DoD wide to support all potential customers. JCMIS provides users with a common database infrastructure to ensure compatibility, quality, and consistency of CM processes and provides configuration managers and analysts the validated CM information necessary for accurate maintenance, spare procurements, reliability and safety analysis, and mission readiness. Funding is budgeted to support the services of rehosting and testing of Commercial off-the-shelf (COTS) upgrades to ensure objective performance of JCMIS is achieved. This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

Total Force Cyber Awakening (TFCA)- Cyber Warfare consists of many different aspects to include sabotage of our weapon systems, networks as well as enablement of missions. Nation and non-nation state actors are acquiring and employing more advanced cyber-attacks in order to exploit our networks and aviation systems challenging our technological edge. The threats and capabilities are real and range from exploiting capabilities, overloading weapons systems and logistics supply chains, to jamming signals or taking control of weapons systems. We must defend against adversarial cyber attacks while contributing to the exploitation of cyber warfare capabilities.

To meet these challenges and address the Chief of Naval Operations priorities and tasking, these R&D efforts are specifically focused on Naval Air Systems Command weapon or control systems and programs to ensure warfighting effectiveness as part of integrated / multi-platform kill chains. These research and development efforts will strengthen our cyber posture by developing research, development, test and evaluation capabilities and solutions to deter, detect, and mitigate cyber threats and safeguard classified naval aviation systems and platforms from "cradle to grave." These solutions will be integrated into the acquisition of weapons systems to enhance security, increase lethality, and improve resiliency in the expected operational environments. Our weapon or control systems are unique in the aforementioned environments and mission, but also in the presence of numerous non-traditional access points and trusted cyber relationships required for operational environments.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Title: JCMIS Annual Software Release	0.508	0.699	0.431	-	0.431
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2903 / *NAVAIR IT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Re-baseline JCMIS Software to upgrade to latest version of Oracle, incorporate development efforts associated with COTS obsolescence and evolve an open standard interface to other systems. ***FY 2015 Plans:*** Re-baseline JCMIS Software to upgrade to latest version of Oracle, incorporate development efforts associated with COTS obsolescence and evolve an open standard interface to other systems. ***FY 2016 Base Plans:*** Re-baseline JCMIS Software to upgrade to latest version of Oracle, incorporate development efforts associated with COTS obsolescence and evolve an open standard interface to other systems. ***FY 2016 OCO Plans:*** N/A					
Title: Total Force Cyber Awakening	-	-	6.000	-	6.000
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Develop unique tactical cyber solutions for customized control systems where solutions currently do not exist. Many of the traditional security measures are inappropriate or inadequate for use in control systems due to the presence of real time operating systems, latency sensitivity, and disconnected or intermittent connections to networks. Additionally, many control systems have access vectors, such as maintenance connections or RF apertures that may bypass the layered enterprise defenses typically viewed as the first lines of a layered defense. This R&D effort is a deliberate investment to develop tailored solutions for our control systems and improve the cybersecurity at control system entry points. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.508	0.699	6.431	-	6.431

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2903 / *NAVAIR IT*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Joint Configuration Management Information System (JCMIS) Program used Joint Logistics Systems Center (JLSC) funds to evolve JCMIS to Software Release 5.0. In June 1998 JCMIS was transferred to the Navy as executive agent and NAVAIR as program manager. Program Budget Decision 401 transferred joint funding from JLSC to NAVAIR to continue evolving JCMIS. The JCMIS Program Manager continues to evolve the program to keep pace with cost, Military Standards, and evolving commercial standards. Various contractors using competitively awarded contracts have supported the program. Currently, Intergraph Corporation is the JCMIS integration contractor selected through a GSA contract.

Total Force Cyber Awakening (TFCA) strategy is in 3 concurrent steps:
1. Broad Agency Announcements (BAA) for resilient cyber warfare capabilities and control system solutions for NAVAIR Weapon Systems. Draft BAA delineating Naval Research Areas of Interest; Specific Areas of Interest; Technologies Being Sought; Proposal Submission; Proposal Abstracts; Full Proposal; General Information, and Evaluation Criteria.
The objective of the BAA is principally to orchestrate germane research and development to fill the gaps in cyber warfare capabilities for Naval Air Systems Command (NAVAIR) weapon systems, i.e., secure weapon systems able to survive and exploit cyber warfare. Areas of interest include but not limited to:
1) SWaP sensitive cyber resiliency for RTOS and aviation warfare environment
2) Access point identification, prioritization and defense
3) Cyber-Electronic Warfare convergent capabilities
4) Full acquisition cycle cyber security measures
5) Cyber test, inspection, incident response and training tools
6) Cyber warning systems
7) Cyber fault, risk and threat assessment methodologies

2. Stand-up Advanced Cyber Lab (ACL)
Achieve capability to respond to cyber incidents, conduct federated avionics penetration tests in support of cyber risk assessments and develop control system solutions for NAVAIR weapon systems and acquisition programs. Stand-up capability to assess BAA solutions. Acquire delineated specialized equipment, software tools, space, power, cooling, and security (TS/SCI SCIF) and labor for IOC / IATT by end of FY 16.
1) Secure Messaging - Cryptography, Steganography, etc.
2) Embedded Operating System Threat Assessment, Software Reverse Engineering, Federated Penetration Testing of Custom Control Systems
3) Advanced Anti-tamper, Digital Forensics
4) Microelectronics Reverse Engineering
5) Capabilities in response to Denial of Service, Precision Direct Attack/ Root Kits, Interdiction / Data in transit and Infrastructure / SCADA attacks.
6) Portable Assessment and Test

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2903 / *NAVAIR IT*

3. Organic Cyber Solutions for NAVAIR Customized Control Systems
Project investigation and development or tools and tailored solutions for our control systems and improve the cyber security at control system entry points will be completed. Areas discovered include but are not limited to:
1) Intrusion Detection / Prevention Systems (IDS/IPS) for Real Time systems
2) Live-CD boot
3) Out of Band Monitoring & Authentication
4) Weapon System of Systems Architecture tools
5) Avionics Fuzzing
6) Federated Penetration Testing Tool Set & Non-Destructive Inspection Tool
7) Dynamic Network Maneuvering
8) Weapon System Side Channel Analysis

E. Performance Metrics

JCMIS - Milestone C Spiral Development:
1. During the life of the contract verify conformance with agency specific information processing standards and functional requirements. Prior to delivery of enhanced software, demonstrate the operational capability of the system software. Functionality of the software must meet required systems architecture and processing capabilities. All requirements mandated by law or regulation must be 100% compliant. Independent Verification and Validation will be used for testing new releases of software to determine that previous functionality is maintained. Customer satisfaction will be measured through limited validated customer complaints, feedback, and surveys.

Total Force Cyber Awakening (TFCA)
1. Establish Broad Agency Announcements (BAA)for Resilient Cyber Warfare Capabilities for Naval Air Systems Command Weapon Systems: FY16 - Receive responses that address at key areas of interest.
2. Stand-up Advanced Cyber Lab: FY 16 - 5 initial operating capability workstations and inter agency task team.
3. Organic Cyber Solutions for NAVAIR Control Systems: FY16 - complete 4 of 8 projects.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / *Information Technology Development*	Project (Number/Name) 2903 / *NAVAIR IT*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Solutions for Cyber Warfare Capabilities for Total Force Cyber Awakening	TBD	TBD : TBD	0.000	-		-		4.900	Oct 2015	-		4.900	-	4.900	-
		Subtotal	0.000	-		-		4.900		-		4.900	-	4.900	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Support for Joint Configuration Management Information System (JCMIS)	C/FFP	NAVSUP : Mechanicsburg, PA	1.031	0.357	Jan 2014	0.498	Mar 2015	0.313	Mar 2016	-		0.313	Continuing	Continuing	Continuing
		Subtotal	1.031	0.357		0.498		0.313		-		0.313	-	-	-

Management Services ($ in Millions)

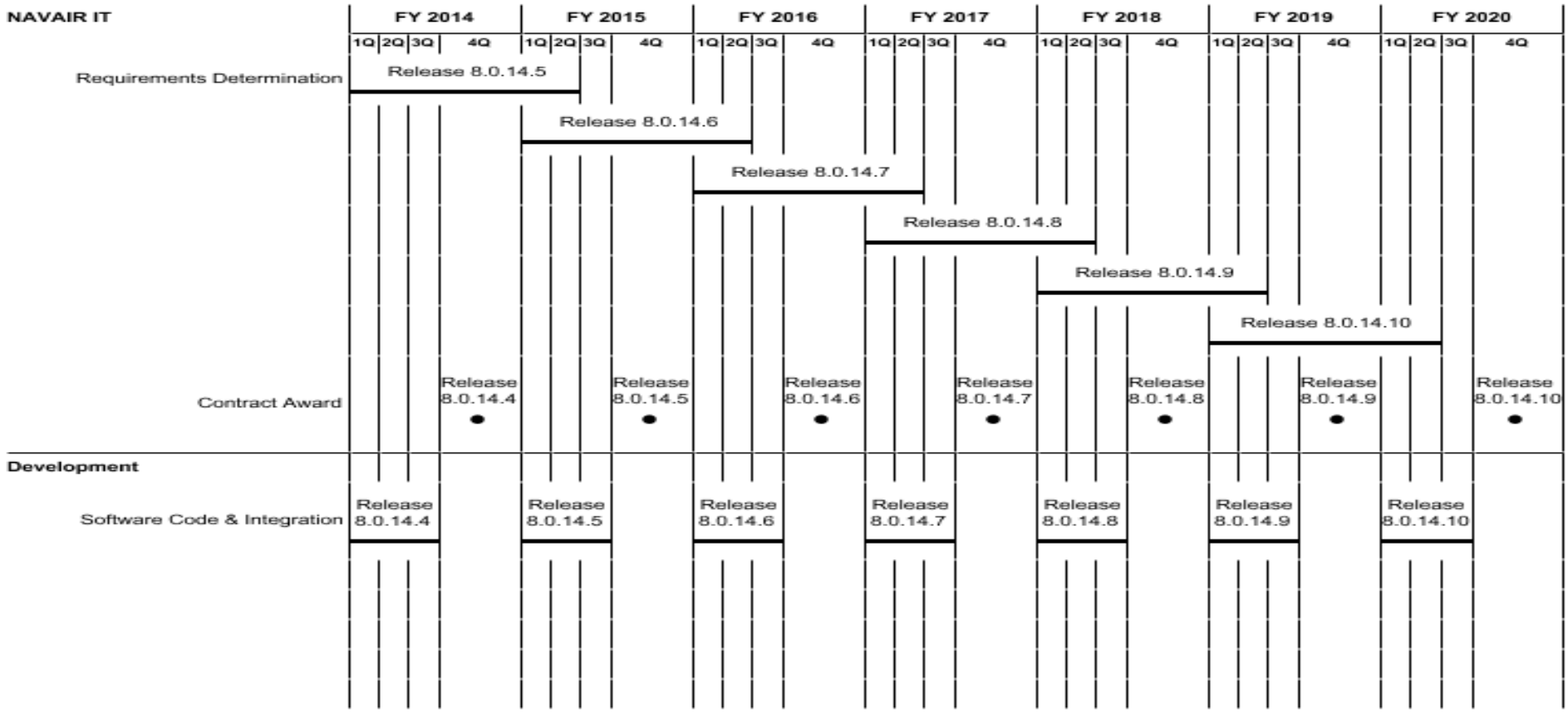
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support for Joint Configuration Management Information System (JCMIS)	WR	NAWCAD : Patuxent River, MD	0.324	0.151	Dec 2013	0.201	Dec 2014	0.118	Dec 2015	-		0.118	Continuing	Continuing	Continuing
Systems Engineering Support for Total Force Cyber Awakening	WR	NAWCAD : Patuxent River, MD	0.000	-		-		1.100	Oct 2015	-		1.100	-	1.100	-
		Subtotal	0.324	0.151		0.201		1.218		-		1.218	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / *Information Technology Development*	Project (Number/Name) 2903 / *NAVAIR IT*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.355	0.508		0.699		6.431		-		6.431	-	-	-

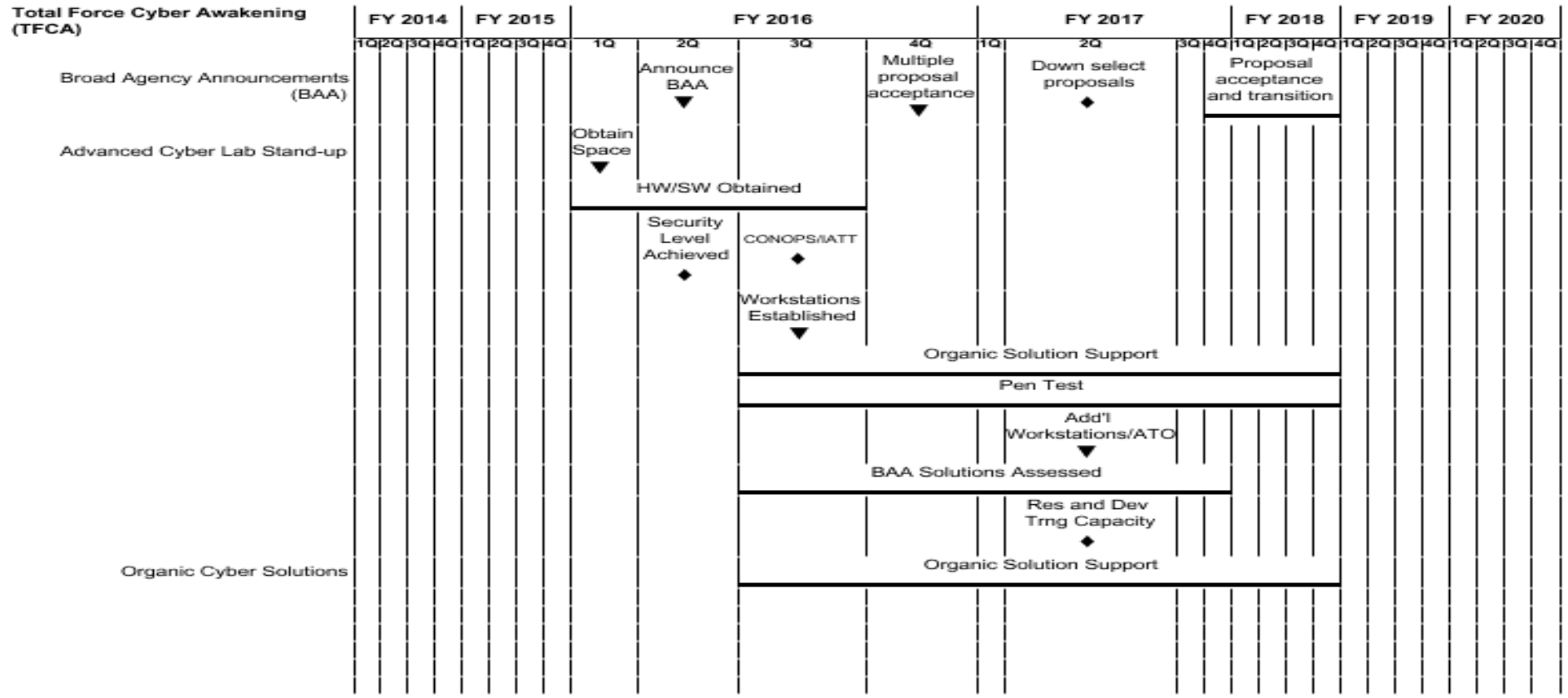
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2903 / *NAVAIR IT*



2016PB - 0605013N - 2903

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2903 / *NAVAIR IT*



2016PB - 0605013N - 2903

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2903 / *NAVAIR IT*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
NAVAIR IT				
Requirements Determination: Release 8.0.14.5	1	2014	2	2015
Requirements Determination: Release 8.0.14.6	1	2015	2	2016
Requirements Determination: Release 8.0.14.7	1	2016	2	2017
Requirements Determination: Release 8.0.14.8	1	2017	2	2018
Requirements Determination: Release 8.0.14.9	1	2018	2	2019
Requirements Determination: Release 8.0.14.10	1	2019	2	2020
Contract Award: Contract Award, Release 8.0.14.4	4	2014	4	2014
Contract Award: Contract Award, Release 8.0.14.5	4	2015	4	2015
Contract Award: Contract Award, Release 8.0.14.6	4	2016	4	2016
Contract Award: Contract Award, Release 8.0.14.7	4	2017	4	2017
Contract Award: Contract Award, Release 8.0.14.8	4	2018	4	2018
Contract Award: Contract Award, Release 8.0.14.9	4	2019	4	2019
Contract Award: Contract Award, Release 8.0.14.10	4	2020	4	2020
Development: Software Code & Integration: Release 8.0.14.4	1	2014	3	2014
Development: Software Code & Integration: Release 8.0.14.5	1	2015	3	2015
Development: Software Code & Integration: Release 8.0.14.6	1	2016	3	2016
Development: Software Code & Integration: Release 8.0.14.7	1	2017	3	2017
Development: Software Code & Integration: Release 8.0.14.8	1	2018	3	2018
Development: Software Code & Integration: Release 8.0.14.9	1	2019	3	2019
Development: Software Code & Integration: Release 8.0.14.10	1	2020	3	2020
Total Force Cyber Awakening (TFCA)				

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2903 / *NAVAIR IT*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Broad Agency Announcements (BAA): Announce BAA	2	2016	2	2016
Broad Agency Announcements (BAA): Proposal Acceptance Multiple	4	2016	4	2016
Broad Agency Announcements (BAA): Down Select Detailed Proposals	2	2017	2	2017
Broad Agency Announcements (BAA): Accept Proposals and Transition	4	2017	4	2018
Advanced Cyber Lab Stand-up: Obtain Space	1	2016	1	2016
Advanced Cyber Lab Stand-up: Obtain Specialized HW/SW tools	1	2016	3	2016
Advanced Cyber Lab Stand-up: Achieve Security Level	2	2016	2	2016
Advanced Cyber Lab Stand-up: Initial CONOPS/IATT	3	2016	3	2016
Advanced Cyber Lab Stand-up: Establish Workstations	3	2016	3	2016
Advanced Cyber Lab Stand-up: Support Organic Solutions	3	2016	4	2018
Advanced Cyber Lab Stand-up: Avionics Pen Test	3	2016	4	2018
Advanced Cyber Lab Stand-up: Establish Additional Workstations/ATO	2	2017	2	2017
Advanced Cyber Lab Stand-up: Assess BAA Solutions	3	2016	4	2017
Advanced Cyber Lab Stand-up: Establish Research and Development Training Capacity	2	2017	2	2017
Organic Cyber Solutions: Support Organic Solutions	3	2016	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / *Information Technology Development*	Project (Number/Name) 2904 / *NAVSEA IT*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2904: *NAVSEA IT*	100.480	16.754	28.173	24.816	-	24.816	20.174	19.273	17.191	17.567	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This program includes the funding for Information Technology (IT) support at NAVSEA, managed by the NAVSEA 04 Program Management Office (PMO-IT) for the support and sustainment of maritime shore maintenance and includes multiple modernization efforts to insure effectiveness of Fleet maintenance systems as part of the current Navy Maritime Maintenance Enterprise Solution (NMMES). This IT solution is used by over 40,000 civilians and military who conduct yearly $6.5B of ships maintenance and modernization. PMO efforts include retirement and/or replacement of costly legacy systems, transition planning and systems engineering for integration with national and enterprise interim and future solutions. These efforts align with direction to insure that proposed interim solutions support a planned, single maintenance solution end state, as well as direction to align with data center consolidation plans proposed across the FYDP. It includes the modernization of Naval Shipyard and Regional Maintenance Centers' Maintenance, Repair and Overhaul (MRO) production tools. This includes modifications/enhancements to Shipyard IT systems, such as Advanced Industrial Management (AIM); Project Scheduling and Sequencing (PSS); Workload and Performance Systems; the COST and MAT systems, and other solutions such as the Electronic Technical Working Document (eTWD) Initiative. This program also includes funding for the advanced planning and execution of the technical refreshes of the current solution which is at end of life. Advanced planning includes capabilities studies to examine COTS applications to replace current GOTS technology. The goal of PMO-IT is to provide modernization, migration and consolidation of obsolete legacy systems to the next generation of centrally hosted tools supporting Fleet Maintenance and national systems for the Navy.

The enterprise Product Lifecycle Management (ePLM) Integrated Decision Environment (IDE) will serve as a central knowledge repository for process and product evolution and history. It will promote integration, data exchange, and analysis among all business users and information systems that will interact with any Weapon System Configuration Item (CI) during its lifecycle. The ePLM IDE will cost effectively address each weapon system program requirement for an IDE as stated in the Defense Acquisition Guidebook.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: NAVSEA IT	16.754	28.173	24.816	-	24.816
Articles:	-	-	-	-	-
Description: This program includes the funding for Ship Maintenance Information Technology modernization at NAVSEA, managed by the NAVSEA 04 Program Management Office (PMO-IT) for the support of maritime shore maintenance and includes multiple modernization efforts to insure effectiveness of Fleet maintenance systems. It includes the modernization of Naval Shipyard and Regional Maintenance Center (RMC) maintenance, repair and overhaul (MRO) production tools. This effort will allow Navy to realign functionality, consolidate systems and applications, and re-platform operations to facilitate a centrally hosted, net-centric maintenance solution suite.					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Completed evaluation of Electronic Techical Working Document (eTWD) proposals and awarded acquisition contract. ***FY 2015 Plans:*** Commence eTWD development, continue deployment planning, and begin advance planning for Technical Refresh (COTS solution). Begin analysis of Advanced Industrial Management (AIM), All Work Module (AWM), and then continue with software development once analysis completed. ePLM: development and configuration of predictive analytics and decision support capabilities identified in the ePLM IDE Capability Deployment Plan and Capability Development Document (CDD). ***FY 2016 Base Plans:*** Commence eTWD deployment at Naval Shipyards. Continue advanced planning for technical refresh of shore maintenance systems. Begin Maritime Systems Environment (MSE) Database Optimization analysis and software development. Begin Financial Technical Upgrade analysis and software development. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	16.754	28.173	24.816	-	24.816

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The backbone of the present solution is a set of dated information technology (IT) products that are approaching end-of-life. These products were supported by a variety of independent activities from their inception until NAVSEA down-selected to a corporate best-of-breed solution in the 1990s. This non-centralized approach to original systems development made integration and consolidation difficult; and limited the functional benefits and cost savings that could be realized from common system standardization & processes, sharing of resources, and unification of infrastructure. Following plans to freeze and replace these systems in 2002-2006, the Fleet Maintenance Board of Directors approved the establishment of the NAVSEA Program Management Office for Information Technology (PMO-IT) to oversee the selected development and sustainment efforts of this solution; to acquire and manage the IT resources necessary to gain further efficiencies in the systems; and to transition this solution to a more modern and efficient end state. Selected systems modernizations are aligned with ongoing systems sustainment to provide an IT solution until a COTS based Technical Refresh of this solution can be completed and deployed. ePLM: NSWC-PHD will lead the integration of SBIR-developed technologies through

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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the utilization of Phase 3 SBIR contracts. SBIR technologies will be enhanced and integrated into the ePLM tool suite and will result in execution of a competitive, full acquisition strategy.

E. Performance Metrics

System performance is measured using the following:
A. Operational Availability (A_o): Percent of time systems are available for use.
(1) Mean Down Time (MDT) is the mean time the system will be down to start and complete maintenance and corrective task.
MDT = (Total Down Time)/(Total Number of Maintenance). Measure of Performance (MOP): Total Down Time ? 87.6 Hrs/Year.
(2) Mean Time Between Maintenance (MTBM) is the mean time between maintenance, all corrective and preventive maintenance. MTBM = (Total Up Time)/(Total Number of Maintenance). MOP: A_o = MTBM / (MTBM+MDT) > 0.99.
B. Reliability: Ability of a system to perform its mission without failure or degradation under a prescribed set of operating conditions.
(1) Mean Time Between Failure (MTBF) is the mean time between unforeseen system failures which result in substantial loss in users' productivity, including being off-line unscheduled. MTBF = (Total Up Time)/(Total Number of Failures). MOP: MTBF > 3504 Hours
(2) Mean Time To Repair (MTTR) is the mean time to perform the corrective maintenance to repair the failure. MTTR = (Total Down Time for corrective maintenance)/(Total Number of Failures). MOP: MTTR less then or equal to 16 Hours.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	C/CPFF	NAVSEA : WNY, D.C.	85.441	10.211	Dec 2013	21.173	Dec 2014	24.816	Dec 2015	-		24.816	Continuing	Continuing	Continuing
Software Development	WR	NSLC : Mechanicsburg, PA	14.927	1.072	Dec 2013	-		-		-		-	Continuing	Continuing	Continuing
Advance Planning Analysis	WR	SPAWAR : Arlington, VA	0.000	5.471	Sep 2014	2.000	Mar 2015	-		-		-	-	7.471	-
Advance Planning Analysis	TBD	NSWC PHD : Port Hueneme, CA	0.000	-		5.000	May 2015	-		-		-	-	5.000	-
		Subtotal	100.368	16.754		28.173		24.816		-		24.816	-	-	-

Remarks

The NAVSEA 04 Program Office for Information Technology plans to execute all contract awards for software development of shipyard and national systems through the NAVSEA SEAPORT vehicle and other competitively awarded contracts. Funding for advance planning of the NMMES Technical Refresh is being executed by SPAWAR.

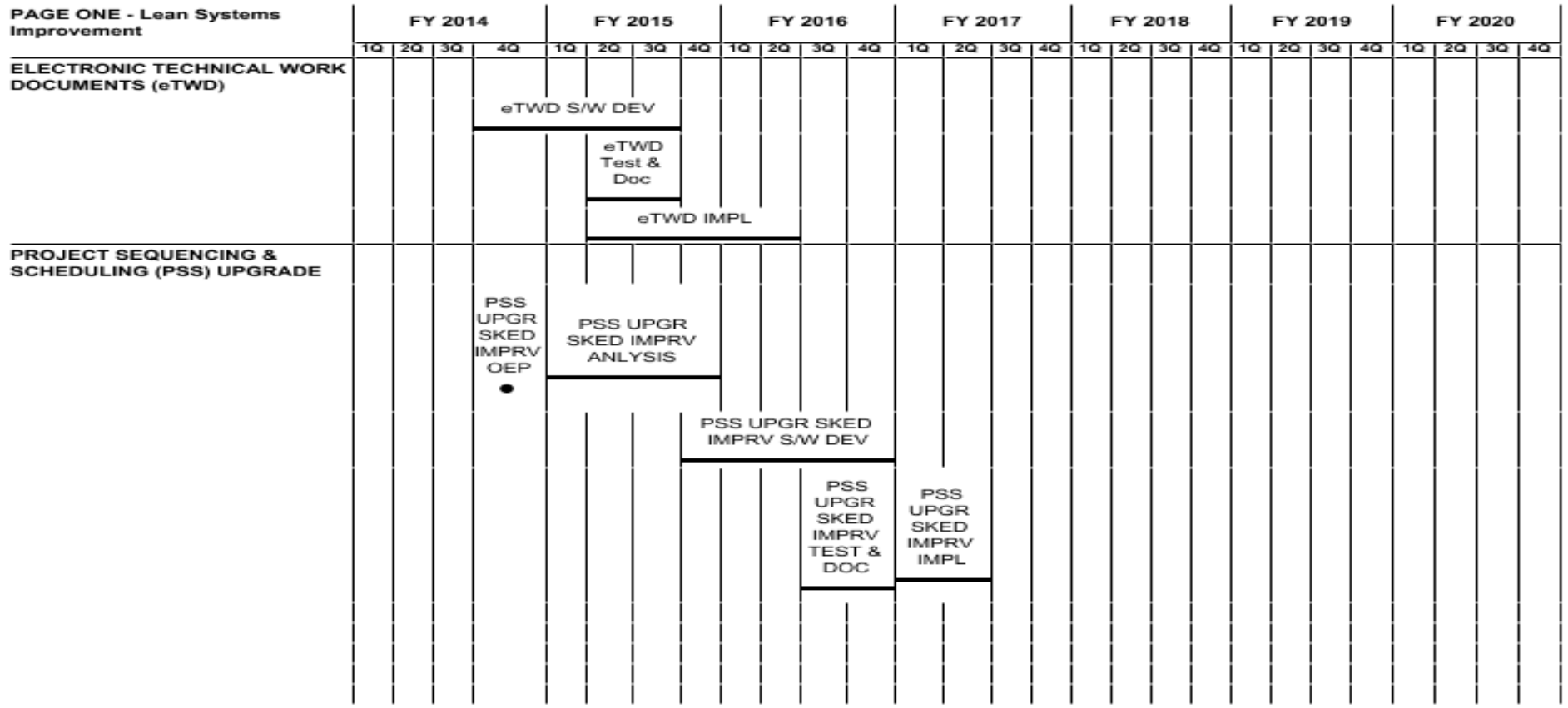
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DAWDF	Various	Not Specified : Not Specified	0.112	-		-		-		-		-	-	0.112	0.112
		Subtotal	0.112	-		-		-		-		-	-	0.112	0.112

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	100.480	16.754		28.173		24.816		-		24.816	-	-	-

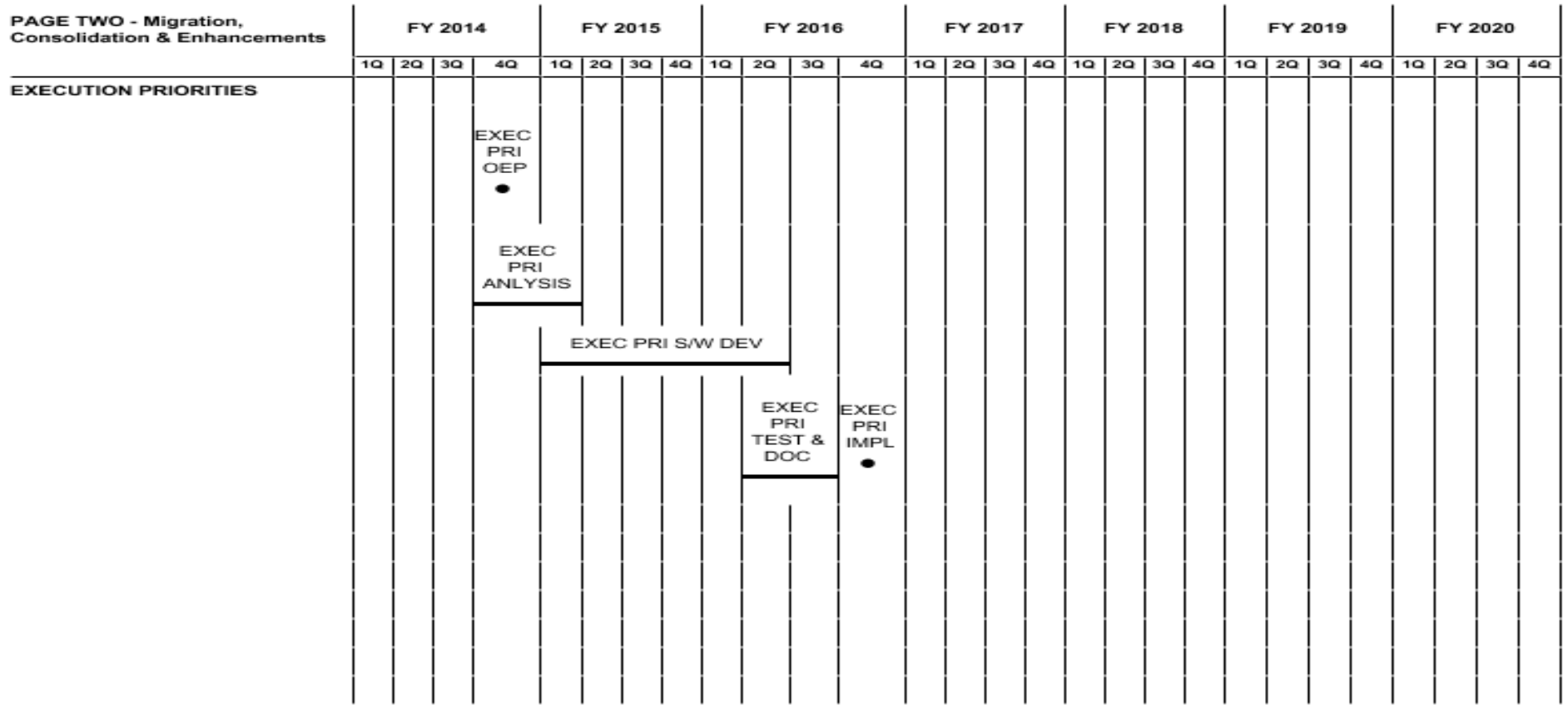
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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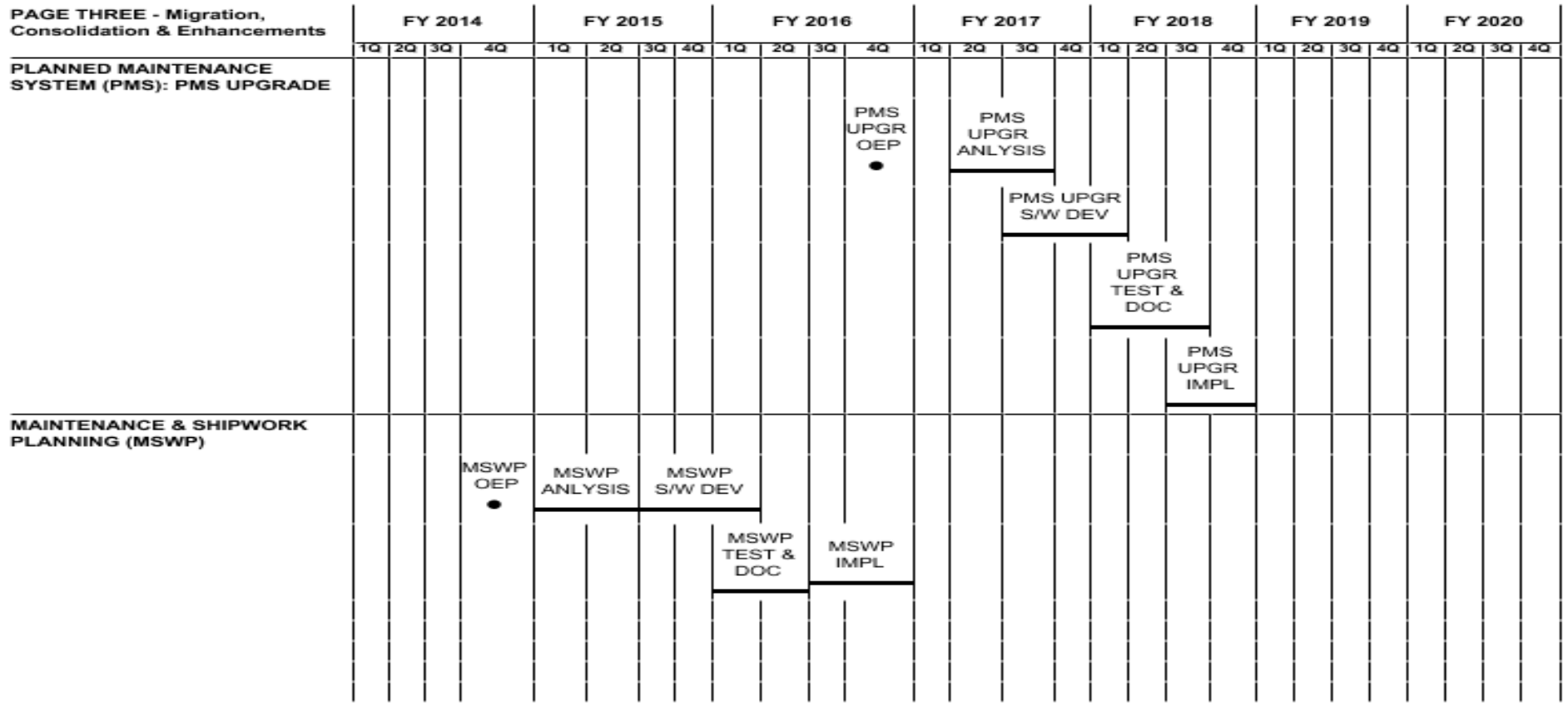
2016PB - 0605013N - 2904

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2904 / *NAVSEA IT*



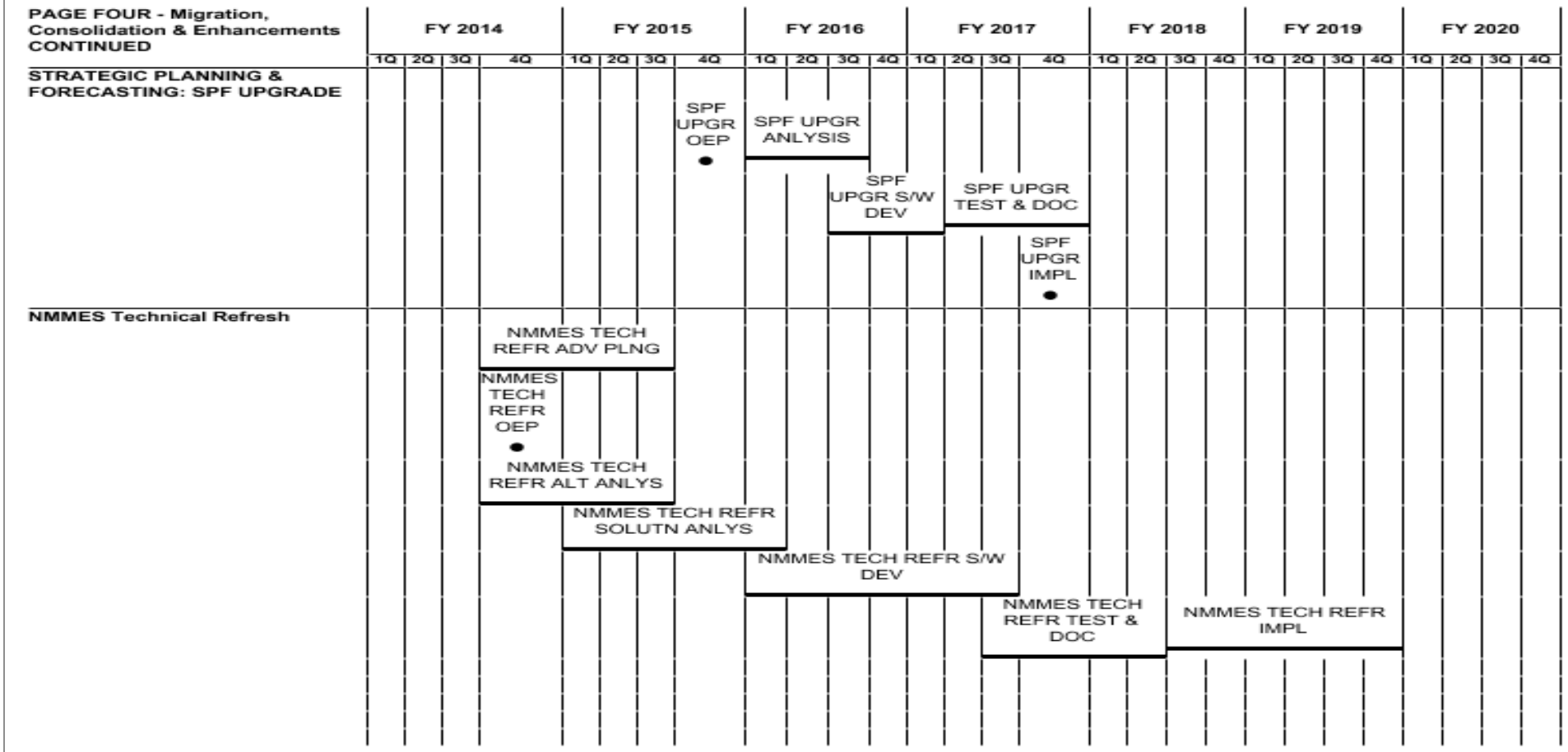
2016PB - 0605013N - 2904

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2904 / *NAVSEA IT*



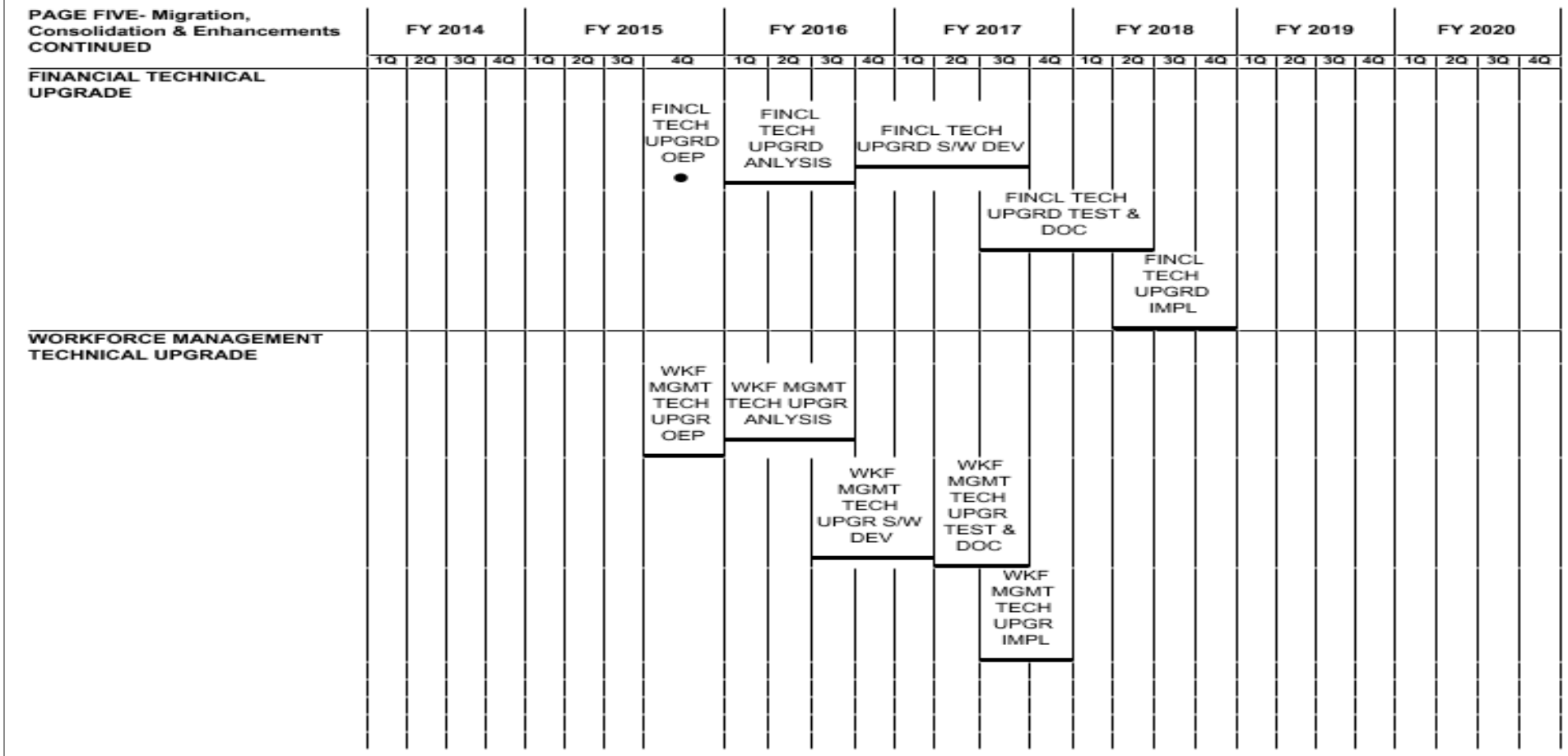
2016PB - 0605013N - 2904

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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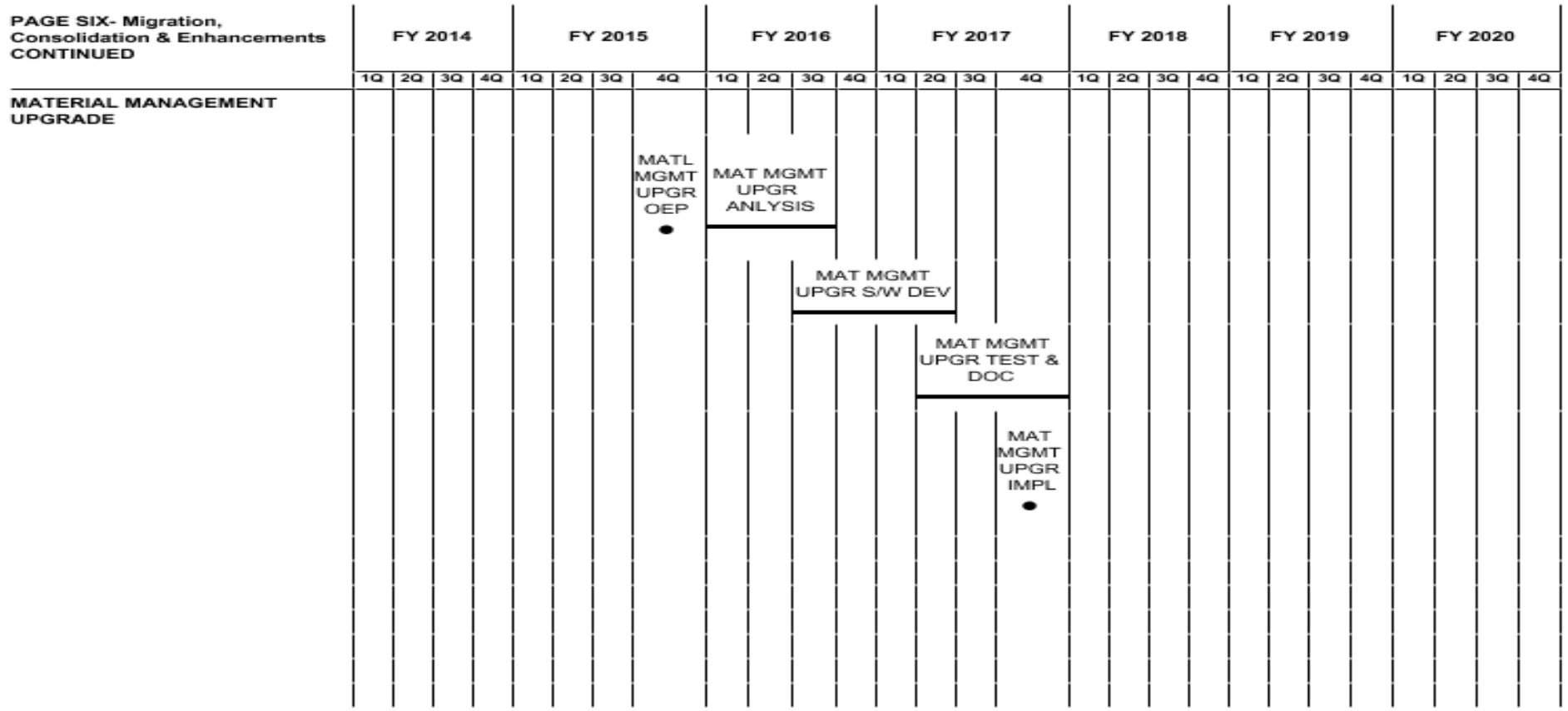
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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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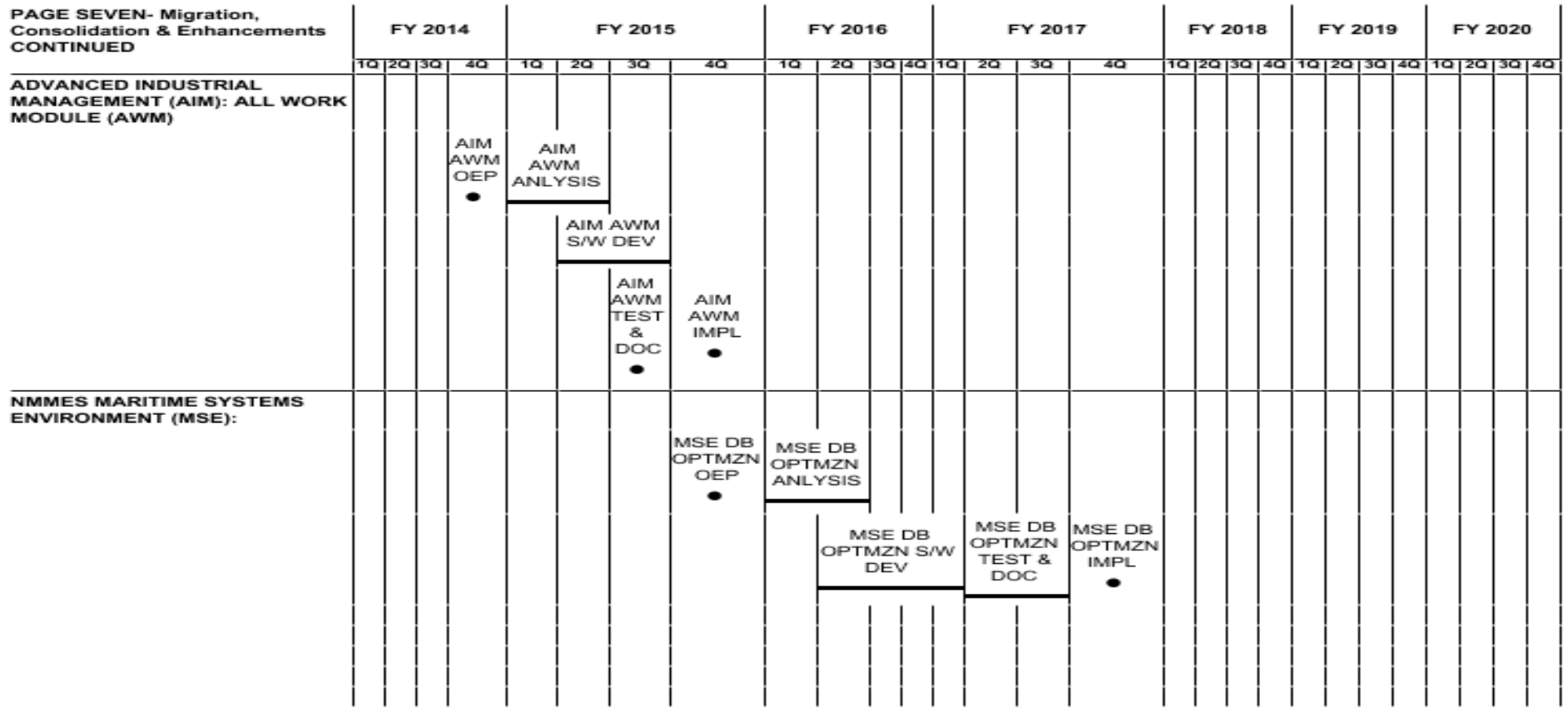
2016PB - 0605013N - 2904

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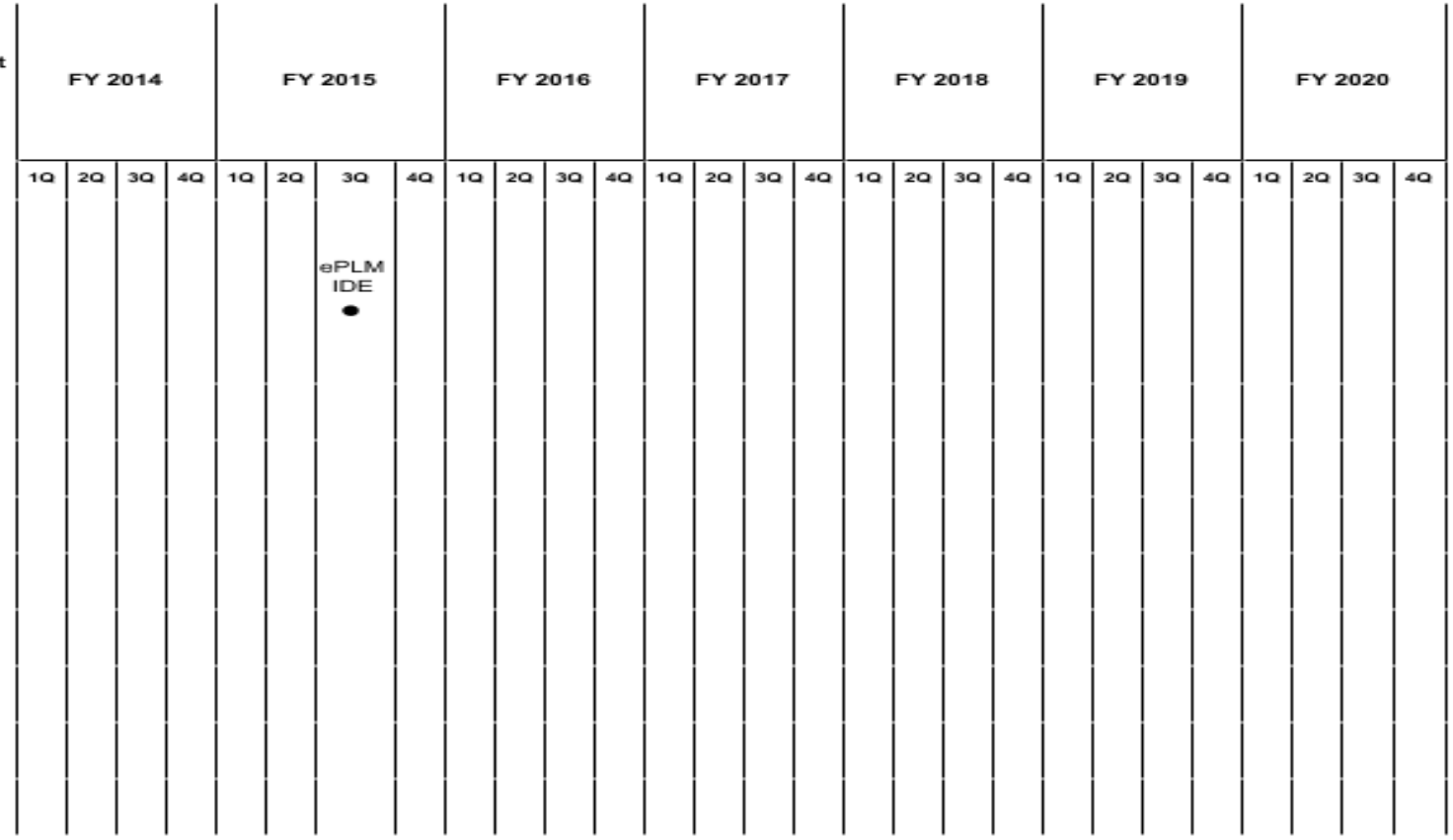
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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
PAGE ONE - Lean Systems Improvement				
ELECTRONIC TECHNICAL WORK DOCUMENTS (eTWD): eTWD Software Development	4	2014	3	2015
ELECTRONIC TECHNICAL WORK DOCUMENTS (eTWD): eTWD Testing & Documentation	2	2015	3	2015
ELECTRONIC TECHNICAL WORK DOCUMENTS (eTWD): eTWD Implementation	2	2015	2	2016
PROJECT SEQUENCING & SCHEDULING (PSS) UPGRADE: PSS UPGRADE: PSS Upgrade Scheduling Improvement OEP Approval	4	2014	4	2014
PROJECT SEQUENCING & SCHEDULING (PSS) UPGRADE: PSS Upgrade Scheduling Improvement Analysis	1	2015	4	2015
PROJECT SEQUENCING & SCHEDULING (PSS) UPGRADE: PSS Upgrade Scheduling Improvement Software Development	4	2015	4	2016
PROJECT SEQUENCING & SCHEDULING (PSS) UPGRADE: PSS Upgrade Scheduling Improvement Testing & Documentation	3	2016	4	2016
PROJECT SEQUENCING & SCHEDULING (PSS) UPGRADE: PSS Upgrade Scheduling Improvement Implementation	1	2017	2	2017
PAGE TWO - Migration, Consolidation & Enhancements				
EXECUTION PRIORITIES: Execution Priorities OEP Approval	4	2014	4	2014
EXECUTION PRIORITIES: Execution Priorities Analysis	4	2014	1	2015
EXECUTION PRIORITIES: Execution Priorities Software Development	1	2015	2	2016
EXECUTION PRIORITIES: Execution Priorities Testing & Documentation	2	2016	3	2016
EXECUTION PRIORITIES: Execution Priorities Implementation	4	2016	4	2016
PAGE THREE - Migration, Consolidation & Enhancements				

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
PLANNED MAINTENANCE SYSTEM (PMS): PMS UPGRADE: PMS Upgrade OEP Approval	4	2016	4	2016
PLANNED MAINTENANCE SYSTEM (PMS): PMS UPGRADE: PMS Upgrade Analysis	2	2017	3	2017
PLANNED MAINTENANCE SYSTEM (PMS): PMS UPGRADE: PMS Upgrade Software Development	3	2017	1	2018
PLANNED MAINTENANCE SYSTEM (PMS): PMS UPGRADE: PMS Upgrade Testing & Documentation	1	2018	3	2018
PLANNED MAINTENANCE SYSTEM (PMS): PMS UPGRADE: PMS Upgrade Implementation	3	2018	4	2018
MAINTENANCE & SHIPWORK PLANNING (MSWP): MSWP OEP Approval	4	2014	4	2014
MAINTENANCE & SHIPWORK PLANNING (MSWP): MSWP Analysis	1	2015	2	2015
MAINTENANCE & SHIPWORK PLANNING (MSWP): MSWP Software Development	3	2015	1	2016
MAINTENANCE & SHIPWORK PLANNING (MSWP): MSWP Testing & Documentation	1	2016	2	2016
MAINTENANCE & SHIPWORK PLANNING (MSWP): MSWP Implementation	3	2016	4	2016
PAGE FOUR - Migration, Consolidation & Enhancements CONTINUED				
STRATEGIC PLANNING & FORECASTING: SPF UPGRADE: SPF UPGRADE OEP Approval	4	2015	4	2015
STRATEGIC PLANNING & FORECASTING: SPF UPGRADE: SPF UPGRADE Analysis	1	2016	3	2016
STRATEGIC PLANNING & FORECASTING: SPF UPGRADE: SPF UPGRADE Software Development	3	2016	1	2017
STRATEGIC PLANNING & FORECASTING: SPF UPGRADE: SPF UPGRADE Testing & Documentation	2	2017	4	2017
STRATEGIC PLANNING & FORECASTING: SPF UPGRADE: SPF UPGRADE Implementation	4	2017	4	2017
NMMES Technical Refresh: NMMES Technical Refresh Advanced Planning	4	2014	3	2015
NMMES Technical Refresh: NMMES Technical Refresh OEP Approval	4	2014	4	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
NMMES Technical Refresh: NMMES Technical Refresh Alternative Analysis	4	2014	3	2015
NMMES Technical Refresh: NMMES Technical Refresh Solution Analysis	1	2015	1	2016
NMMES Technical Refresh: NMMES Technical Refresh Software Development	1	2016	3	2017
NMMES Technical Refresh: NMMES Technical Refresh Testing & Documentation	3	2017	2	2018
NMMES Technical Refresh: NMMES Technical Refresh Implementation	3	2018	4	2019
PAGE FIVE- Migration, Consolidation & Enhancements CONTINUED				
FINANCIAL TECHNICAL UPGRADE: Financial Tech Upgrade OEP Approval	4	2015	4	2015
FINANCIAL TECHNICAL UPGRADE: Financial Tech Upgrade Analysis	1	2016	3	2016
FINANCIAL TECHNICAL UPGRADE: Financial Tech Upgrade Software Development	4	2016	3	2017
FINANCIAL TECHNICAL UPGRADE: Financial Tech Upgrade Testing & Documentation	3	2017	2	2018
FINANCIAL TECHNICAL UPGRADE: Financial Tech Upgrade Implementation	2	2018	4	2018
WORKFORCE MANAGEMENT TECHNICAL UPGRADE: Workforce Mgmt Tech Upgrade OEP Approval	4	2015	4	2015
WORKFORCE MANAGEMENT TECHNICAL UPGRADE: Workforce Mgmt Tech Upgrade Analysis	1	2016	3	2016
WORKFORCE MANAGEMENT TECHNICAL UPGRADE: Workforce Mgmt Tech Upgrade Softward Development	3	2016	1	2017
WORKFORCE MANAGEMENT TECHNICAL UPGRADE: Workforce Mgmt Tech Upgrade Testing & Documentation	2	2017	3	2017
WORKFORCE MANAGEMENT TECHNICAL UPGRADE: Workforce Mgmt Tech Upgrade Implementation	3	2017	4	2017
PAGE SIX- Migration, Consolidation & Enhancements CONTINUED				
MATERIAL MANAGEMENT UPGRADE: Material Mgmt Upgrade OEP Approval	4	2015	4	2015
MATERIAL MANAGEMENT UPGRADE: Material Mgmt Upgrade Analysis	1	2016	3	2016
MATERIAL MANAGEMENT UPGRADE: Material Mgmt Upgrade Software Development	3	2016	2	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MATERIAL MANAGEMENT UPGRADE: Material Mgmt Upgrade Testing & Documentation	2	2017	4	2017
MATERIAL MANAGEMENT UPGRADE: Material Mgmt Upgrade Implementation	4	2017	4	2017
PAGE SEVEN- Migration, Consolidation & Enhancements CONTINUED				
ADVANCED INDUSTRIAL MANAGEMENT (AIM): ALL WORK MODULE (AWM): AWM OEP Approval	4	2014	4	2014
ADVANCED INDUSTRIAL MANAGEMENT (AIM): ALL WORK MODULE (AWM): AWM Analysis	1	2015	2	2015
ADVANCED INDUSTRIAL MANAGEMENT (AIM): ALL WORK MODULE (AWM): AWM Software Development	2	2015	3	2015
ADVANCED INDUSTRIAL MANAGEMENT (AIM): ALL WORK MODULE (AWM): AWM Testing & Documentation	3	2015	3	2015
ADVANCED INDUSTRIAL MANAGEMENT (AIM): ALL WORK MODULE (AWM): AWM Implementation	4	2015	4	2015
NMMES MARITIME SYSTEMS ENVIRONMENT (MSE):: Database Optimization: OEP Approval	4	2015	4	2015
NMMES MARITIME SYSTEMS ENVIRONMENT (MSE):: Database Optimization: Analysis	1	2016	2	2016
NMMES MARITIME SYSTEMS ENVIRONMENT (MSE):: Database Optimization: Software Development	2	2016	1	2017
NMMES MARITIME SYSTEMS ENVIRONMENT (MSE):: Database Optimization: Testing & Documentation	2	2017	3	2017
NMMES MARITIME SYSTEMS ENVIRONMENT (MSE):: Database Optimization: Implementation	4	2017	4	2017
Enterprise Lifecycle Management (ePLM) Integrated Decision Environment (IDE)				
Award acquisition contract for the ePLM IDE solution	3	2015	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
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COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2905.: *BUPERS IT*	15.130	15.699	14.690	13.476	-	13.476	14.709	10.069	7.652	7.823	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

BILLET BASED DISTRIBUTION (BBD)
The objective of BBD is to replace the current inventory-based requisition generation process with automated functionality driven by requirements--an inventory-balanced and position-based process. This methodology will increase personnel readiness, improve fit and provide clear visibility to the impact on mission readiness at the billet level. BBD will facilitate maximizing the contributions of every member of the Navy workforce by delivering competency-based career paths.

The BBD effort commenced in FY12 and Phase 1A was delivered in FY14. Phase 1B began in FY14 and will complete in FY15. Phase 1C will begin in FY15 and will complete in FY16. Phase 1C will allow direct command-level input to enlisted placement for the alignment and realignment of Sailors.

LEARNING MANAGEMENT SYSTEM - DISTANCE LEARNING (LMS-DL)
The effort to modernize LMS-DL was initiated by the Enterprise Training Management Delivery System (ETMDS). Phase II is comprised of three incremental software releases of which the first two have been delivered and the third is scheduled for completion by the end of FY15. Phase II provides the following capabilities:

(1) Interface with the Navy's Authoring Instructional Materials (AIM) system and Learning Assessment System (LAS) to provide a more collaborative learning environment
(2) Enhanced administrator and user features in accordance with sponsor priorities to improve application efficiency
(3) Upgraded application eliminates dependence upon software components that are nearing end of life and improved security features
(4) Improved ability to deliver content to the learner by the creation, de-confliction, prioritization and scheduling of learning event plans--plans supported by an LMS and governed by learning event rules.

MY NAVY PORTAL (MNP)
MNP provides access to and interaction with relevant information assets (content, applications, business processes), knowledge assets and human assets, to targeted audiences, delivered in a highly personalized manner. MNP seeks to consolidate and eliminate multiple portals and will provide a common user interface for Sailor access to Navy Personnel, Training & Education services. The MNP investment is designed to reduce the overall DoN IT footprint, reduce the number of Navy portals, reduce the investment in technology services by business applications and improve the quality of service provided to Sailors and Marines. MNP Phase 2B commenced FY14 and development continues in FY15.

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MNP Phase 2B will be completed in FY16. Testing in preparation for deployment of Phase 2B will also begin in early FY16. Phase 2B completes migration of Navy Knowledge Online (NKO) to MNP, and includes early Beta releases of Sailor Record, other selected transactions that support priority events for simplifying the user experience. Phase 2B also consolidates access to systems (single sign on). Phase 2C will begin FY16 and will include 17 of the highest priority transactions to support life and career events.

TOTAL FORCE MANPOWER MANAGEMENT SYSTEM (TFMMS)
TFMMS is the Navy's authoritative source for manpower management. TFMMS currently has the capability to generate authoritative and enterprise-wide Naval Manpower information products including:

(1) Activity Manpower Documents (AMD)
(2) Total Force Positions
(3) Manpower Resource Controls

TFMMS modernization began in FY14 and the first two iterations will be completed FY16. TFMMS will establish a modernized web-based system that is easily accessed in both classified and unclassified environments. Immediate benefits include increased accessibility, modernized manpower processes and improved cyber defense.

This implementation will be completed in two iterations. Iteration 1 contains Billet Change Request (BCR) and Activity Maintenance functionality. The Requirements Phase of Iteration 1 was initiated in FY14. The Iteration 1 Design, Development, Testing and Deployment Phases will begin in FY15. Iteration 2 contains the remaining functionality including End Strength Management, Position Authorizations, Extended Workflow, Level of Aggregation (LOA) Management, Reports and Interfaces. Iteration 2 will begin the Design and Development Phases in in FY15. Testing and Deployment will occur in FY16.

PERSONALIZED RECRUITING FOR IMMEDIATE AND DELAYED ENLISTMENT MODERNIZATION II (PRIDE Mod II)
PRIDE Mod II consolidates the officer and enlisted active and reserve processes into one solution allowing Navy Recruiting Command (NRC) to streamline its recruiting force and create multifunction field recruiters who can coordinate officer as well as enlisted kit processing. This project was for a post-delivery product improvement effort to incorporate biometric signature capability, further reduce paper-based processing of kits and implement deferred requirements.

ANALYSIS OF ALTERNATIVE/ECONOMIC ANALYSIS (AOA)
As part of the NSIPS strategy, the Navy conducted multiple AoAs to analyze viable alternatives in order to determine the most efficient and effective solution to address the modernization of elements of the Navy's Manpower, Personnel, Training and Education (MPTE) IT portfolio.

NAVY STANDARD INTEGRATED PERSONNEL SYSTEM (NSIPS)

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NSIPS is the Navy's business solution to Human Resources Management for approximately 400,000 Sailors worldwide. NSIPS provides the Navy with a web-based, field-entry, electronic pay and personnel support system and analytical repository for all active duty & reserve Sailors. NSIPS is available worldwide--both ashore and shipboard. NSIPS collects, validates, processes and transfers the data necessary to ensure accurate & timely pay and maintenance of personnel records. NSIPS is pivotal in the processes of mobilization and demobilization.

NSIPS integrates the capabilities of several legacy systems including:
(1) Navy Enlisted System (NES)
(2) Officer Personnel Information System (OPINS)
(3) Inactive Manpower Management Information System (IMAPMIS)
(4) Reserve Headquarters Support (RHS)

NSIPS major components and services currently include:
(1) NSIPS Transactional - Navy field level Personnel transaction system
(2) NSIPS Reporting/Business Intelligence - reporting and ad hoc query tool
(3) Web Afloat - shipboard NSIPS component
(4) Web Adhoc - business intelligence analysis
(5) Career Information Management System (CIMS) - used for career counseling
(6) Navy Retention Monitoring (NRMS) - reports retention statistics
(7) Permanent Change of Station Obligation and Expenditure Management System (POEMS) - used to manage costs associated with Permanent Change of Station (PCS)
(8) Alternate Final Multiple Score (AFMS) - used to determine eligibility to E-7 selection board for SO and SB ratings (9) Health Professionals Incentive Program (HPIP) - manages the development of medical personnel

To address future personnel and pay requirements, the Navy will leverage its investment in NSIPS and take an incremental approach for a rationalized and modernized IT portfolio. FY16 investments continue the implementation of this strategy in completing deferred software changes related to retirements, separations, selection board preparation, personnel appraisal, and personnel accountability that require development and modernization. In accordance with DCMO ADM Dated 22 October 2013 the IPPS-N line RDT&E funding was moved to the NSIPS line in order to better align funding with the system being modernized.

RISK MANAGEMENT INITIATIVE (RMI)
The RMI program is a consolidation of DoN risk management requirements into a single Program of Record (POR) to provide modern Safety capabilities for both active and reserve Navy. RMI enables agile responses to business rule changes, automation of routine actions, improved data integrity, and facilitates self-service for organizations and individuals.

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RMI is being developed in four increments of capabilities: Streamlined Incident Reporting (SIR), Single Point of Entry (SPOE), Safety Program Management (SPM), and Analysis & Dissemination (A&D). Each of these capabilities will be acquired as individual Abbreviated Acquisition Programs using an incremental development approach for reengineered business processes, while consolidating four legacy systems [Web-Enabled Safety System (WESS), Enterprise Safety Application Management Systems (ESAMS), Portsmouth Occupational Accident and Illness Reporting System (POAIRS), Medical Mishap and Compensation (MMAC)]. After selection of a COTS solution in FY14 during the SIR increment, it became evident that SPOE requirements could be realized without a separate increment. FY16 funds will be used for the SPM and A&D requirements, Design and Development increments.

APPLICANT RELATIONSHIP MANAGEMENT (ARM)
ARM provides automated support of the management of recruiting information. ARM enables all levels of recruiting to have realtime access to timely and accurate information. ARM provides managers with decision-making support by consolidating Navy Recruiting Command (NRC) legacy application systems. The complete ARM Systems Dev/Mod effort will incorporate Biometrics and paperless implementation across all lines of business systems to gain additional efficiencies.

FY16 funds support Electronic Signature Validation and the following functionality & scope:
- RF2020 paperless processing objective
- Biometric Signature will replace legal wet signature (process over 2M pages annually)
- Workflow automatically route/process biometrically signed documents
- Deferred Pride Mod II integration requirements

Funding associated with Personnel TEMPO (PERSTEMPO) is being aligned to PE 060513N 2905 beginning in FY15. This aligns the funds with the organization required to execute PERSTEMPO strategy as directed by the CNO to the CNP. Two components are rolled together, modifying the ITEMPO system and further developing the Navy Deployment Health Location process. This strategy consists of Business Process Re-engineering (BPR) defined requirements (artifact is a Functional Requirements Document-FRD), modernization/risk reduction of existing system (ITEMPO) and a process that uses our corporate systems at DMDC Mechanicsburg.

The desired affects of PERSTEMPO strategy are:
- Generate efficiencies throughout the Fleet to meet statutory requirements and improve Fleet readiness.
- Provide improved service to Sailors (improving retention).
- Facilitate informed management decision making.

Associated sub-projects:

Individual TEMPO (ITEMPO): PERSTEMPO was implemented to comply with Sections 586 and 923 of the FY00 NDAA, now within 10 USCS 991. This is a non-acquisition category program. Each military service is to track and manage the number of deployed days and number of temporary duty days away from homeport for active and reserve personnel. Information is reported to DoD/DMDC, which is used to report to the Secretary of Defense. ITEMPO is the system used to comply with these directives. PERSTEMPO supports Navy management of stress on the force as requested by the CNO; Commander, U.S. Fleet Forces Command (N1); and the

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Commander, U.S. Pacific Fleet (N1). Enhancements will be performed on the primitive ITEMPO functional tools/metrics to make it actionable, current in technology, user friendly, and integrated into a variety of personnel and pay systems. Preparations are already underway to complete the FRD and perform a gap analysis within existing resources. This will support pay auditability/certainty when payment is authorized.

DEPLOYMENT HEALTH LOCATION: Deployment Health Location is being implemented per DoD Instruction 6490.03, "Deployment Health," (DoD Instruction) August 11, 2006. This requires the Military Departments to plan, program, and implement a system to ensure daily location recording for all deployed personnel assigned, attached on temporary duty, or temporary additional duty to deployed units. The Services are required to report the daily location information electronically to DMDC at least weekly. Also, this will correct the finding by DoD Inspector General Report NO. DODIG 2012-112 of Jul 18, 2012.

Capability change for ITEMPO: The system has had no significant software change in more than 8 years. The report mechanisms are extremely antiquated.

Capability change Deployment Health Location: Deployed Service members are potentially subject to occupational and environmental hazards that can include exposure to harmful levels of environmental contaminants, such as industrial toxic chemicals, chemical and biological warfare agents, or radiological and nuclear contaminants. These hazards may include contamination from the past use of a site, battle damage, stored stockpiles, military use of hazardous materials, or from other sources. Harmful levels include high-level exposures that result in immediate health effects and low-level exposures that could result in delayed or long-term health effects. Collecting deployment information will allow the Military Health System to identify populations at risk for occupational and environmental exposures that may need medical follow-up. Improving timeliness of treatment will have a positive effect on readiness and long-term wounded warrior care.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Billet Based Distribution (BBD)	2.600	1.583	0.975	-	0.975
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed Preliminary Design Review, In-Process Review, Critical Design Review and Software Development for BBD Phase 1B.					
FY 2015 Plans: Complete Functional Testing and Deployment of Phase 1B which includes: (1) Continuous alignment of people-to-position functionality deployed with Phase 1A (2) Creation of a position-based requisition (3) Inventory Projection (4) Requisition Priority (5) Alignment Sustainment Functions (6) Global Force Management Data Initiative (GFM DI)--Spaces-to-Faces requirement					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Also plan to complete the Detailed Requirements Analysis of BBD Phase 1C ***FY 2016 Base Plans:*** Perform system engineering reviews and complete software design & development of BBD Phase 1C. ***FY 2016 OCO Plans:*** N/A					
Title: Learning Management System - Distance Learning (LMS-DL) ***Articles:*** ***FY 2014 Accomplishments:*** Completed RFP and CDRLs for LMS-DL Phase II (awarded Task Order under existing IDIQ contract). Delivered the first of three incremental software releases. ***FY 2015 Plans:*** Deliver the second and third of three incremental software releases for LMS-DL Phase II. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A	1.735 -	0.066 -	- -	- -	- -
Title: My Navy Portal (MNP) ***Articles:*** ***FY 2014 Accomplishments:*** Refined efficacy of various integration patterns (linking, integrating and subsuming) associated with Manpower, Personnel, Training and Education (MPTE) applications which will likely connect to My Navy Portal in the future. Efforts to begin the Design Review for MNP (in concert with Navy Knowledge Online (NKO), Authoritative Data Environment (ADE) and the Navy 311 teams) to set the stage for MNP Phase 2b development. Begin MNP Phase 2b development efforts, complete Systems Requirements Review (SRR), System Functional Review (SFR) and Preliminary Design Review (PDR). ***FY 2015 Plans:***	4.600 -	1.100 -	1.750 -	- -	1.750 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue MNP Phase 2b development (subsume NKO and integrate 6 BoL applications), complete design review and acceptance testing. Continue to gather customer (Sailor) feedback on MNP development efforts through the OPNAV FIT and incorporate feedback into design efforts. ***FY 2016 Base Plans:*** Continue with MNP Phase 2b development effort and the integration of identified MPTE applications. Begin testing in preparation for deployment of Phase 2b in early FY16. Additional MPT&E applications will continue to be linked to MNP & integrated with and/or subsumed by MNP to achieve strategic goals for MNP. Phase 2C will begin FY16 and will include 17 of the highest priority transactions to support life and career events. ***FY 2016 OCO Plans:*** N/A					
Title: Total Force Manpower Management System (TFMMS)	1.471	3.911	1.200	-	1.200
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Develop System Subsystem Specification (SSS), System Requirements Specification (SRS) and supporting architecture documentation. ***FY 2015 Plans:*** Start and complete Application Design Phase of Iteration 1. Deploy development of Iteration 1 and commence development of Iteration 2. ***FY 2016 Base Plans:*** Test and deploy Iteration 2 ***FY 2016 OCO Plans:*** N/A					
Title: Personalized Recruiting for Immediate and Delayed Enlistment Modernization II (PRIDE Mod II)	-	1.370	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Award contract & complete Systems Requirement Review (SRR), System Functional Review (SFR) and Preliminary Design Review (PDR). Begin Critical Design Review, Development and Operational Testing. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Analysis of Alternative Economic Analysis (AOA EA)	0.454	0.538	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted studies and Analysis of Alternative (AoA) of material solutions for emerging business IT requirements. Initiated the AoA for Pay capability processes. ***FY 2015 Plans:*** Conduct studies and Analysis of Alternative (AoA) of material solutions for emerging business IT requirements. Conduct the AoA for personnel accountability processes. ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Navy Standard Integrated Personnel System (NSIPS)	2.637	2.400	3.872	-	3.872
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed source selection & contract award for Personnel Modernization (PERS MOD) Retirements and Separations (R&S). Initiated NSIPS R&S capability development. Supported Pay capability requirements development processes. Began PERS MOD R&S Design. ***FY 2015 Plans:*** Complete requirements analysis of the Retirements and Separations (R&S) functional requirements. Complete fit/gap analysis of the R&S functional requirements to PeopleSoft 9.2. Complete the System Requirements					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Review/System Functional Review (SRR/SFR). Complete the Preliminary Design Review (PDR) and the Critical Design Review (CDR) for iteration one functionality (Review/Approval Process). ***FY 2016 Base Plans:*** Complete application testing for iteration one functionality (Review/Approval Process) and deploy to the NSIPS production environment. Complete Critical Design Review (CDR) for iteration two functionality (Separations Process). Complete application testing for iteration two functionality (Separations Process), and deploy to the NSIPS production environment. Complete Critical Design Review (CDR) for iteration three functionality (Forms/Reports). Complete application testing for iteration three functionality (Forms/Reports), and deploy to the NSIPS production environment. Pay Navy share of Tri-Service PeopleSoft license, award task order for prioritized, deferred software changes related to selection board preparation, personnel appraisal, and personnel accountability that require development and modernization. ***FY 2016 OCO Plans:*** N/A					
Title: Risk Management Initiative (RMI)	2.202	1.790	2.147	-	2.147
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Awarded contract for Streamlined Incident Reporting (SIR) and Single Point of Entry (SPOE). Completed SIR System Requirements Reviews and commenced SIR Design. ***FY 2015 Plans:*** Complete Streamlined Incident Reporting (SIR) and Single Point of Entry (SPOE) Design. Begin Testing Phase for SIR and SPOE by end of FY15. ***FY 2016 Base Plans:*** Award contract for Safety Program Management (SPM) and Analysis & Dissemination (A&D). Complete Testing Phase for Streamline Incident Reporting (SIR). Perform Test Readiness Reviews (TRR) and Production Readiness Reviews for SIR. ***FY 2016 OCO Plans:*** N/A					
Title: Applicant Relationship Management (ARM)	-	-	2.221	-	2.221

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Begin and complete Systems Requirement Review (SRR), Design and Preliminary Design Review (PDR) phases. Validate system interface requirements and business process mapping. ***FY 2016 OCO Plans:*** N/A					
Title: Recruiting Information System (NRIS)	-	-	0.500	-	0.500
Articles:	-	-	-	-	-
Description: The Recruiting Information System (NRIS) creates a holistic approach to Navy Accessions by integrating Recruiter and Applicant information in real-time and to appropriate Manpower, Personnel, Training, and Education DoD business systems. Combined with Mobile Recruiter Initiative (MRI), the NRIS family of web enabled systems extends the recruiting force point-of-presence and key business processes to the field; facilitates real-time data sharing and paperless processing across the Accessions supply chain; and drives down the total number of transactions required to transition from street to fleet. NRIS supports the active and reserve component, enlisted and officer accessions processes and includes system interfaces that eliminate multiple data entry and reduces errors. Interface partners include CeTARS (book school seats and initial strength gain), MIRS/eSOA (schedule applicants for physicals and testing at MEPS) and NSIPS (start the initial personnel record). NRIS encompasses PRIDE Modernization-I, WebRTools, CIRIMS and NASIS; and will include PRIDE Modernization-II and ARM when deployed in FY15. The NRIS architecture provides the recruiting force with an agile, flexible, secure, and data-centric IT operating environment, the key building block for business transformation and supports the command's RF2030 strategy. ***FY 2014 Accomplishments:***					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** Complete NRIS Development and deploy NRIS final capability. ***FY 2016 OCO Plans:*** N/A					
Title: Personnel TEMPO (PERSTEMPO)	-	1.932	0.811	-	0.811
Articles:	-	-	-	-	-
Description: The PERSTEMPO program consists of two components: Modifying the ITEMPO system and further developing the Navy Deployment Health Location process. This strategy consists of Business Process Re-engineering (BPR) defined requirements, modernization/risk reduction of existing system (ITEMPO) and a process that uses our corporate systems at DMDC Mechanicsburg. ITEMPO: PERSTEMPO was implemented to comply with Sections 586 and 923 of the FY00 NDAA, now within 10 USCS 991. This is a non-acquisition category program. Each military service is to track and manage the number of deployed days and number of temporary duty days away from homeport for active and reserve personnel. This information is reported to DoD/DMDC, which is used to report to the Secretary of Defense. ITEMPO is the system used to comply with these directives. PERSTEMPO supports Navy management of stress on the force as requested by the CNO; Commander, U.S. Fleet Forces Command (N1); and the Commander, U.S. Pacific Fleet (N1). Enhancements will be performed on the primitive ITEMPO functional tools/ metrics to make it actionable, current in technology, user friendly, and integrated into a variety of personnel and pay systems. Preparations are already underway to complete the FRD and perform a gap analysis within existing resources. This will support pay auditability/certainty when payment is authorized. DEPLOYMENT HEALTH LOCATION: Deployment Health Location is being implemented per DoD Instruction 6490.03, "Deployment Health," (DoD Instruction) August 11, 2006. This requires the Military Departments to plan, program, and implement a system to ensure daily location recording for all deployed personnel assigned, attached, on temporary duty, or temporary additional duty to deployed units. The Services are required to report					

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
the daily location information electronically to DMDC at least on a weekly basis. Also, this will correct the finding by DoD Inspector General Report NO. DODIG 2012-112 of Jul 18, 2012. ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** - Start PERSTEMPO design. - Complete PERSTEMPO design reviews. - Start building the modifications on the ITEMPO and Deployment Health Location development sub-projects, based on approved FRDs. - Start advanced updates and enhancements to ITEMPO, allowing to transition the system to make it actionable, current in technology, user friendly, and integrated into a variety of personnel and pay systems. ***FY 2016 Base Plans:*** - Complete modifications on the ITEMPO and Deployment Health Location development sub-projects, based on approved FRDs. - Complete advanced updates and enhancements (likely) to ITEMPO, allowing to transition the system to make it actionable, current in technology, user friendly, and integrated into a variety of personnel and pay systems. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	15.699	14.690	13.476	-	13.476

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

BILLET BASED DISTRIBUTION (BBD)

The required services will be procured through a Cost Plus Fixed Fee (CPFF) 8a contract and a competitive, multiple award, small business Indefinite Delivery / Indefinite Quantity (ID/IQ) contract task order.

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LEARNING MANAGEMENT SYSTEM - DISTANCE LEARNING (LMS-DL)
Acquisition was through a Cost Plus Fixed Fee (CPFF) contract and a competitive, multiple award, Indefinite Delivery / Indefinite Quantity (ID/IQ) contract task order.

NAVY STANDARD INTEGRATED PERSONNEL SYSTEM (NSIPS)
All NSIPS dev/mod requirements accomplished via task orders on existing SPAWAR Personnel Modernization ID/IQ contract.

MY NAVY PORTAL (MNP)
The required services will be procured through a Cost Plus Fixed Fee (CPFF) 8a contract and a competitive, multiple award, small business Indefinite Delivery / Indefinite Quantity (ID/IQ) contract task order.

TOTAL FORCE MANPOWER MANAGEMENT SYSTEM (TFMMS)
Task orders will be awarded using the GSA Alliant Small Business Multiple Award Contract.

RISK MANAGEMENT INITIATIVE (RMI)
The required services will be procured through a Cost Plus Fixed Fee (CPFF) 8a contract and a competitive, multiple award, small business Indefinite Delivery / Indefinite Quantity (ID/IQ) contract task order.

PERSONALIZED RECRUITING FOR IMMEDIATE AND DELAYED ENLISTMENT MODERNIZATION II (PRIDE Mod II)
Task orders are awarded using existing SPAWAR competitively awarded Cost Plus Fixed Fee (CPFF) single award IDIQ contract.

APPLICANT RELATIONSHIP MANAGEMENT (ARM)
All ARM dev/mod requirements accomplished via task orders on existing SPAWAR Recruiting and Accessions ID/IQ contract.
(U) PERSTEMPO: Expect to use existing systems and build applications in those environments. Specifically for ITEMPO related costing, system resources are already existing within other system budget lines, and the OMN structure has been increased from FY2016 through the FYDP to sustain these changes. For Deployment Health Location, best system will be determined to host these attributes once the FRD is completed. For software development, the existing contract vehicles will be used, managing the work through separate sub contract line items (SLINs). Existing test resources will be used for testing software modifications.

E. Performance Metrics

BILLET BASED DISTRIBUTION (BBD)

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Meet acquisition program and system engineering and technical review milestones for development with no outstanding severity 1-3 defects for production release.

LEARNING MANAGEMENT SYSTEM - DISTANCE LEARNING (LMS-DL)
Meet acquisition program and system engineering and technical review milestones for development with no outstanding severity 1-3 defects for production release.

NAVY STANDARD INTEGRATED PERSONNEL SYSTEM (NSIPS)
Meet acquisition program and system engineering and technical review milestones for development with no outstanding severity 1-3 defects for production release.

MY NAVY PORTAL (MNP)
Meet acquisition program and system engineering and technical review milestones for development with no outstanding severity 1-3 defects for production release.

TOTAL FORCE MANPOWER MANAGEMENT SYSTEM (TFMMS)
Meet acquisition program and system engineering and technical review milestones for development with no outstanding severity 1-3 defects for production release.

PERSONALIZED RECRUITING FOR IMMEDIATE AND DELAYED ENLISTMENT MODERNIZATION II (PRIDE Mod II)
Meet acquisition program and system engineering and technical review milestones for development with no outstanding severity 1-3 defects for production release.

RISK MANAGEMENT INITIATIVE (RMI)
Meet acquisition program and system engineering and technical review milestones for development with no outstanding severity 1-3 defects for production release.

APPLICANT RELATIONSHIP MANAGEMENT (ARM)
Meet acquisition program and system engineering and technical review milestones for development with no outstanding severity 1-3 defects for production release.
(U) 2905 PERSTEMPO: Meet program system engineering and technical review milestones for development with no outstanding severity 1-3 defects for production release.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
BBD Phase 1b/c Design, Development, Test & Deployment	C/CPFF	SSC NOLA : New Orleans, LA	4.430	2.600	Jun 2014	1.583	Jan 2015	0.975	Feb 2016	-		0.975	3.800	13.388	13.388
LMS-DL Phase 2a/b Design, Development, Test & Deployment	C/CPFF	PMW 240 : Pensacola, FL	0.000	1.735	Dec 2013	0.066	Feb 2015	-		-		-	-	1.801	-
MNP Phase 2C Design, Development, Test & Deployment	C/CPFF	PMW 240 : Arlington, VA	0.000	4.600	Mar 2014	1.100	Mar 2015	1.750	Feb 2016	-		1.750	-	7.450	9.700
TFMMS Design, Development, Test & Deployment (2 Increments)	C/CPFF	PMW 240 : New Orleans, LA	0.000	1.471	Sep 2014	3.911	Mar 2015	1.200	Dec 2015	-		1.200	Continuing	Continuing	Continuing
PRIDE MOD II Design, Development, Test & Deployment	C/CPFF	PMW 240 : New Orleans, LA	0.000	-		1.370	May 2015	-		-		-	-	1.370	-
AOA EA Design, Development, Test & Deployment	C/CPFF	PMW 240 : New Orleans, LA	0.000	0.454	Jun 2014	0.538	Mar 2015	-		-		-	Continuing	Continuing	Continuing
NSIPS PERSMOD Deferred SCRs Design, Development, Test & Deployment	C/CPFF	PMW 240 : New Orleans, LA	8.300	0.237	Dec 2013	-		1.472	Dec 2015	-		1.472	Continuing	Continuing	Continuing
RMI SIR/SPOE/SPM/A&D Design, Development, Test & Deployment	C/CPFF	PMW 240 : San Diego, CA	0.000	2.202	Apr 2014	1.790	Dec 2014	2.147	Feb 2016	-		2.147	Continuing	Continuing	Continuing
ARM Design, Development, Test & Deployment	C/CPFF	PMW 240 : Orlando, FL	0.000	-		-		2.221	Dec 2015	-		2.221	3.991	6.212	6.212
PERSTEMPO System Design, Engineering, and Development	C/CPFF	FLC Philadelphia : Philadelphia, PA	0.000	-		1.932	Mar 2015	0.811	Sep 2016	-		0.811	-	2.743	-
Recruiting Information System (NRIS)	C/CPFF	CGI Federal, Inc : Fairfax, VA	0.000	-		-		0.500	Oct 2015	-		0.500	-	0.500	-
		Subtotal	12.730	13.299		12.290		11.076		-		11.076	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

PMW 240 programs are all either abbreviated acquisition programs or non-designated projects and do not require Independent Operational Test Evaluation (IOTE). Testing is performed in accordance with approved test plans by the business owners.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NSIPS Tri-Service License	C/CPFF	U.S. Army : Washington, D.C.	2.400	2.400	Nov 2013	2.400	Nov 2014	2.400	Nov 2015	-		2.400	9.600	19.200	19.200
		Subtotal	2.400	2.400		2.400		2.400		-		2.400	9.600	19.200	19.200

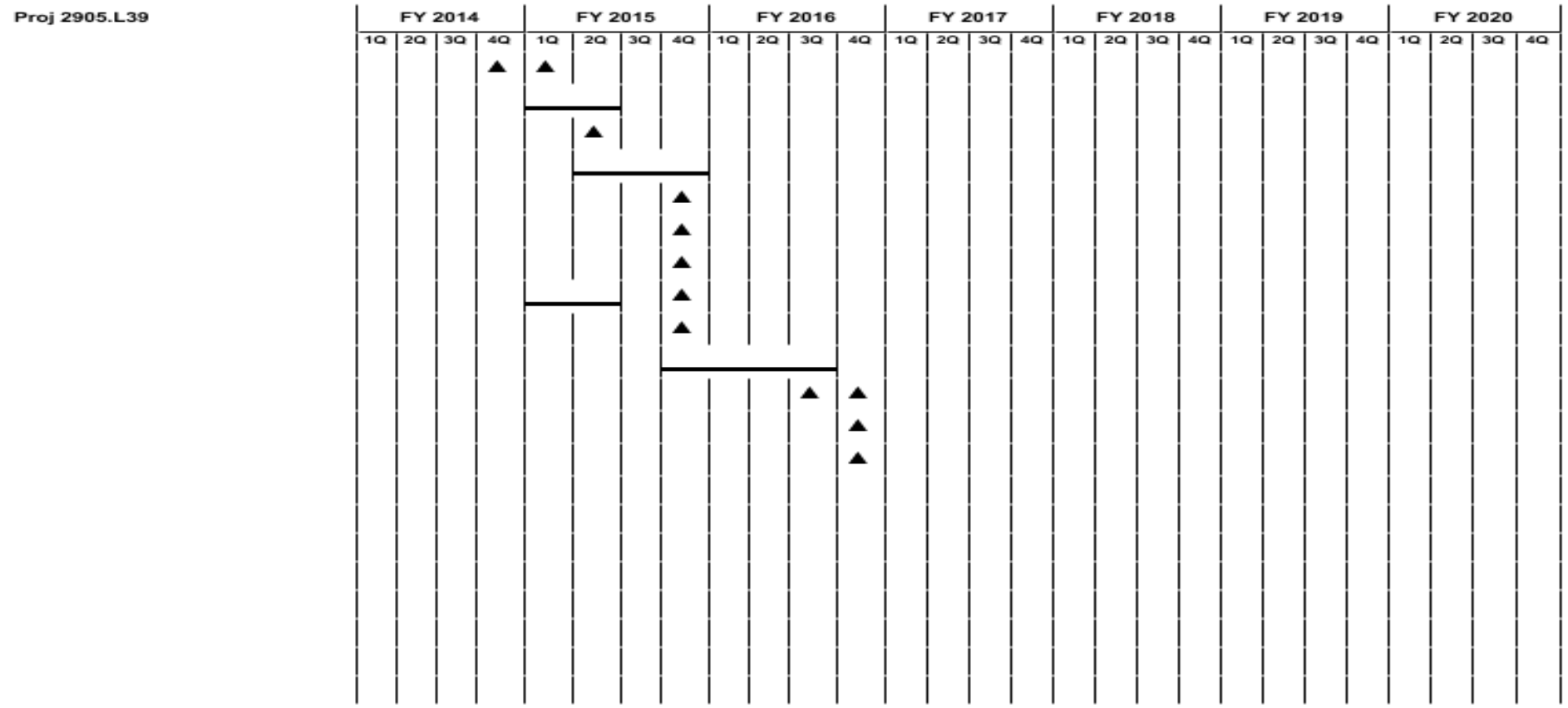
Remarks

PMW 240 pays the Navy's share of the Tri-Service PeopleSoft license under an Army led contract.

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	15.130	15.699		14.690		13.476		-		13.476	-	-	-

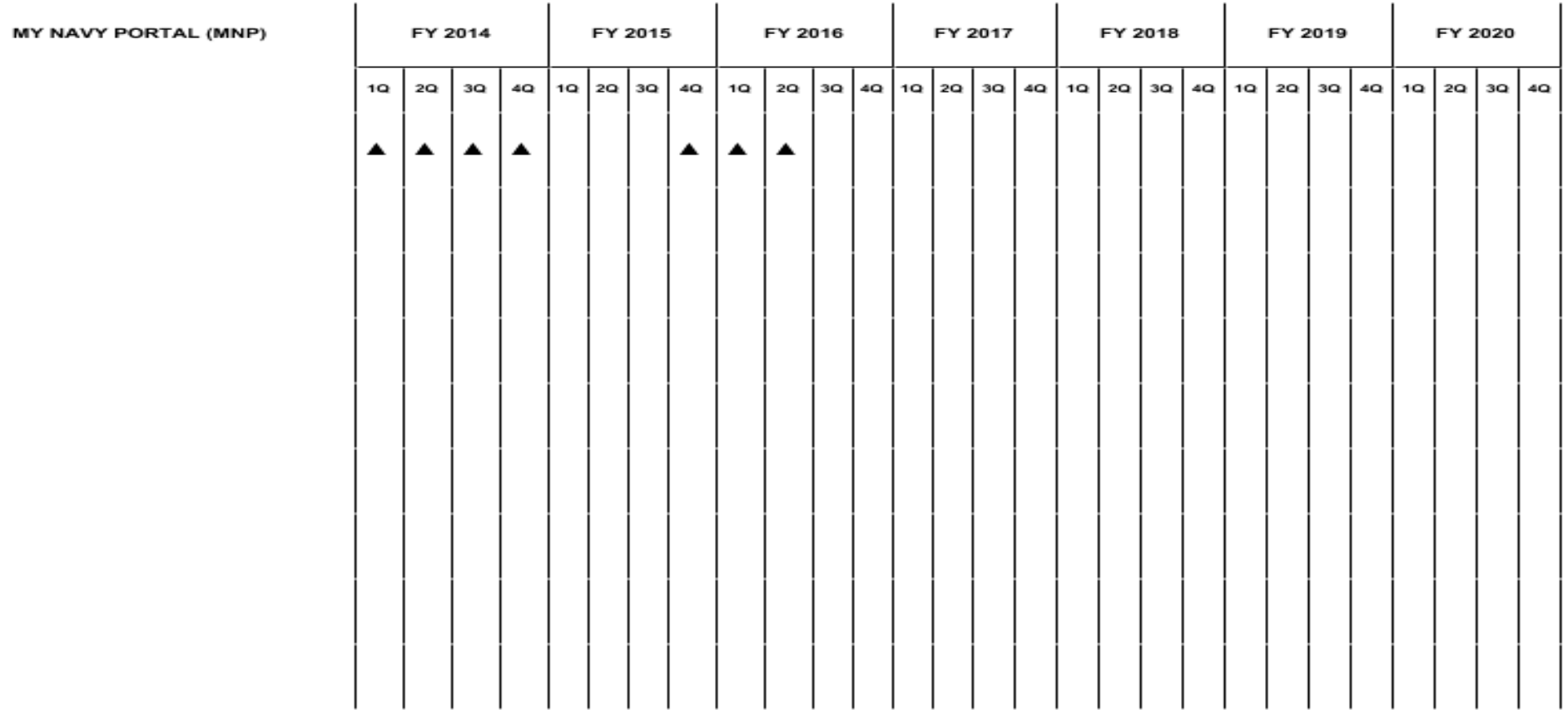
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2905. / *BUPERS IT*



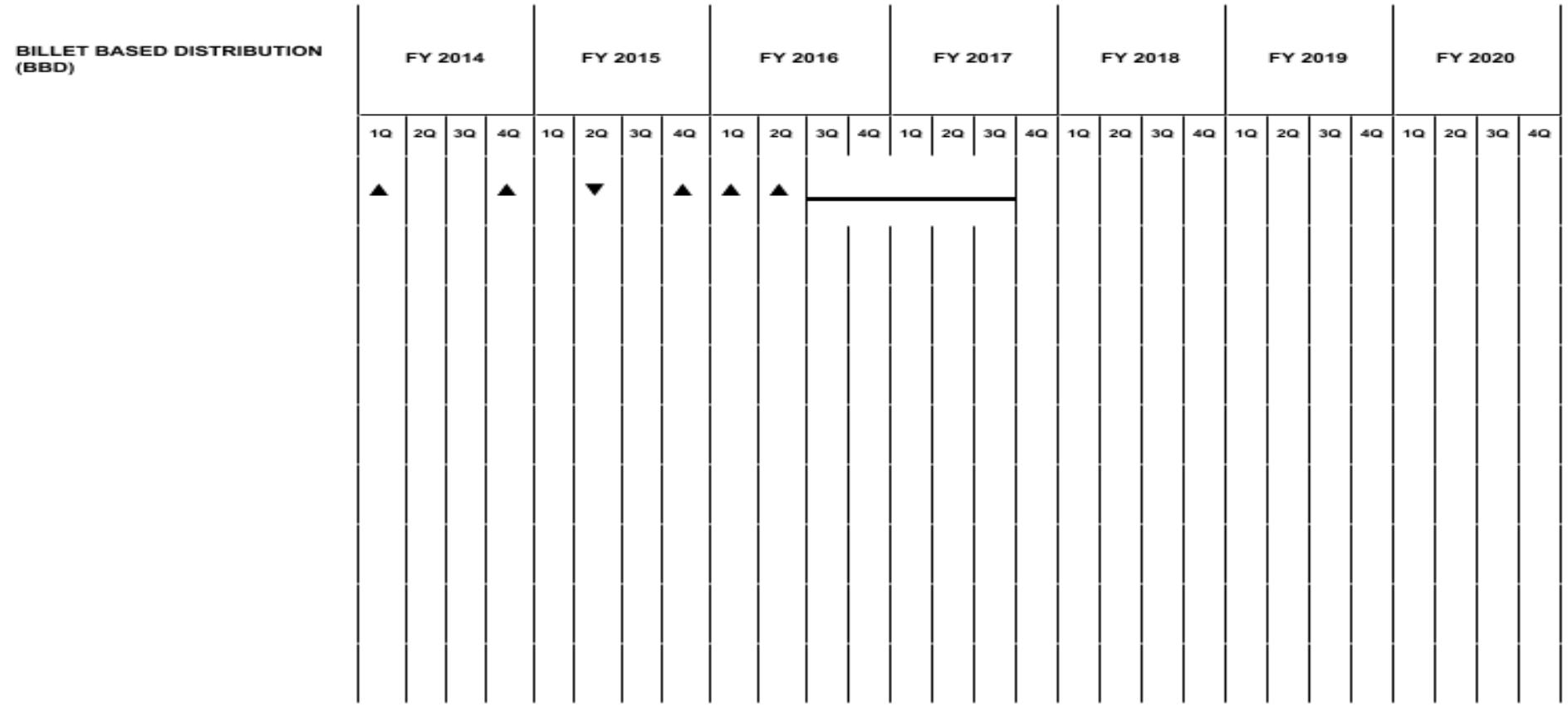
2016PB - 0605013N - 2905.L39

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2905. / *BUPERS IT*



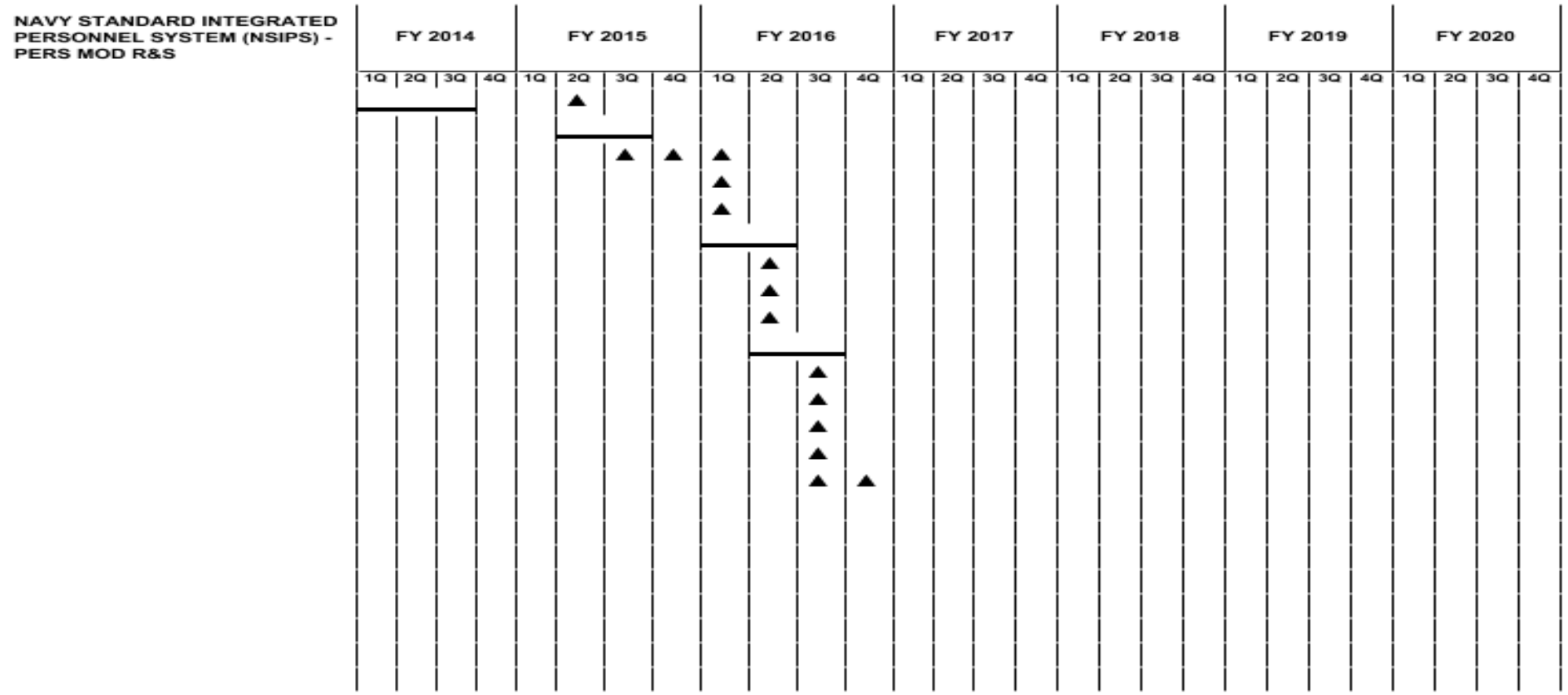
2016PB - 0605013N - 2905.L39

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2905. / *BUPERS IT*



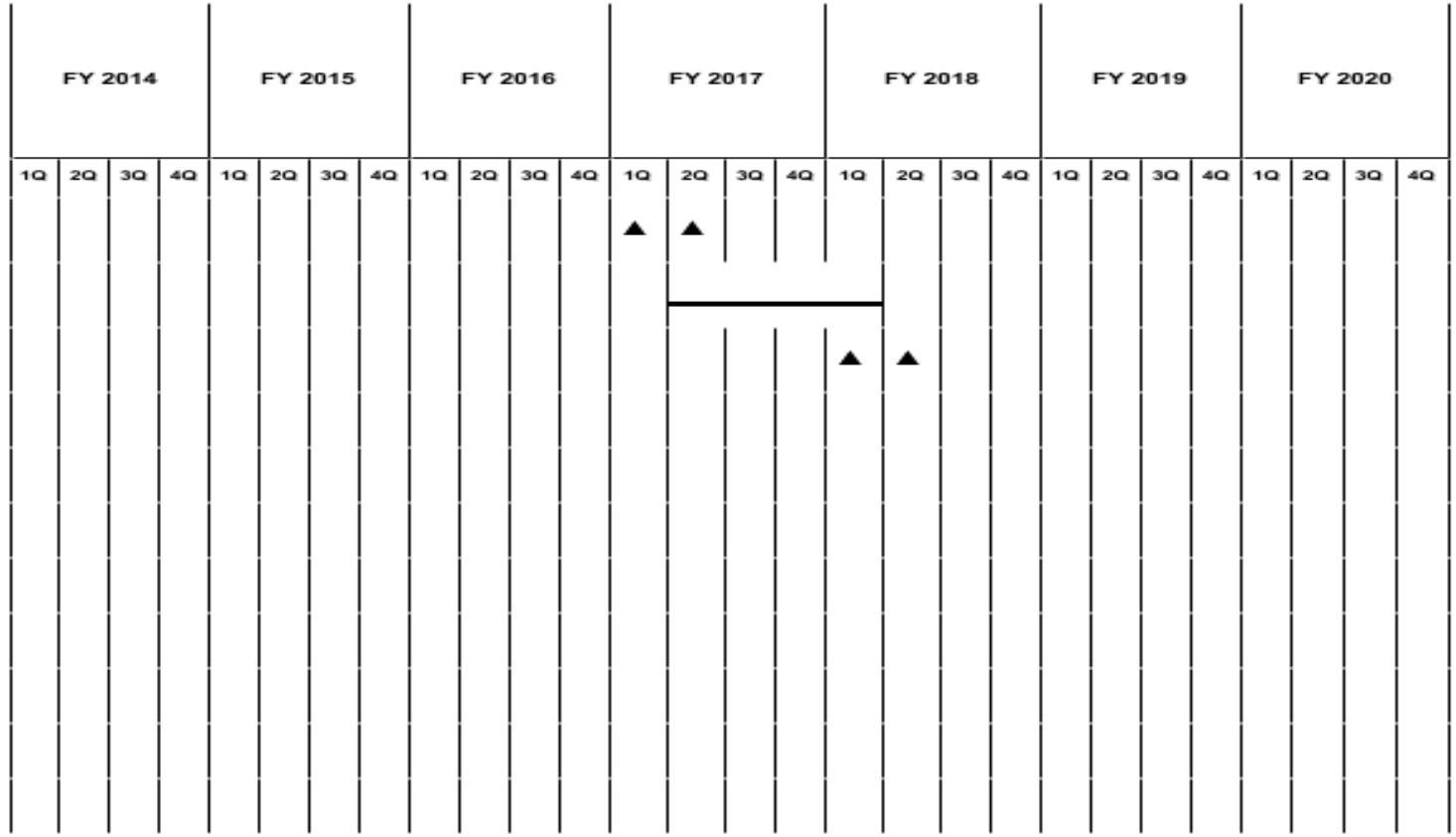
2016PB - 0605013N - 2905.L39

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2905. / *BUPERS IT*



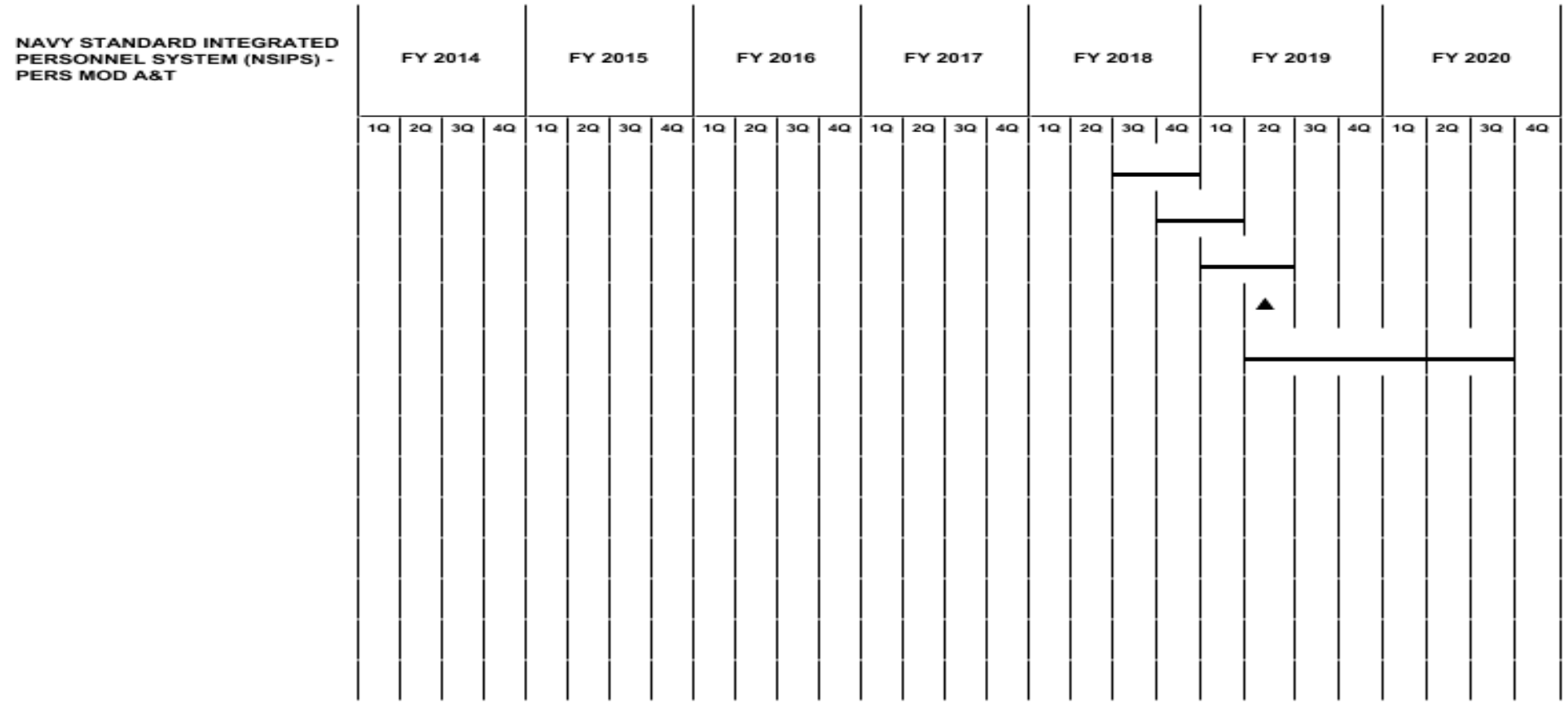
2016PB - 0605013N - 2905.L39

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2905. / *BUPERS IT*



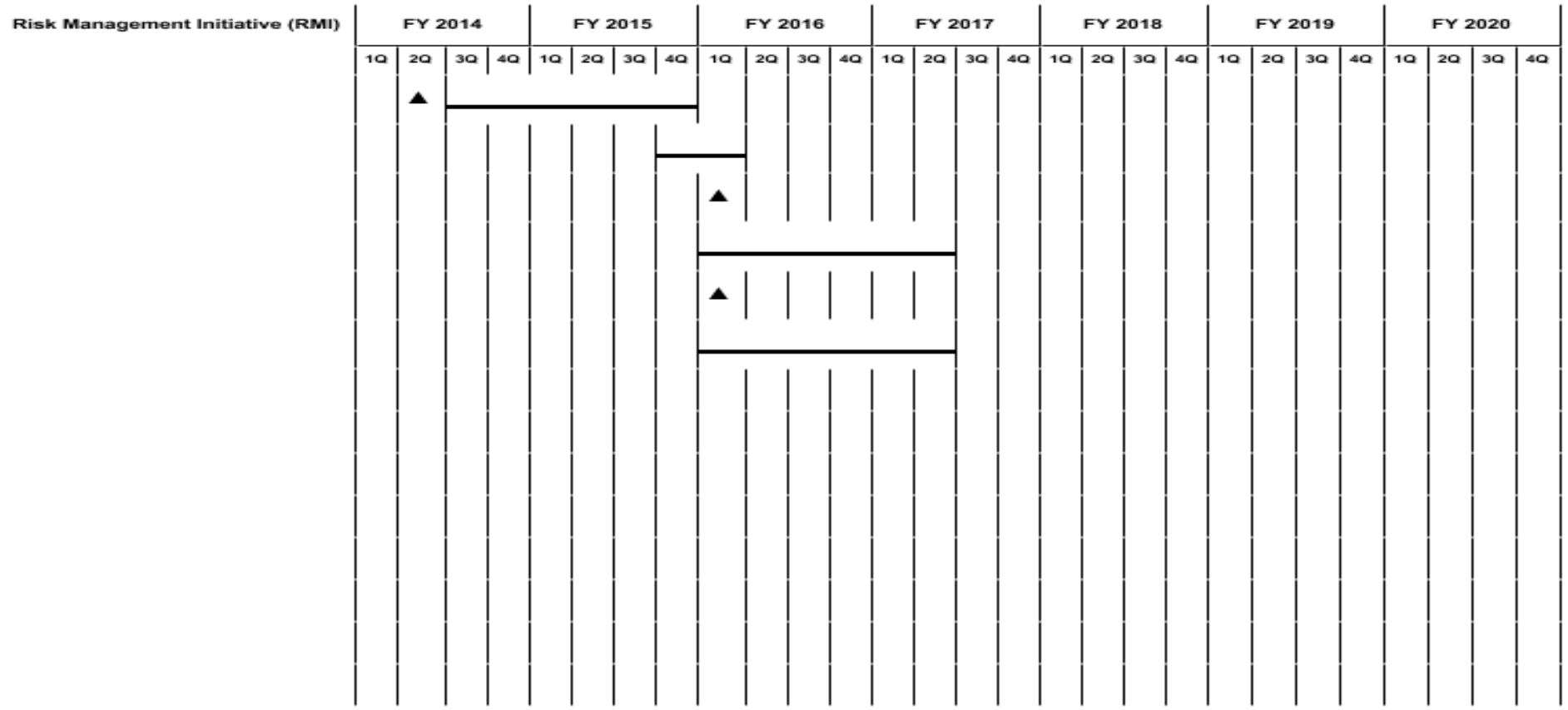
2016PB - 0605013N - 2905.L39

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2905. / *BUPERS IT*



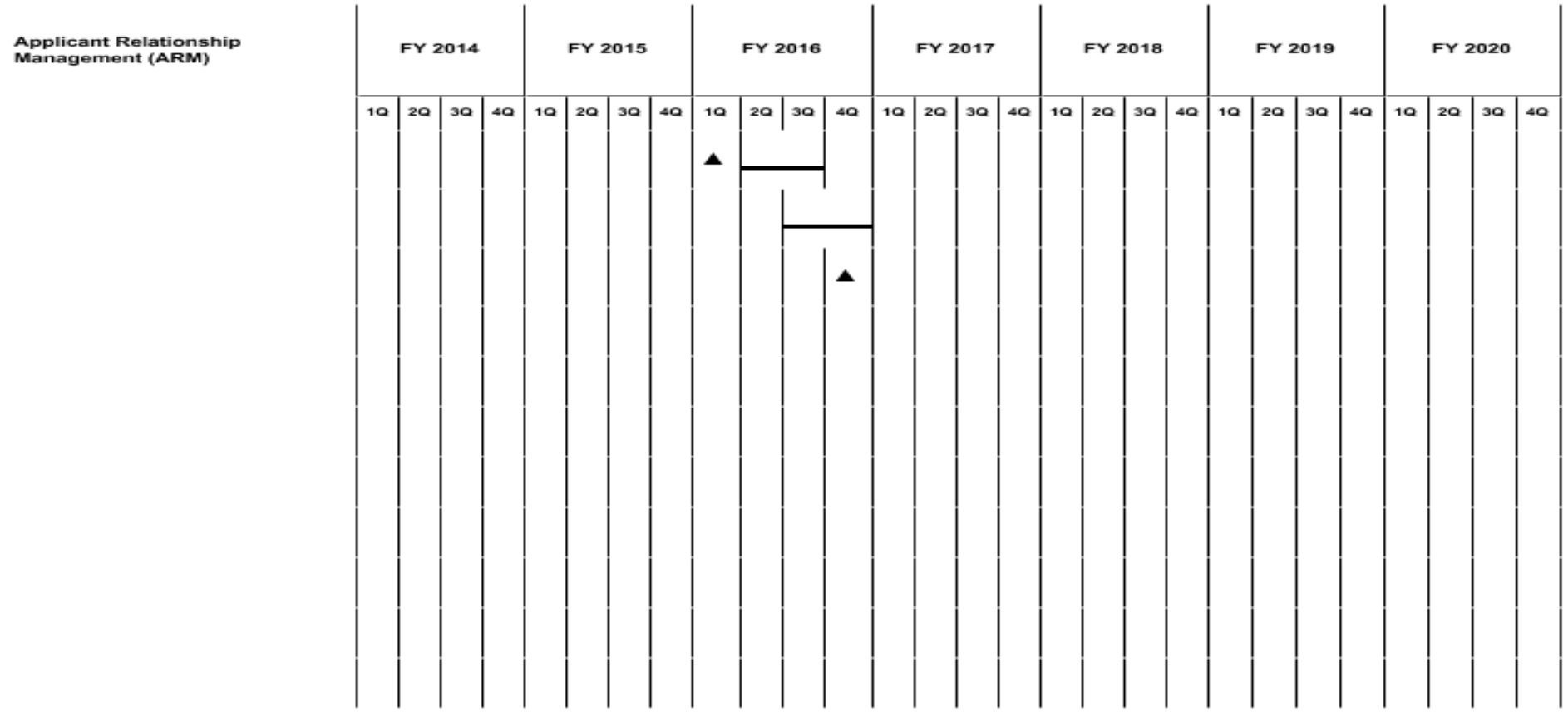
2016PB - 0605013N - 2905.L39

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2905. / *BUPERS IT*



2016PB - 0605013N - 2905.L39

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2905. / *BUPERS IT*



2016PB - 0605013N - 2905.L39

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2905. / *BUPERS IT*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2905.L39				
TFMMS System Subsystem Review / Soft Requirement Specification	4	2014	4	2014
TFMMS System Requirement Review / System Functional Review	1	2015	1	2015
TFMMS Iteration 1 Design	1	2015	2	2015
TFMMS Iteration 1 Preliminary Design Review	2	2015	2	2015
TFMMS Iteration 1 Development	2	2015	4	2015
TFMMS Iteration 1 Critical Design Review	4	2015	4	2015
TFMMS Iteration 1 Testing	4	2015	4	2015
TFMMS Iteration 1 Production Readiness Review	4	2015	4	2015
TFMMS Iteration 1 Deployment	4	2015	4	2015
TFMMS Iteration 2 Design	1	2015	2	2015
TFMMS Iteration 2 Preliminary Design Review	4	2015	4	2015
TFMMS Iteration 2 Development	4	2015	3	2016
TFMMS Iteration 2 Critical Design Review	3	2016	3	2016
TFMMS Iteration 2 Testing	4	2016	4	2016
TFMMS Iteration 2 Production Readiness Review	4	2016	4	2016
TFMMS Iteration 2 Deployment	4	2016	4	2016
MY NAVY PORTAL (MNP)				
MNP Phase 2B Pre Solicitation/SOW Development	1	2014	1	2014
MNP Phase 2B Contract Award	2	2014	2	2014
MNP Phase 2B System Requirement Review	3	2014	3	2014
MNP Phase 2B Preliminary Design Review	4	2014	4	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2905. / *BUPERS IT*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MNP Phase 2B Development	1	2015	4	2015
MNP Phase 2B Critical Design Review	4	2015	4	2015
MNP Phase 2B Acceptance Testing	1	2016	1	2016
MNP Phase 2B Production	2	2016	2	2016
MNP Phase 2C System Requirement Review	3	2016	3	2016
MNP Phase 2C Preliminary Design Review	4	2016	4	2016
BILLET BASED DISTRIBUTION (BBD)				
BBD Phase 1b Preliminary Design Review	1	2014	2	2014
BBD Phase 1b Critical Design Review	2	2014	4	2014
BBD Phase 1b User Acceptance Testing	1	2015	1	2015
BBD Phase 1b Release Review Board/Production Rollout	2	2015	3	2015
BBD Phase 1c Detailed Requirements Analysis	4	2015	4	2015
BBD Phase 1c Preliminary Design Review	1	2016	2	2016
BBD Phase 1c Development	3	2016	4	2016
NAVY STANDARD INTEGRATED PERSONNEL SYSTEM (NSIPS) - PERS MOD R&S				
NSIPS PERS MOD R&S - Source Selection (Q3 FY13 Start)	1	2014	3	2014
NSIPS PERS MOD R&S - Systems Requirements Review	2	2015	2	2015
NSIPS PERS MOD R&S - Design	2	2015	3	2015
NSIPS PERS MOD R&S - Preliminary Design Review	3	2015	3	2015
NSIPS PERS MOD R&S - Critical Design Review - Iteration 1	4	2015	4	2015
NSIPS PERS MOD R&S - Application Test Readiness Review - Iteration 1	1	2016	1	2016
NSIPS PERS MOD R&S - Tri-Service License Renewal - Iteration 1	1	2016	1	2016
NSIPS PERS MOD R&S - Task Order Award for Deferred Software Changes	1	2016	1	2016
NSIPS PERS MOD R&S - Application Functional Testing / Application System Integration Testing - Iteration 1	1	2016	2	2016
NSIPS PERS MOD R&S - Full Deployment - Iteration 1	2	2016	2	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2905. / *BUPERS IT*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
NSIPS PERS MOD R&S - Critical Design Review - Iteration 2	2	2016	2	2016
NSIPS PERS MOD R&S - Application Test Readiness Review - Iteration 2	2	2016	2	2016
NSIPS PERS MOD R&S - Application Functional Testing / Application System Integration Testing - Iteration 2	2	2016	3	2016
NSIPS PERS MOD R&S - Tri-Service License Renewal - Iteration 2	3	2016	3	2016
NSIPS PERS MOD R&S - Full Deployment - Iteration 2	3	2016	3	2016
NSIPS PERS MOD R&S - Critical Design Review - Iteration 3	3	2016	3	2016
NSIPS PERS MOD R&S - Application Test Readiness Review - Iteration 3	3	2016	3	2016
NSIPS PERS MOD R&S - Application Functional Testing / Application System Integration Testing - Iteration 3	3	2016	3	2016
NSIPS PERS MOD R&S - Full Deployment - Iteration 3	4	2016	4	2016
NAVY STANDARD INTEGRATED PERSONNEL SYSTEM (NSIPS) - PAY				
NSIPS PAY Acquisition Authority Decision Milestone B	1	2017	1	2017
NSIPS PAY Contract Award	2	2017	2	2017
NSIPS PAY Design	2	2017	1	2018
NSIPS PAY Operational Testing	1	2018	1	2018
NSIPS PAY Full Deployment	2	2018	2	2018
NAVY STANDARD INTEGRATED PERSONNEL SYSTEM (NSIPS) - PERS MOD A&T				
NSIPS PERS MOD A&T Critical Design Review	3	2018	4	2018
NSIPS PERS MOD A&T Application Test Readiness Review	4	2018	1	2019
NSIPS PERS MOD A&T PRR	1	2019	2	2019
NSIPS PERS MOD A&T Deployment	2	2019	2	2019
NSIPS PERS MOD A&T PIR	2	2019	1	2020
NSIPS PERS MOD A&T Verify Benefits & Capture Savings	2	2020	3	2020
Risk Management Initiative (RMI)				
RMI Streamlined Incident Reporting Source Selection & Award	2	2014	2	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
RMI Streamlined Incident Reporting Design	3	2014	4	2015
RMI Streamlined Incident Reporting Operational Testing	4	2015	1	2016
RMI Safety Program Management Award	1	2016	1	2016
RMI Safety Program Management Design	1	2016	2	2017
RMI Analysis and Dissemination Award	1	2016	1	2016
RMI Analysis and Dissemination Design	1	2016	2	2017
Applicant Relationship Management (ARM)				
ARM Systems Requirements Review	1	2016	1	2016
ARM Design / Preliminary Design Revew	2	2016	3	2016
ARM Development and Operational Testing	3	2016	4	2016
ARM Production	4	2016	4	2016
PERSTEMPO-ITEMPO (P-I): FRD: PERSTEMPO-ITEMPO (P-I): FRD	1	2015	4	2016
PERSTEMPO-ITEMPO (P-I): FRD: PERS 1	1	2015	1	2015
PERSTEMPO-ITEMPO (P-I): FRD: PERS 2	4	2015	4	2015
PERSTEMPO-ITEMPO (P-I): FRD: PERS 3	1	2016	1	2016
PERSTEMPO-ITEMPO (P-I): FRD: PERS4	4	2016	4	2016
PP-I Critical Design Review: PP-I Critical Design Review	1	2015	3	2016
PP-I Critical Design Review: PP1 Crit 1	1	2015	1	2015
PP-I Critical Design Review: PP1 Crit 2	3	2015	3	2015
PP-I Critical Design Review: PP1 Crit 3	1	2016	1	2016
PP-I Critical Design Review: PP1 Crit 4	3	2016	3	2016
P-I: User Acceptance Testing: P-I: User Acceptance Testing	3	2015	4	2016
P-I: User Acceptance Testing: P-1 User 1	3	2015	3	2015
P-I: User Acceptance Testing: P-1 User 2	4	2015	4	2015
P-I: User Acceptance Testing: P-1 User 3	3	2016	3	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 2905. / *BUPERS IT*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
P-I: User Acceptance Testing: P-1 User 4	4	2016	4	2016
P-I: Release Review Board/Production Rollout: P-I: Release Review Board/Production Rollout	4	2015	4	2016
P-I: Release Review Board/Production Rollout: P-1 Rel 1	4	2015	4	2015
P-I: Release Review Board/Production Rollout: P-1 Rel 2	4	2015	4	2015
P-I: Release Review Board/Production Rollout: P-1 Rel 3	4	2016	4	2016
P-I: Release Review Board/Production Rollout: P-1 Rel 4	4	2016	4	2016
PERSTEMPO-Deployment Health Location (P-DHL): FRD: PERSTEMPO-Deployment Health Location (P-DHL): FRD	1	2015	4	2015
PERSTEMPO-Deployment Health Location (P-DHL): FRD: Pers 1	1	2015	1	2015
PERSTEMPO-Deployment Health Location (P-DHL): FRD: Pers 2	4	2015	4	2015
P-DHL: Critical Design Review: P-DHL: Critical Design Review	1	2015	3	2015
P-DHL: Critical Design Review: P-DHL 1	1	2015	1	2015
P-DHL: Critical Design Review: P-DHL 2	3	2015	3	2015
P-DHL: User Acceptance Testing: P-DHL: User Acceptance Testing	3	2015	4	2015
P-DHL: User Acceptance Testing: DHL U 1	3	2015	3	2015
P-DHL: User Acceptance Testing: DHL U 2	4	2015	4	2015
P-DHL: Release Review Board/Production Rollout: P-DHL: Release Review Board/ Production Rollout	4	2015	4	2015
P-DHL: Release Review Board/Production Rollout: DHL R 1	4	2015	4	2015
P-DHL: Release Review Board/Production Rollout: DHL R 2	4	2015	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / *Information Technology Development*	Project (Number/Name) 3167 / *Joint Technical Data Integration (JTDI)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3167: *Joint Technical Data Integration (JTDI)*	19.434	1.914	2.848	8.122	-	8.122	5.887	4.642	3.943	4.029	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Joint Technical Data Integration (JTDI) Program - JTDI funding supports the evaluation, testing and integration to develop a JTDI Commercial Off-The-Shelf (COTS) solution for installation on Carrier and Amphibious Assault class ships and up to 104 Navy/Marine Corp aviation activities. JTDI is a digital technical data access, delivery and local Organizational & Intermediate level library management toolset and telemaintenance collaboration process enabler. It improves accuracy and timeliness of technical manual and other technical data delivery and minimizes the Fleet's library management burden. JTDI reduces maintenance work hours with a savings Return on Investment of 2.5:1. It facilitates the transition of the Joint Distance Support and Response Advanced Concept Technology Demonstration for telemaintenance and provides for process efficiencies to support ongoing Aviation Fleet Technical Representative reductions.

Marine Aviation Logistics Enterprise Information Technology (MAL-EIT) - MAL-EIT funding supports the evaluation, development, testing and integration of software and hardware solutions across all US Marine Corps Aviation activities to be used in the planning and execution of geographically distributed, expeditionary Aviation Logistics (AVLOG) chains in support of deployed USMC Air Combat Element operations. The MAL-EIT Program is one of four programs contained within the Marine Aviation Logistics Support Program (MALSP) modernization program known as MALSP II. Legacy MALSP is nearly 25 years old and grossly inadequate in IT capability to meet the informational, planning, and C2 needs of a dynamic, geographically distributed nodal AVLOG system. MAL-EIT is a Defense Business System Abbreviated Acquisition Program that will develop and deliver the required IT capability necessary to eliminate the IT related gaps existing in the legacy MALSP. MAL-EIT is a family of IT solutions to be developed and delivered in three increments. These increments are depicted below:

Increment 1. Expeditionary Pack Up Kit (EPUK): Provides Expeditionary Supply Operations to include business administration, inventory, and customer service operations.

Increment 2. Next Generation Buffer Management System: Provides buffer management in a time domain, and buffer sizing analysis.

Increment 3. Logistics Planning Tool and Optimizer Tool: Provides capability to develop tailored Remote Expeditionary Support Packages, consumption forecasts, and Nodal Logistics Lay down designs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Joint Technical Data Integration (JTDI)	1.598	1.694	1.502	-	1.502
Articles:	-	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3167 / *Joint Technical Data Integration (JTDI)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
FY 2014 Accomplishments: Conduct development efforts associated with a major release of fully deployed commercial off the shelf (COTS) intensive Joint Technical Data Integration (JTDI) system. Conduct COTS requirements definition, evaluation, integration, and testing of annual baseline releases. Conduct technology insertion of the JTDI system. ***FY 2015 Plans:*** Conduct development efforts associated with a major release of fully deployed COTS intensive JTDI system. Conduct COTS requirements definition, evaluation, integration, and testing of annual baseline releases. Conduct technology insertion of the JTDI system. ***FY 2016 Base Plans:*** Conduct development efforts associated with a major release of fully deployed COTS intensive JTDI system. Conduct COTS requirements definition, evaluation, integration, and testing of annual baseline releases. Conduct technology insertion of the JTDI system. ***FY 2016 OCO Plans:*** N/A					
Title: Marine Aviation Logistics Enterprise Support Program (MALSP II) / Expeditionary Pack Up Kits (EPUK)	0.316	1.154	6.620	-	6.620
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued procurement, delivery and deployment of EPUK suites to USMC forces. Completed analysis of alternatives for Marine Aviation Logistics Enterprise Information Technology (MAL-EIT) increments 2 and 3. Began software development of Next Generation Buffer Management System (NGBMS) using government solution identified during analysis of alternatives. Conducted test and evaluation of hardware requirements and network connectivity via satellite communication. ***FY 2015 Plans:*** Complete procurement, delivery and deployment of EPUK suites to USMC forces. Complete software development of NGBMS. Begin delivery and deployment of NGBMS to USMC forces. Award contract for Increment 3 commercial off the shelf/government off the shelf and/or development solution. Conduct test and evaluation of hardware requirements and network connectivity via satellite communication prior to deployment to the fleet based on a yearly release/maintenance cycle. ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3167 / *Joint Technical Data Integration (JTDI)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Begin software development of Increment 3 solution. Conduct test and evaluation of hardware requirements and network connectivity via satellite communication prior to deployment to the fleet based on a yearly release/ maintenance cycle. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.914	2.848	8.122	-	8.122

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/4265/JTDI: *Joint Technical Data Integration (JTDI) Other Aviation Support Equipment*	0.566	-	-	-	-	-	-	-	-	-	88.624
• OPN/4265/MALSP II: *Marine Aviation Logistics Support Program (MALSP II) Other Aviation Support Equipment*	0.069	-	-	-	-	-	-	-	-	-	0.776
• OPN/4268/JTDI: *Joint Technical Data Integration (JTDI) Other Aviation Support Equipment*	-	1.193	0.859	-	0.859	0.812	2.307	2.356	2.379	Continuing	Continuing
• OPN/4268/MALSP II: *Marine Aviation Logistics Support Program (MALSP II) Aviation Support*	-	0.374	0.213	-	0.213	1.999	0.216	0.223	0.237	Continuing	Continuing

Remarks

D. Acquisition Strategy

Joint Technical Data Integration (JTDI) Program - The management approach includes the Program Management Office residing in NAVAIR with Milestone Decision Authority delegated to the NAVAIR Command Information Officer (CIO). The evolutionary development approach will be used to execute requirements. Contracting for the prime integrator will be via competitively awarded indefinite delivery - indefinite quantity contracts.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3167 / *Joint Technical Data Integration (JTDI)*

Marine Aviation Logistics Support Program (MALSP II)/Marine Aviation Logistics Enterprise Information Technology (MAL-EIT) Program - The management approach includes the Program Management Office residing within NAVAIR 6.0 and Milestone Decision Authority delegated to NAVAIR 6.7. The evolutionary development approach will be used to execute requirements. Contracting for the prime integrator will be via competitively awarded firm fixed priced contracts.

E. Performance Metrics

Joint Technical Data Integration (JTDI) and Marine Aviation Logistics Support Program (MALSP II) Expeditionary Pack Up Kit (EPUK) Program - Successfully achieve government testing of annual software release.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3167 / *Joint Technical Data Integration (JTDI)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development for Joint Technical Data Integration (JTDI)	C/FFP	ARANEA : Huntsville, AL	6.090	1.598	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Software Development for JTDI	MIPR	DTIC : Fort Belvior, VA	0.000	-		1.694	Jan 2015	1.502	Jan 2016	-		1.502	Continuing	Continuing	Continuing
Software Development/ Hardware Integration for Marine Aviation Logistics Enterprise Information Technology (MAL-EIT)	C/T&M	CACI : Norfolk, VA	2.087	-		0.500	Jan 2015	4.746	Jan 2016	-		4.746	Continuing	Continuing	Continuing
Software Development/ Hardware Integration for MAL-EIT	C/T&M	Applied Research : Penn State	0.274	-		-		0.891	Dec 2015	-		0.891	Continuing	Continuing	Continuing
Prior year support no longer funded in the FYDP	Various	Various : Various	7.638	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	16.089	1.598		2.194		7.139		-		7.139	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation for MAL-EIT	WR	SPAWAR : Norfolk, VA	1.523	0.106	Dec 2013	-		0.771	Dec 2015	-		0.771	Continuing	Continuing	Continuing
Developmental Test & Evaluation for MAL-EIT	C/CPFF	AGI : CT	0.000	-		0.445	Dec 2014	-		-		-	-	0.445	-
Prior year Test & Eval no longer funded in the FYDP	Various	Various : Various	0.909	-		-		-		-		-	-	0.909	-
		Subtotal	2.432	0.106		0.445		0.771		-		0.771	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3167 / *Joint Technical Data Integration (JTDI)*

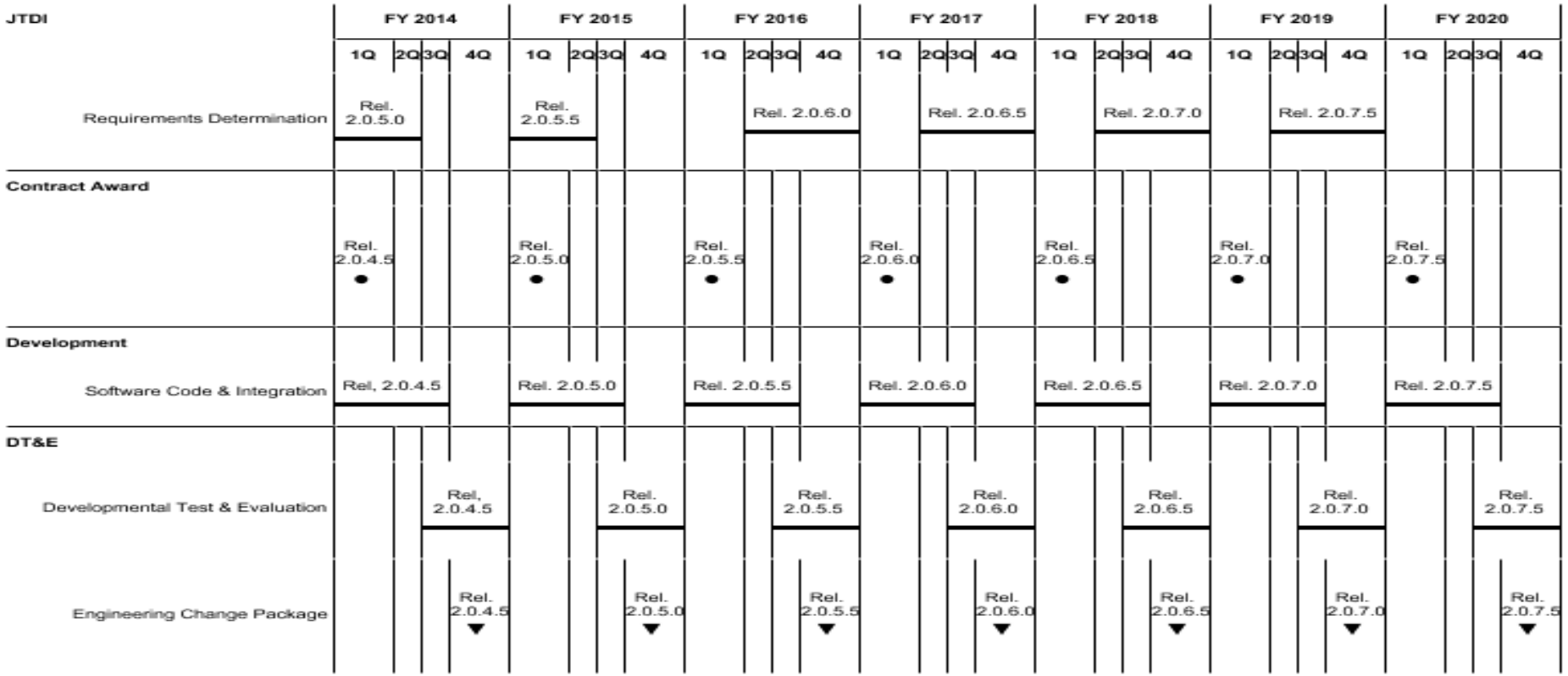
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support for Marine Aviation Logistics Enterprise Information Technology (MAL-EIT)	WR	SPAWAR : Norfolk, VA	0.440	0.210	Mar 2014	0.209	Dec 2014	0.212	Dec 2015	-		0.212	Continuing	Continuing	Continuing
Prior year Mgmt Svcs Cost no longer funded in the FYDP	Various	Various : Various	0.473	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.913	0.210		0.209		0.212		-		0.212	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	19.434	1.914		2.848		8.122		-		8.122	-	-	-

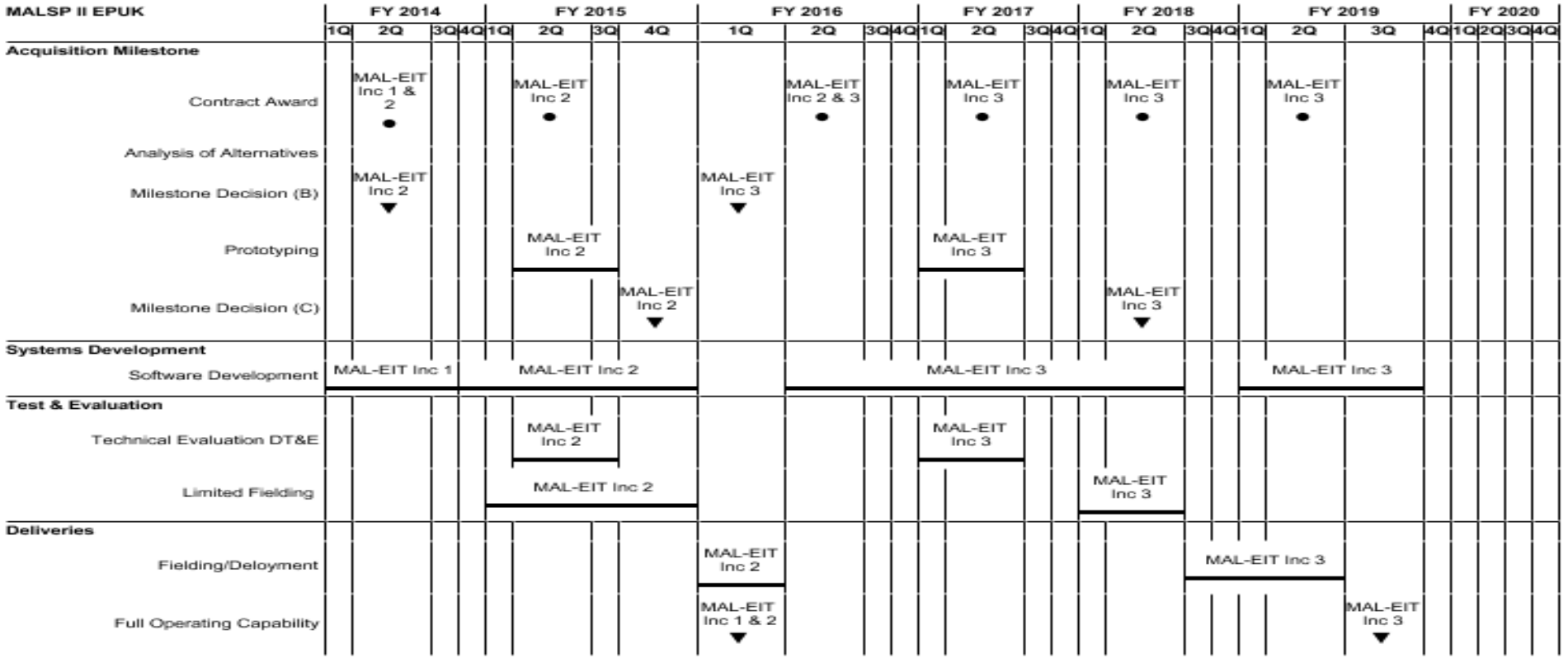
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3167 / *Joint Technical Data Integration (JTDI)*



2016DON - 0605013N - 3167

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3167 / *Joint Technical Data Integration (JTDI)*



2016DON - 0605013N - 3167

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3167 / *Joint Technical Data Integration (JTDI)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
JTDI				
Requirements Determination: Release 2.0.5.0	1	2014	2	2014
Requirements Determination: Release 2.0.5.5	1	2015	2	2015
Requirements Determination: Release 2.0.6.0	2	2016	4	2016
Requirements Determination: Release 2.0.6.5	2	2017	4	2017
Requirements Determination: Release 2.0.7.0	2	2018	4	2018
Requirements Determination: Release 2.0.7.5	2	2019	4	2019
Contract Award: Contract Award, Release 2.0.4.5	1	2014	1	2014
Contract Award: Contract Award, Release 2.0.5.0	1	2015	1	2015
Contract Award: Contract Award, Release 2.0.5.5	1	2016	1	2016
Contract Award: Contract Award, Release 2.0.6.0	1	2017	1	2017
Contract Award: Contract Award, Release 2.0.6.5	1	2018	1	2018
Contract Award: Contract Award, Release 2.0.7.0	1	2019	1	2019
Contract Award: Contract Award, Release 2.0.7.5	1	2020	1	2020
Development: Software Code & Integration: Release 2.0.4.5	1	2014	3	2014
Development: Software Code & Integration: Release 2.0.5.0	1	2015	3	2015
Development: Software Code & Integration: Release 2.0.5.5	1	2016	3	2016
Development: Software Code & Integration: Release 2.0.6.0	1	2017	3	2017
Development: Software Code & Integration: Release 2.0.6.5	1	2018	3	2018
Development: Software Code & Integration: Release 2.0.7.0	1	2019	3	2019
Development: Software Code & Integration: Release 2.0.7.5	1	2020	3	2020
DT&E: Developmental Test & Evaluation: Release 2.0.4.5	3	2014	4	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3167 / *Joint Technical Data Integration (JTDI)*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DT&E: Developmental Test & Evaluation: Release 2.0.5.0	3	2015	4	2015
DT&E: Developmental Test & Evaluation: Release 2.0.5.5	3	2016	4	2016
DT&E: Developmental Test & Evaluation: Release 2.0.6.0	3	2017	4	2017
DT&E: Developmental Test & Evaluation: Release 2.0.6.5	3	2018	4	2018
DT&E: Developmental Test & Evaluation: Release 2.0.7.0	3	2019	4	2019
DT&E: Developmental Test & Evaluation: Release 2.0.7.5	3	2020	4	2020
DT&E: Engineering Change Package: Release 2.0.4.5	4	2014	4	2014
DT&E: Engineering Change Package: Release 2.0.5.0	4	2015	4	2015
DT&E: Engineering Change Package: Release 2.0.5.5	4	2016	4	2016
DT&E: Engineering Change Package: Release 2.0.6.0	4	2017	4	2017
DT&E: Engineering Change Package: Release 2.0.6.5	4	2018	4	2018
DT&E: Engineering Change Package: Release 2.0.7.0	4	2019	4	2019
DT&E: Engineering Change Package: Release 2.0.7.5	4	2020	4	2020
MALSP II EPUK				
Acquisition Milestone: Contract Award: Contract Award (2)	2	2014	2	2014
Acquisition Milestone: Contract Award: Contract Award (3)	2	2015	2	2015
Acquisition Milestone: Contract Award: Contract Award (4)	2	2016	2	2016
Acquisition Milestone: Contract Award: Contract Award (5)	2	2017	2	2017
Acquisition Milestone: Contract Award: Contract Award (6)	2	2018	2	2018
Acquisition Milestone: Contract Award: Contract Award (7)	2	2019	2	2019
Acquisition Milestone: Milestone Decision (B): Milestone B Decision (1)	2	2014	2	2014
Acquisition Milestone: Milestone Decision (B): Milestone B Decision (2)	1	2016	1	2016
Acquisition Milestone: Prototyping: Prototyping (2)	2	2015	3	2015
Acquisition Milestone: Prototyping: Prototyping (3)	1	2017	2	2017
Acquisition Milestone: Milestone Decision (C): Milestone C Decision (1)	4	2015	4	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3167 / *Joint Technical Data Integration (JTDI)*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Milestone: Milestone Decision (C): Milestone C Decision (2)	2	2018	2	2018
Systems Development: Software Development: Software Development (1)	1	2014	3	2014
Systems Development: Software Development: Software Development (2)	4	2014	4	2015
Systems Development: Software Development: Software Development (3)	2	2016	2	2018
Systems Development: Software Development: Software Development (4)	1	2019	3	2019
Test & Evaluation: Technical Evaluation DT&E: Technical Evaluation DT&E (2)	2	2015	3	2015
Test & Evaluation: Technical Evaluation DT&E: Technical Evaluation DT&E (3)	1	2017	2	2017
Test & Evaluation: Limited Fielding: Limited Fielding (2)	1	2015	4	2015
Test & Evaluation: Limited Fielding: Limited Fielding (3)	1	2018	2	2018
Deliveries: Fielding/Deloyment: Fielding/Deloyment (1)	1	2016	1	2016
Deliveries: Fielding/Deloyment: Fielding/Deloyment (2)	3	2018	2	2019
Deliveries: Full Operating Capability: Full Operating Capability (2)	1	2016	1	2016
Deliveries: Full Operating Capability: Full Operating Capability (3)	3	2019	3	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / *Information Technology Development*	Project (Number/Name) 3185 / *Joint Airlift Information System (JALIS)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3185: *Joint Airlift Information System (JALIS)*	0.773	0.272	0.337	0.340	-	0.340	0.342	0.352	0.361	0.368	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

JALIS is an operational scheduling and aircraft management system that facilitates real-time data analysis, and is a critical element for management of DoD air logistics assets. JALIS is an operational scheduling, aircraft management and data analysis system that allows DoD Service Personnel to submit airlift requirements for DoD Personnel and cargo; air logistics flying units to communicate their aircraft availability in a realtime graphic display; and designated scheduling organizations to compare airlift requirements to available aircraft and create mission assignments. JALIS informs applicable users of mission details and modifications by using a combination of system displays and email updates. JALIS is geographically distributed and has a user base in excess of 4,000 members. JALIS facilitates the movement of thousands of DoD Personnel and tons of cargo annually in support of the following:

(1) Navy Unique Fleet Essential Airlift
(2) Army's Operational Support Airlift Agency (OSAA)
(3) United States Transportation Command (USTRANSCOM)
(4) United States Marine Corps (USMC)

CJCS Instruction 4520.02D mandates JALIS as the official DoD Airlift scheduling system for Operational Support Airlift (OSA). JALIS meets the requirement for multi-service coordinated Air Logistics scheduling as directed by Chairman, Joint Chiefs of Staff. The Navy is designated as lead agency for sponsoring and funding the JALIS program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Joint Air Logistic Information System (JALIS)	0.272	0.337	0.340	-	0.340
Articles:	-	-	-	-	-
FY 2014 Accomplishments: - Captured fully burdened costs for each airlift request - Implemented Chairman, Joint Chiefs of Staff requirement for commercial cost comparisons - Modified JALIS to accept standardized airport data from the National Geospatial-Intelligence Agency					
FY 2015 Plans: - Provide enhanced reporting and data gathering capabilities - Implement CAC login for all users					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3185 / *Joint Airlift Information System (JALIS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
- Integrate additional airport data from the National Geospatial-Intelligence Agency into JALIS functions ***FY 2016 Base Plans:*** - Develop improved aircraft management tools - Develop capability to schedule lifts on with aircraft transfers - Integrate user functions between JALIS and JALIS Dashboard ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.272	0.337	0.340	-	0.340

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

JALIS exercised a CPFF development & sustainment contract option in the third quarter of FY14. This acquisition strategy was efficiently executed, enabling the development, analysis and quality assurance support required by the program and will be continued via award of follow-on CPFF contract in the third quarter of FY15.

Contract activities will focus on developing the following capabilities:

(1) Improved user management of available aircraft
(2) Improved scheduling efficiency by providing option for scheduling aircraft transfers.
(3) Integration of JALIS and JALIS Dashboard functions

E. Performance Metrics

Performance metrics for JALIS include:

(1) Completion of system change request requirements enabling production of articles as itemized in Section B.
(2) Increase operational efficiency
(a) Reduce time to create and run new reports by 30%
(b) Reduce data administrator time required to update airport data by 80%
(c) Decrease training requirements for Schedulers by 15%

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / *Information Technology Development*	Project (Number/Name) 3185 / *Joint Airlift Information System (JALIS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development, Analysis and QA support	C/CPFF	Navy Air Logistics Office (AHA) : New Orleans, LA	0.773	0.272	Jul 2014	0.337	Jul 2015	0.340	Jul 2016	-		0.340	Continuing	Continuing	Continuing
		Subtotal	0.773	0.272		0.337		0.340		-		0.340	-	-	-

Remarks

Includes Design, Development, Testing, Analysis and Quality Assurance efforts.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.773	0.272		0.337		0.340		-		0.340	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3185 / *Joint Airlift Information System (JALIS)*

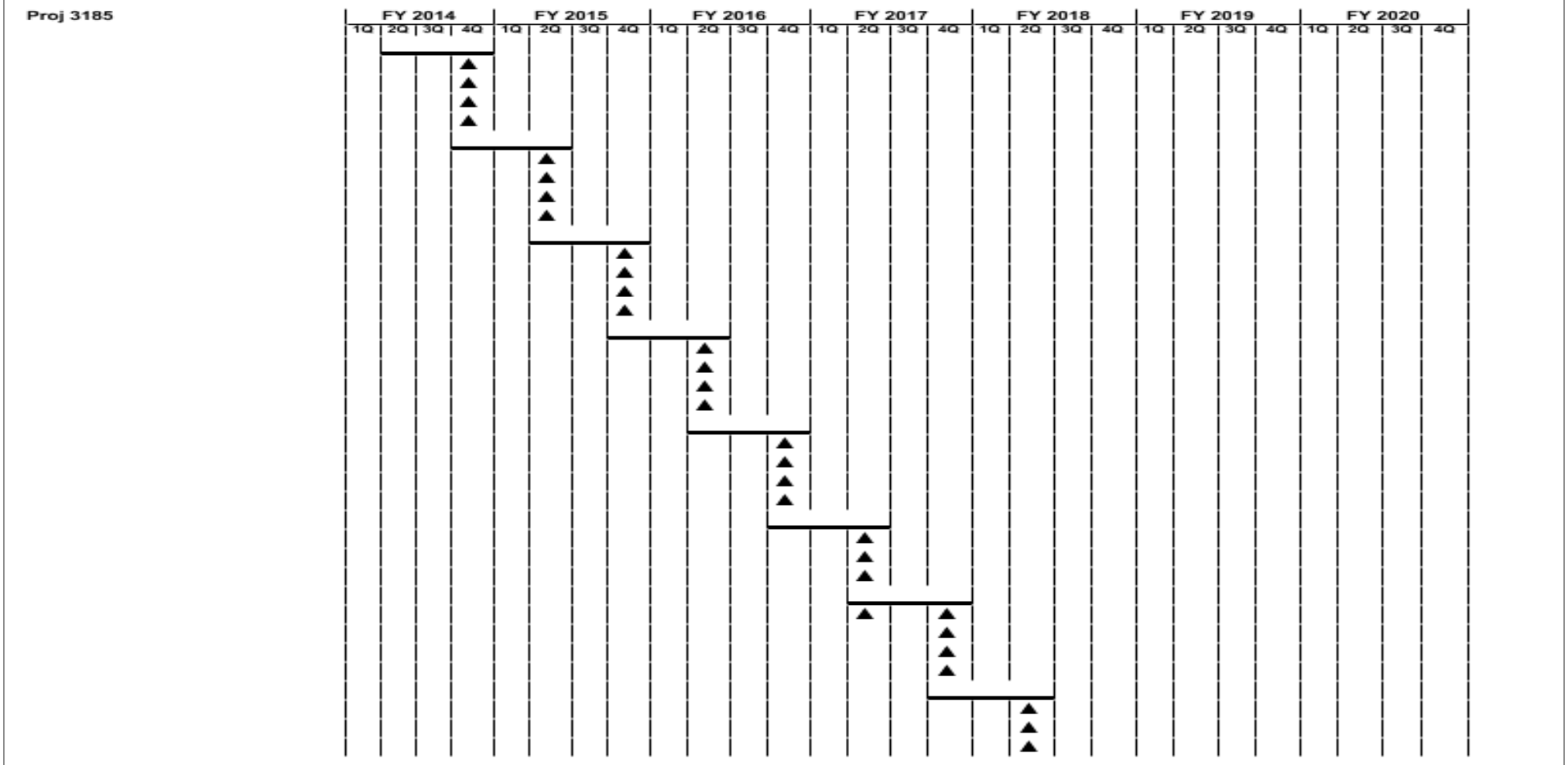


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3185 / *Joint Airlift Information System (JALIS)*

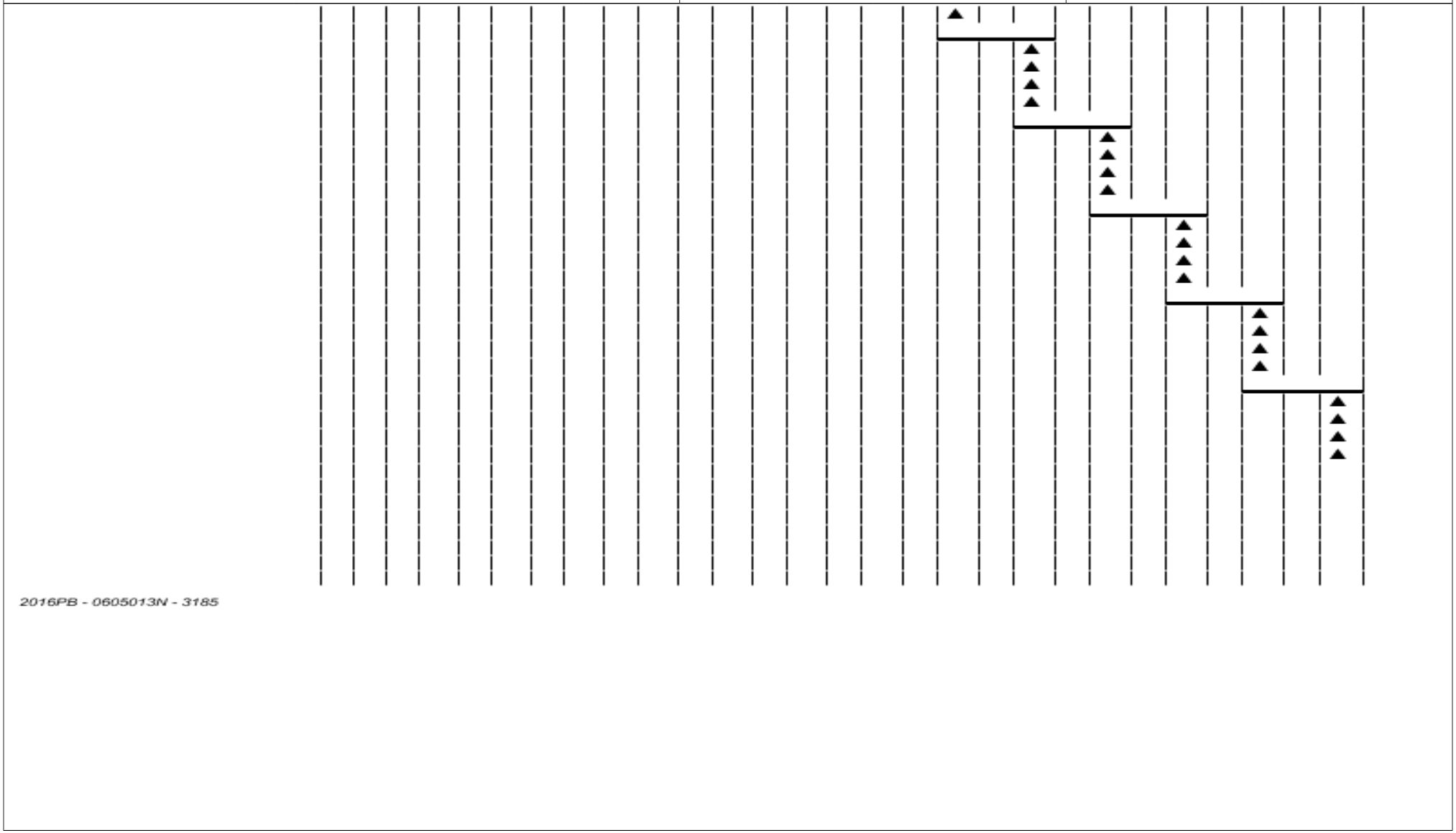


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3185 / *Joint Airlift Information System (JALIS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3185				
JALIS - 2.17 Development	2	2014	4	2014
JALIS - 2.17 Test Readiness Review	4	2014	4	2014
JALIS - 2.17 Production Readiness Review	4	2014	4	2014
JALIS - 2.18 Configuration Control Board	4	2014	4	2014
JALIS - 2.18 Preliminary Design Review	4	2014	4	2014
JALIS - 2.18 Development	4	2014	2	2015
JALIS - 2.18 Test Readiness Review	2	2015	2	2015
JALIS - 2.18 Production Readiness Review	2	2015	2	2015
JALIS - 2.19 Configuration Control Board	2	2015	2	2015
JALIS - 2.19 Preliminary Design Review	2	2015	2	2015
JALIS - 2.19 Development	2	2015	4	2015
JALIS - 2.19 Test Readiness Review	4	2015	4	2015
JALIS - 2.19 Production Readiness Review	4	2015	4	2015
JALIS - 2.20 Configuration Control Board	4	2015	4	2015
JALIS - 2.20 Preliminary Design Review	4	2015	4	2015
JALIS - 2.20 Development	4	2015	2	2016
JALIS - 2.20 Test Readiness Review	2	2016	2	2016
JALIS - 2.20 Production Readiness Review	2	2016	2	2016
JALIS - 2.21 Configuration Control Board	2	2016	2	2016
JALIS - 2.21 Preliminary Design Review	2	2016	2	2016
JALIS - 2.21 Development	2	2016	4	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3185 / *Joint Airlift Information System (JALIS)*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
JALIS - 2.21 Test Readiness Review	4	2016	4	2016
JALIS - 2.21 Production Readiness Review	4	2016	4	2016
JALIS - 2.22 Configuration Control Board	4	2016	4	2016
JALIS - 2.22 Preliminary Design Review	4	2016	4	2016
JALIS - 2.22 Development	4	2016	2	2017
JALIS - 2.22 Test Readiness Review	2	2017	2	2017
JALIS - 2.22 Production Readiness Review	2	2017	2	2017
JALIS - 2.23 Configuration Control Board	2	2017	2	2017
JALIS - 2.23 Development	2	2017	4	2017
JALIS - 2.23 Test Readiness Review	4	2017	4	2017
JALIS - 2.23 Preliminary Design Review	2	2017	2	2017
JALIS - 2.23 Production Readiness Review	4	2017	4	2017
JALIS - 2.24 Configuration Control Board	4	2017	4	2017
JALIS - 2.24 Preliminary Design Review	4	2017	4	2017
JALIS - 2.24 Development	4	2017	2	2018
JALIS - 2.24 Test Readiness Review	2	2018	2	2018
JALIS - 2.24 Production Readiness Review	2	2018	2	2018
JALIS - 2.25 Configuration Control Board	2	2018	2	2018
JALIS - 2.25 Preliminary Design Review	2	2018	2	2018
JALIS - 2.25 Development	2	2018	4	2018
JALIS - 2.25 Test Readiness Review	4	2018	4	2018
JALIS - 2.25 Production Readiness Review	4	2018	4	2018
JALIS - 2.26 Configuration Control Board	4	2018	4	2018
JALIS - 2.26 Preliminary Design Review	4	2018	4	2018
JALIS - 2.26 Development	4	2018	2	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 3185 / *Joint Airlift Information System (JALIS)*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
JALIS - 2.26 Test Readiness Review	2	2019	2	2019
JALIS - 2.26 Production Readiness Review	2	2019	2	2019
JALIS - 2.27 Configuration Control Board	2	2019	2	2019
JALIS - 2.27 Preliminary Design Review	2	2019	2	2019
JALIS - 2.27 Development	2	2019	4	2019
JALIS - 2.27 Test Readiness Review	4	2019	4	2019
JALIS - 2.27 Production Readiness Review	4	2019	4	2019
JALIS - 2.28 Configuration Control Board	4	2019	4	2019
JALIS - 2.28 Preliminary Design Review	4	2019	4	2019
JALIS - 2.28 Development	4	2019	2	2020
JALIS - 2.28 Test Readiness Review	2	2020	2	2020
JALIS - 2.28 Production Readiness Review	2	2020	2	2020
JALIS - 2.29 Configuration Control Board	2	2020	2	2020
JALIS - 2.29 Preliminary Design Review	2	2020	2	2020
JALIS - 2.29 Development	2	2020	4	2020
JALIS - 2.29 Test Readiness Review	4	2020	4	2020
JALIS - 2.29 Production Readiness Review	4	2020	4	2020
JALIS - 2.30 Configuration Control Board	4	2020	4	2020
JALIS - 2.30 Preliminary Design Review	4	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / *Information Technology Development*	Project (Number/Name) 9406 / *Maintenance Data Warehouse*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9406: *Maintenance Data Warehouse*	7.208	6.886	13.423	11.131	-	11.131	11.035	8.521	6.830	6.979	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Maintenance Data Warehouse/NAVAIR Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE) - The development of the DECKPLATE program is the next generation data warehouse for aircraft maintenance, flight, and usage data. It provides a web-based interface to a single source of information currently being stored in multiple Naval Aviation Logistics Data Analysis systems. Through the use of analysis, query, and reporting tools the user has the capabilities to effectively obtain readiness data in a near real-time environment, as well as historical data for trend analysis and records reconstruction. DECKPLATE supports the mission of the warfighter who requires a single source of near real-time aviation data in which to base critical readiness decisions. This requires collecting data from authoritative sources into a data warehouse. Because the warfighter only needs to access one database, the time consuming task of collecting various pieces of data from various sources will be reduced and ultimately eliminated. This improves data quality because it reduces the possibility of two systems providing identical data elements, but slightly different data. Data availability is improved through continuous near real-time feeds from the data sources, giving the warfighter the most current information to base decisions. In addition, this also accomplishes a reduction in legacy systems mandated by Office of the Chief of Naval Operations.

Condition Based Maintenance Plus (CBM+) - Funding supports the automated analysis and decision making processes, for the CBM+ Initiative which provides Naval Aviation Enterprise with common enabling capabilities which deliver timely data-driven decisional information to optimize aircraft availability and materiel readiness by incorporating health and usage leading indicators into the failure mode mitigation process, enabling the Warfighter to more efficiently meet mission requirements. The CBM+ Initiative increases readiness by streamlining maintenance processes, provide the sustainment base with timely, actionable logistics data not previously available, and enable engineers and acquisition professionals to support system improvements based on CBM+ acquired data results. CBM+ provides the enabling solutions needed to extend the life of current and new acquisition aircraft, realizing savings from reductions in field (organizational and intermediate) maintenance actions, reduced functional check flight hours, mishap mitigation, and reduced parts usage.

Integrated Logistics Support Management System (ILSMS) - This is a new start program. Funding supports the development of the ILSMS program is the next generation analytical tool set for Unit, Aircraft, Engines, Component Readiness and Cost metrics. It will be a web-based tool that will provide the user with validated and aggregated data. ILSMS provides analysts with the means to pull data on type/model/series (TMS) readiness, run detailed component analysis, manage aircraft life by bureau number, request lists of TMSs' top degraders, model the impacts of degraded components on readiness and cost, generate production scenarios, and manage the incorporation of technical directives. ILSMS institutionalizes a data analysis process that is repeatable and establishes a common understanding of readiness and cost degraders among its users. This is also the foundation for working with provider organizations to establish metrics, actionable mitigation plans and milestones. Integrated Logistics Support Management System (ILSMS) will give its users a one stop shop to proactively identify readiness and cost degraders quickly with a consistent methodology across all TMS thus providing a standardized tool to assist programs in reducing total ownership costs.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 9406 / *Maintenance Data Warehouse*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Maintenance Data Warehouse/NAVAIR Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE)	1.825	3.507	2.626	-	2.626
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continue transition of Auto Log Set (ALS) functionality into DECKPLATE and begin transition of original equipment manufacturer (OEM)/DEPOT functionality. Increase in funding in FY14 for transition of Condition Based Maintenance (CBM) functionality into DECKPLATE.					
FY 2015 Plans: Continue transition of ALS functionality into DECKPLATE and continue transition of OEM/DEPOT functionality. Additionally, an increase in funding in FY15 and FY16 for support of Integrated Logistics Support Management System (ILSMS) which will develop a web-based business intelligence tool to allow all users to access and utilize the same data on a nearly real-time basis thus allowing queries across multiple type/model/series to identify systemic issues. Increase funding in FY15 and FY16 for ALS which is a DECKPLATE component that provides a central repository for aircraft maintenance information into DECKPLATE.					
FY 2016 Base Plans: Continue transition of ALS functionality into DECKPLATE and continue transition of OEM/DEPOT functionality. Additionally, an increase in funding in FY15 and FY16 for support of ILSMS which will develop a web-based business intelligence tool to allow all users to access and utilize the same data on a nearly real-time basis thus allowing queries across multiple type/model/series to identify systemic issues. Increase funding in FY15 and FY16 for ALS which is a DECKPLATE component that provides a central repository for aircraft maintenance information into DECKPLATE.					
FY 2016 OCO Plans: N/A					
Title: Condition Based Maintenance Plus (CBM+)	5.061	6.328	5.438	-	5.438
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Approved CBM+ investments in Regime Recognition Capability, Component Tracking Integration, Data Standardization, Distributed File System (DFS) Storage/Analytics CBM+ enablers, and initiated two Proof of					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Concept efforts enabling the integration of three smart aircraft platforms (H-1, H-60 and E-2D) into two existing Condition Based Maintenance Plus (CBM+) enabled RCM environments. ***FY 2015 Plans:*** Complete regime recognition efforts in support of CH-53E one time reassessment of life limited components. Continue CBM+ Proof of Concept reutilization/down-selection efforts, complete Component tracking integration, and finalize smart aircraft/CBM+ data standardization and management strategy in support of Enterprise CBM+ end state. ***FY 2016 Base Plans:*** Complete AIR 4.3.3 one time platform reassessment of all life limited components, and migrate CH-53E Regime Recognition Capability to production system of record (a component of NAVAIR's Aviation Logistics Environment). Perform required enhancements to integrated component tracking capability, and begin extending this capability to H-53, H-60, H-1 and V-22 platforms. Begin standup of CBM+ SDR in production, and continue evolving other required CBM+ enablers identified by Systems Integration Process physical architecture and design outputs. Continue execution of CBM+ Engineering Analysis Tool consolidation and reuse plan, and finalize NAVAIR Enterprise CBM+ BCA. Perform final assessment of CBM+ Proof of Concept efforts (down selection decisions), and begin standup of Enterprise common CBM+ enabled RCM implementations (beyond NAVAIR Rotorcraft community). Finalize standardized CBM+ Business Process and execute resource plan. ***FY 2016 OCO Plans:*** N/A					
Title: Integrated Logistics Support Management System (ILSMS)	-	3.588	3.067	-	3.067
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** Develop Integrated Logistics Support Management System (ILSMS) environment for continued version 3 development, testing and migration to NAVAIR demilitarized zone environment. Integrate an aircraft and engine management module for inventory and enterprise supply parts forecasting. Perform validation and verification testing of design and development. ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Release ILSMS Version 3 Enterprise Analytical Module through web enabled Business Intelligence Solution ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	6.886	13.423	11.131	-	11.131

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/4265/DECKPLATE: *Other Aviation Support Equipment*	0.608	-	-	-	-	-	-	-	-	-	6.834
• OPN/4268/DECKPLATE: *Other Aviation Support Equipment*	-	0.736	3.325	-	3.325	1.859	2.023	2.069	2.091	Continuing	Continuing
• OPN/4268/CBM: *Other Aviation Support Equipment*	-	-	0.222	-	0.222	0.206	0.217	0.219	0.287	Continuing	Continuing

Remarks

D. Acquisition Strategy

Maintenance Data Warehouse/NAVAIR Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE) - Development services will be awarded using a competitively awarded contract under the Seaport Contract System containing a matrix of tasks and required levels of performance. Follow on Contract will utilize the same competitive system. The Services provided under the contract support acquisition will not encompass tasks inherently Governmental in nature. The Statement of Work will include a matrix that establishes the minimum acceptable performance standards.

Condition Based Maintenance Plus (CBM+) - Development services will be provided using a competitively awarded contracts coordinated via NAVAIR's Aviation Logistics Environment (ALE) Program Management and supporting Contract Business Office, and will contain a matrix of tasks and required levels of performance. Follow on Contracts will utilize the same competitive system. The Services provided under the contract support acquisition will not encompass tasks inherently Governmental in nature, and Statements of Work will include a matrix that establishes the minimum acceptable performance standards.

Integrated Logistics Support Management System (ILSMS) - Development services will be awarded using a competitively awarded contract containing a matrix of tasks and required levels of performance. Follow on Contracts will utilize the same competitive system. The Services provided under the contract support acquisition will not encompass tasks inherently Governmental in nature. The Statement of Work will include a matrix that establishes the minimum acceptable performance standards.

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E. Performance Metrics

The following performance metrics apply to Maintenance Data Warehouse/NAVAIR Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE), Condition Based Maintenance (CBM+) and Integrated Logistics Support Management System (ILSMS):

1. Metric - During the life of the contract verify conformance with agency specific information processing standards and functional requirements. Prior to delivery of enhanced software, demonstrate the operational capability of the system software. Standard - Functionality of the software to meet required systems architecture and processing capabilities. Max Deviation Allowed - All requirements mandated by law or regulation must be 100% compliant. Quality Assurance - Independent Verification and Validation (IV&V) for testing new releases of software to determine that previous functionality is maintained. Customer satisfaction as measured through limited validated customer complaints, feedback, and surveys.
2. Metric - Interfaces must maintain compatibility among system components in the operational environment. Standard - Service Levels for software: Throughput in terms of processing response time, number of transactions processed per second; volume of data processed over time. Compatibility with particular hardware and software within the existing processing environment. Functionality of software to meet required systems architecture and processing capabilities. Max Deviation Allowed - None. Quality Assurance - Customer satisfaction as measured through limited validated customer complaints, feedback and surveys. Operational monitoring by use of system statistics and logs. IV&V for testing new software, including verifying results to determine that requirements and specifications are met.
3. Metric - Documentation for deliverables must match the agency specific system processing and operational procedures. Standard - Documentation meets agency specific formats for accuracy and completeness. Max Deviation Allowed - None. Quality Assurance - IV&V for determining that documentation delivered by the contractor matches the system processing and operational procedures.
4. Metric - Meet delivery dates/milestones. Period of Performance will be 12 months from the date of award. Standard - Delivery dates are met, or exceeded. Max Deviation Allowed - None. Quality Assurance - 100% inspection.
5. Metric - Security. Standard - Meet all Government and agency specific requirements. Max Deviation Allowed - None. Quality Assurance - 100% inspection to ensure that all Government and Agency specific requirements have been met. Independent verification of security procedures defined by agency (could be performed by a third party, or another agency according to current security regulations and measures).
6. Metric - Enhancement to software shall not adversely affect system performance. Standard - Standards affecting system performance include but are not limited to: response time for resolving problems; central processing unit busy; response time; memory utilization; storage utilization. Max Deviation Allowed - Base line functionality is met at 100%. Non critical functionality is met at 95%. Quality Assurance - Operational monitoring by use of system statistics and logs.
7. Metric - New releases of software must maintain previously provided functionality, while providing enhanced capabilities, or systems corrections. Standard - Software adds value and improves existing functionality without negatively impacting the existing operational environment. Max Deviation Allowed - Base line functionality is met at 100%. Non critical functionality is met at 95%. Quality Assurance - Independent Verification and Validation for testing new releases of software to determine that previous functionality is improved. Customer satisfaction is measured through validated customer complaints and surveys.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	C/CPFF	Wyle : Lexington Park, MD	4.522	4.218	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Software Development for Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE)	C/CPFF	Spalding : Lexington Park, MD	0.000	-		3.507	Nov 2014	2.468	Nov 2015	-		2.468	Continuing	Continuing	Continuing
Software Development for Integrated Logistics Support Management System (ILSMS)	C/CPFF	TBD : TBD	0.000	-		2.989	Nov 2014	2.737	Nov 2015	-		2.737	-	5.726	-
Software Development for Condition Based Maintenance Plus (CBM+)	Various	Various : Various	0.000	-		2.990	Nov 2014	1.513	Nov 2015	-		1.513	-	4.503	-
Prior year Prod Def no longer funded in the FYDP	Various	Various : Various	1.668	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	6.190	4.218		9.486		6.718		-		6.718	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support for DECKPLATE	WR	NAWCAD : Patuxent River, MD	1.018	2.068	Oct 2013	2.977	Oct 2014	3.453	Oct 2015	-		3.453	Continuing	Continuing	Continuing
Program Management Support for ILSMS	WR	NAWCAD : Patuxent River, MD	0.000	-		0.360	Oct 2014	0.360	Oct 2015	-		0.360	-	0.720	-
Program Management Support for CBM+	WR	NAWCAD : Patuxent River, MD	0.000	0.600	Oct 2013	0.600	Oct 2014	0.600	Oct 2015	-		0.600	-	1.800	-
		Subtotal	1.018	2.668		3.937		4.413		-		4.413	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7.208	6.886		13.423		11.131		-		11.131	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 9406 / *Maintenance Data Warehouse*

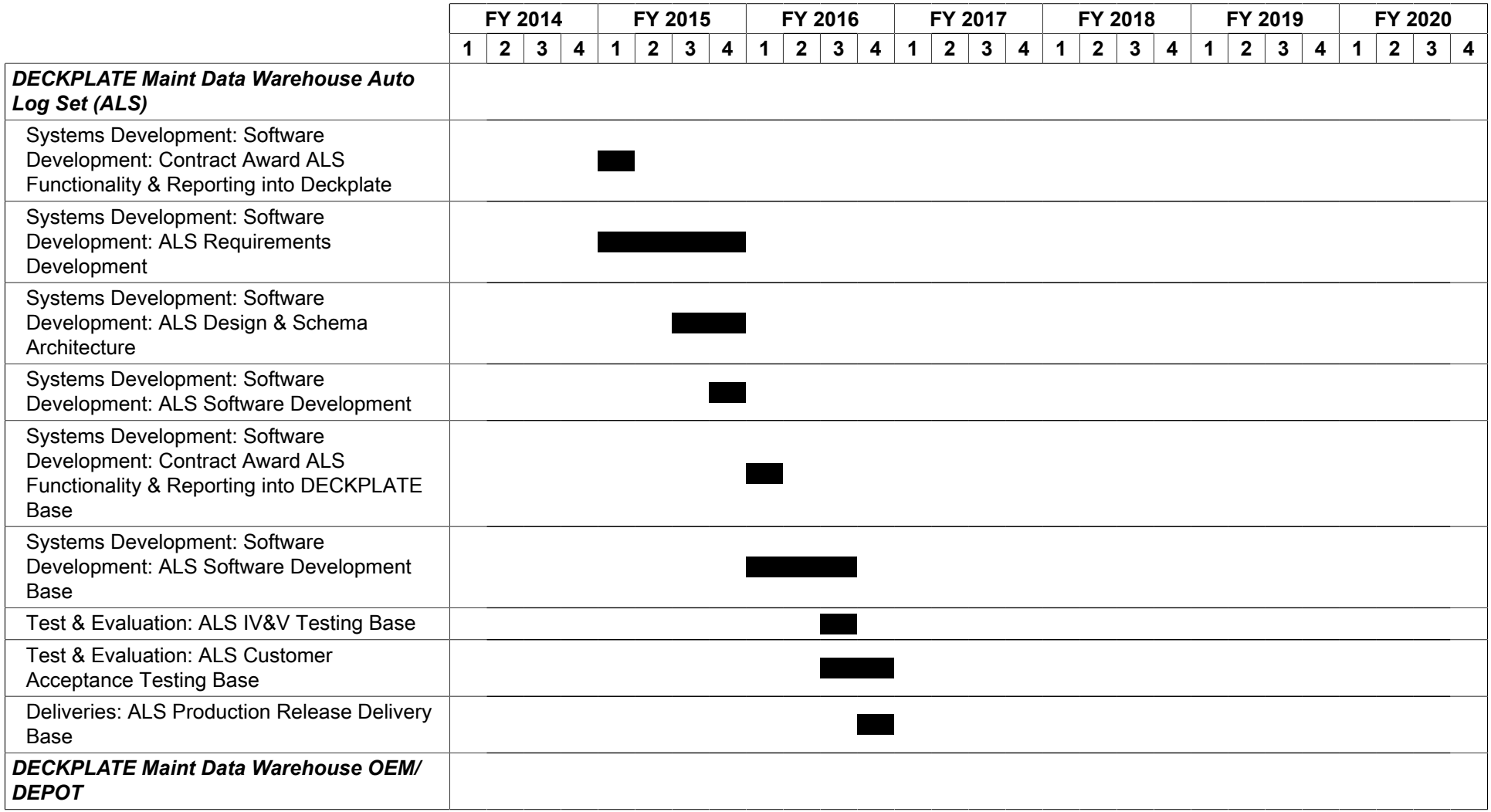


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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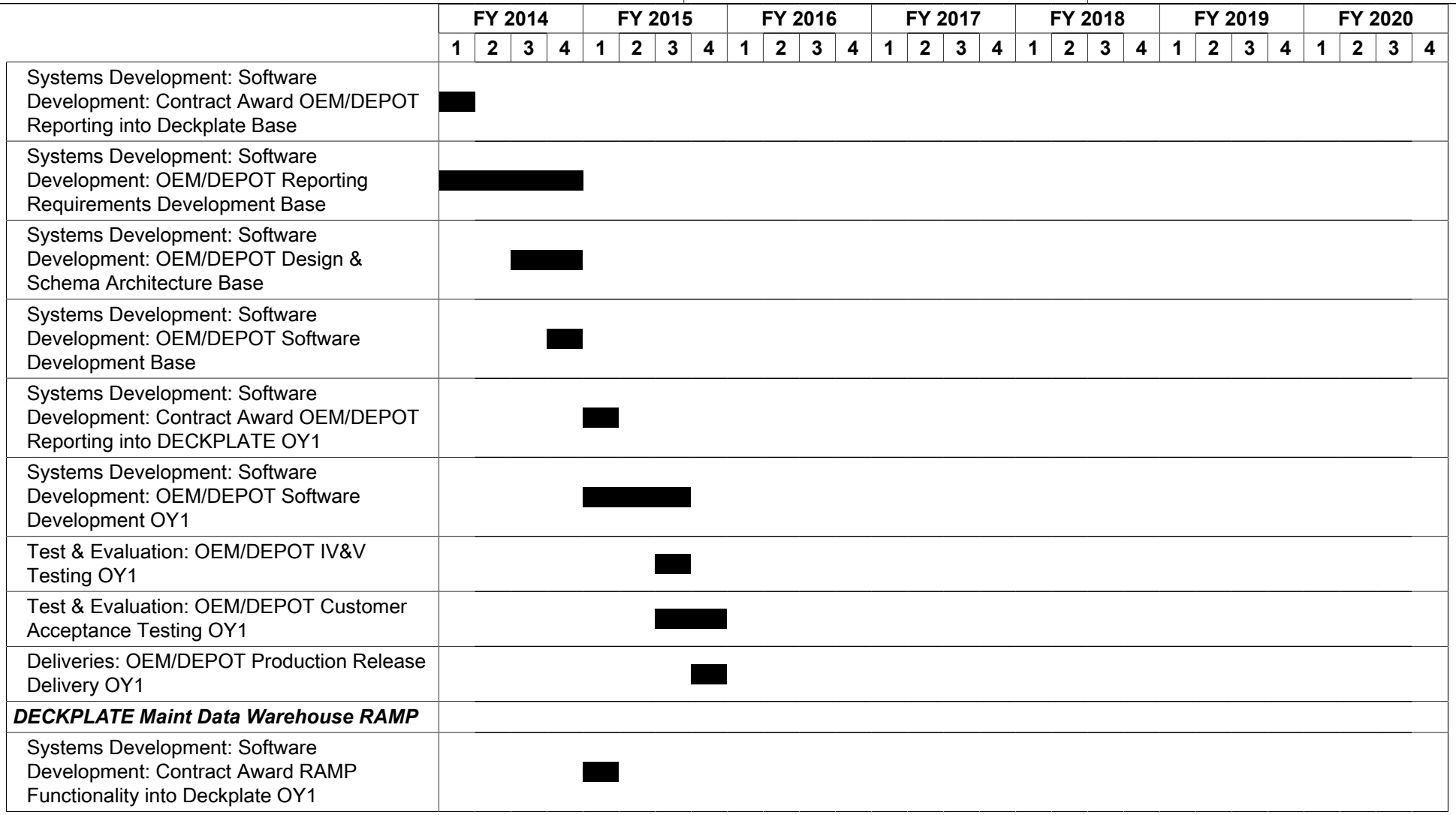


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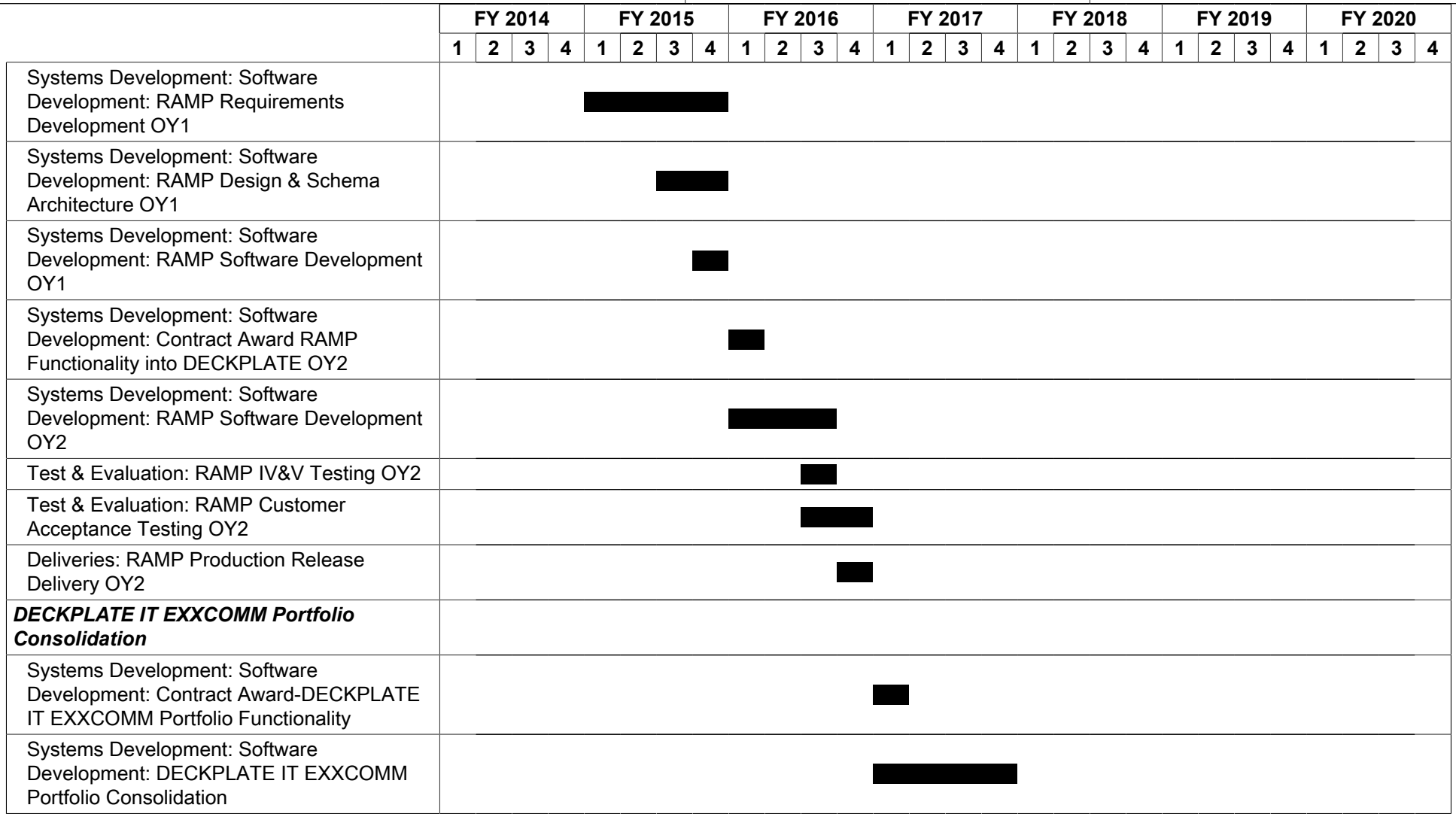


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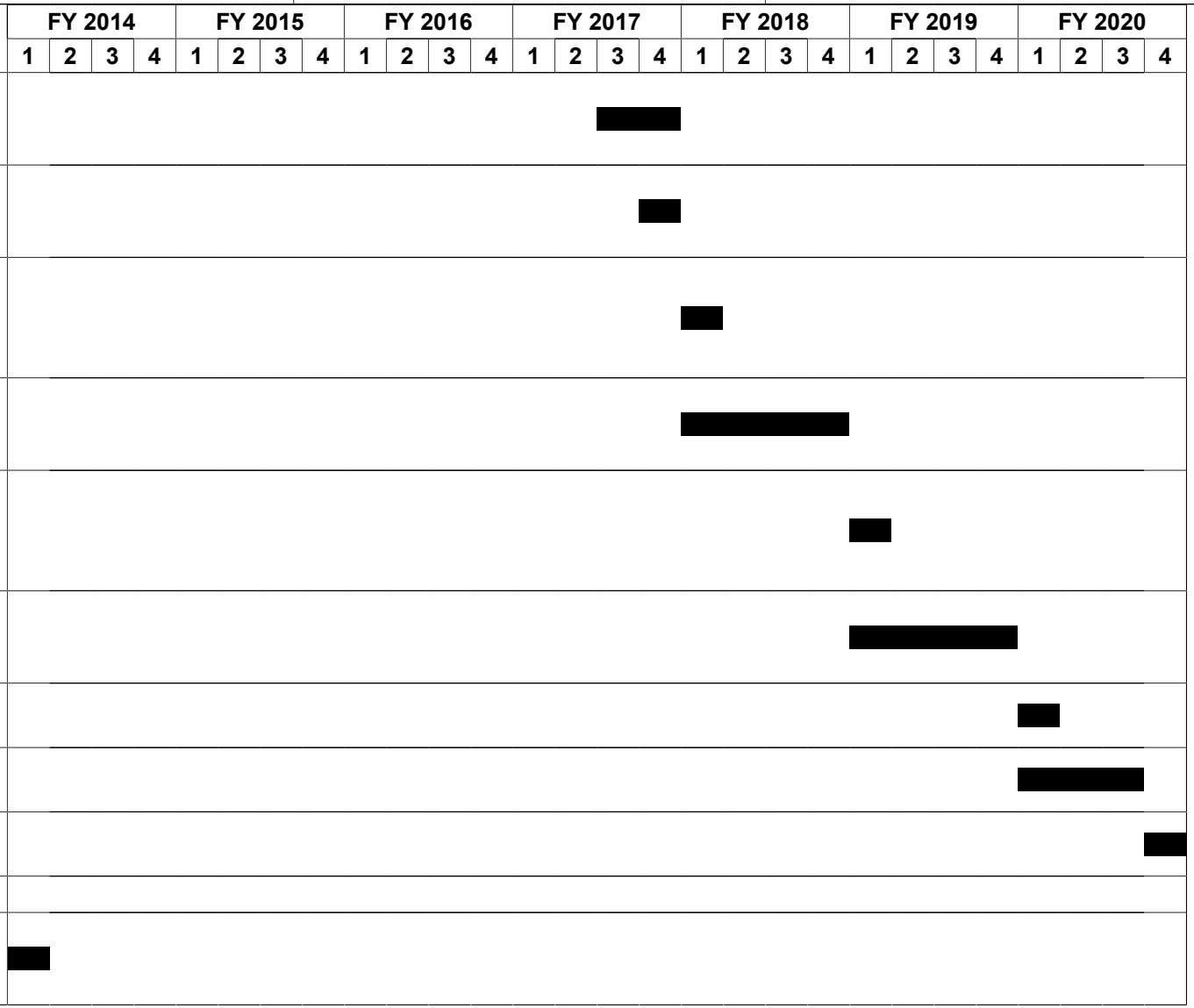


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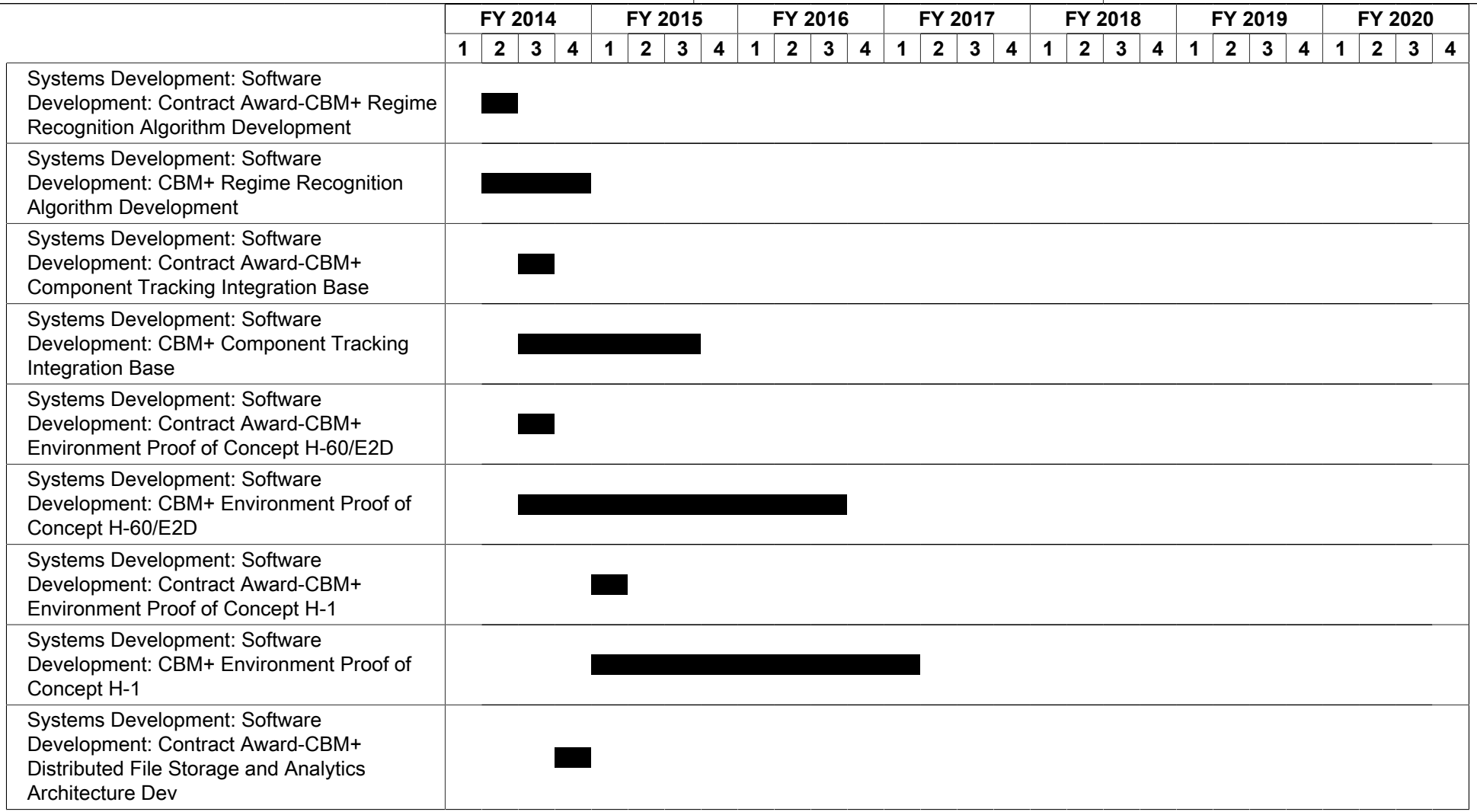


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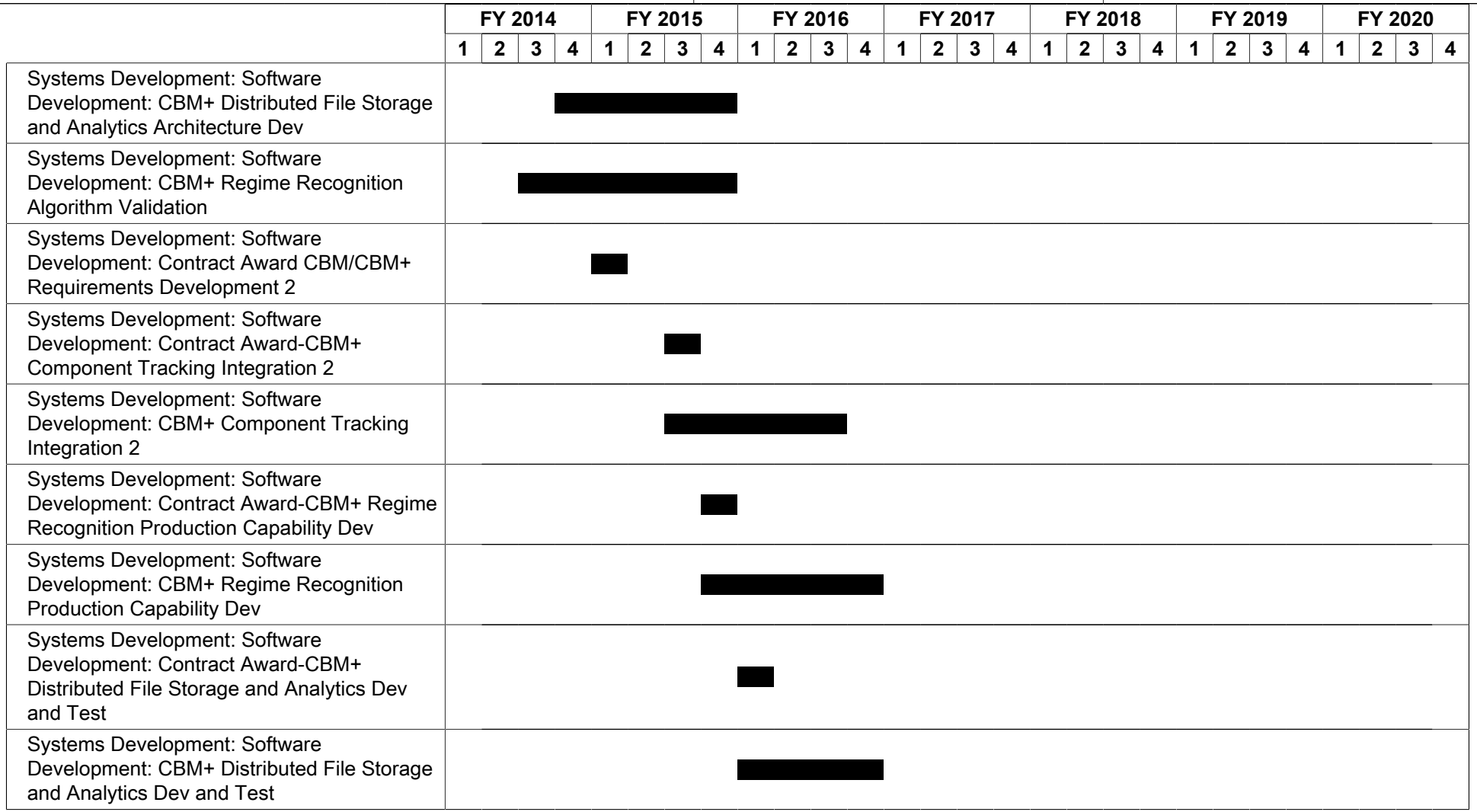


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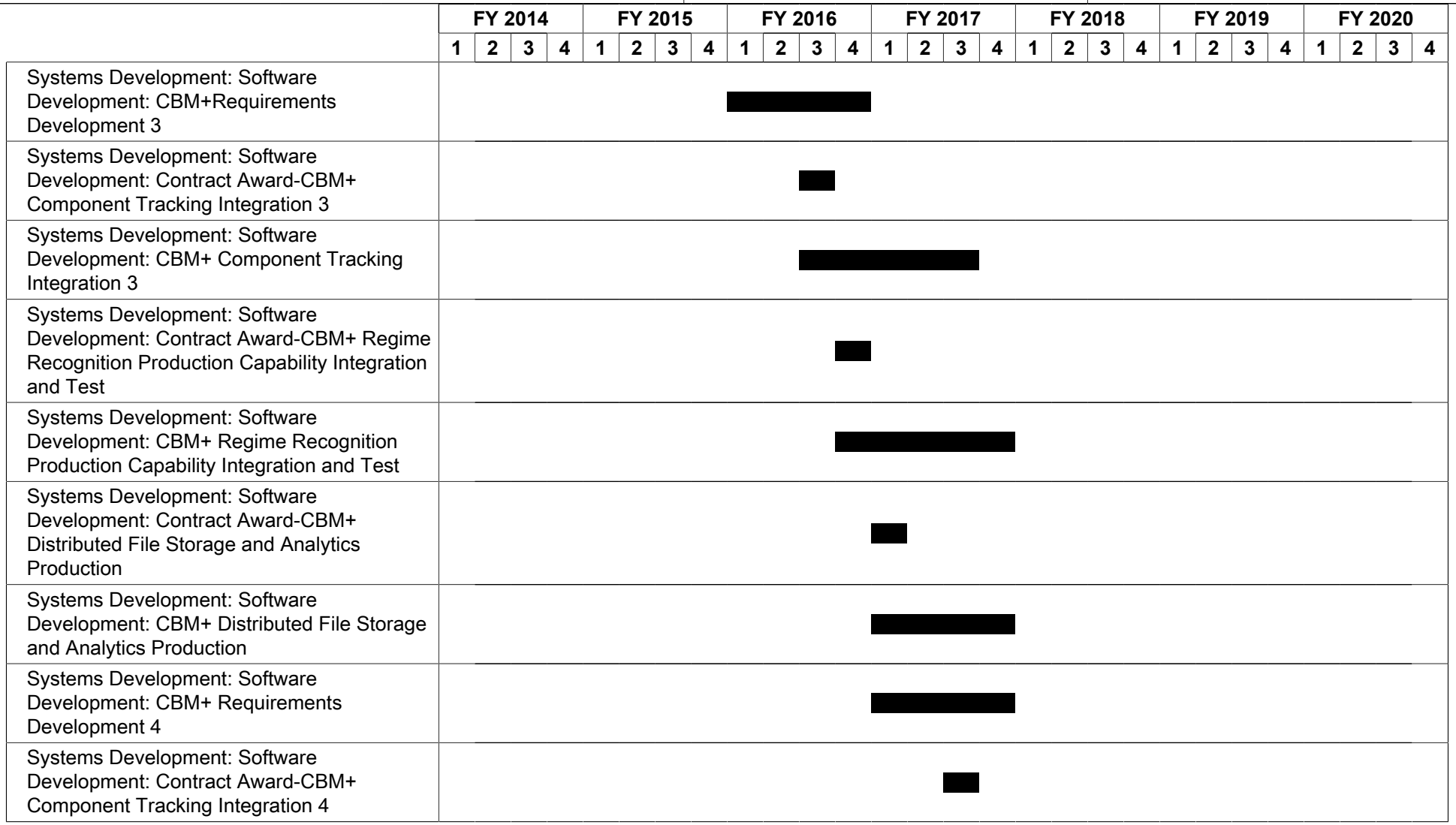


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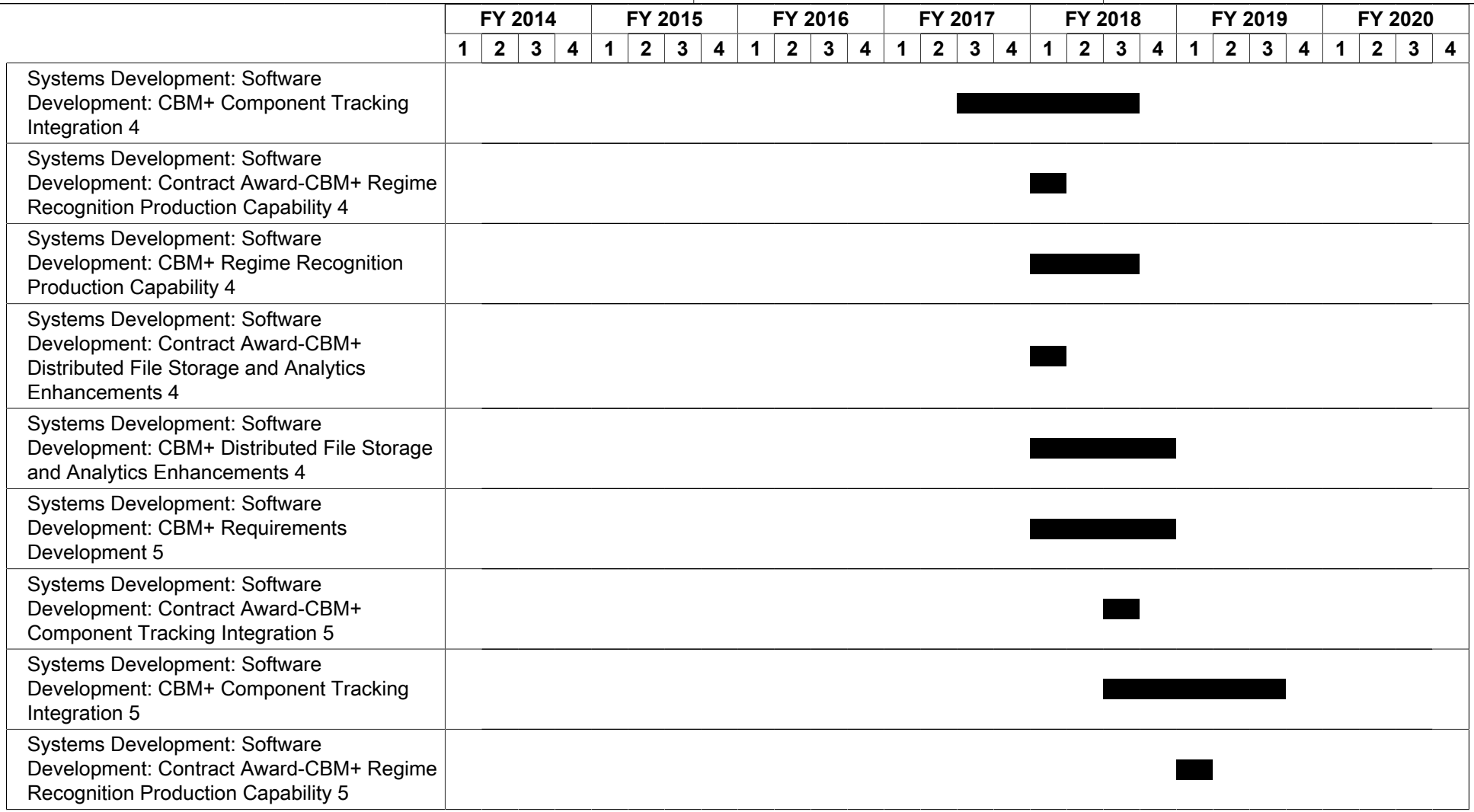


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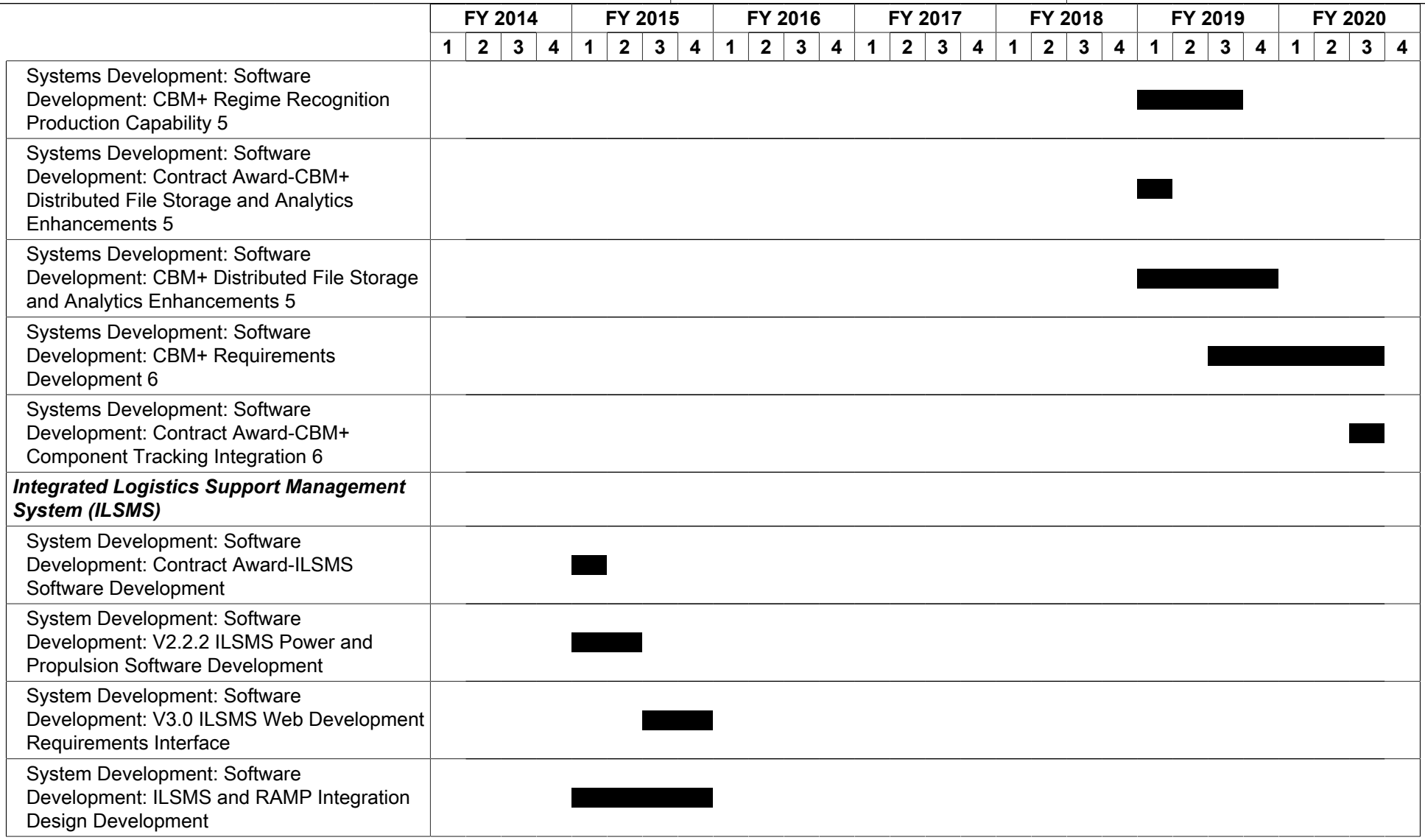


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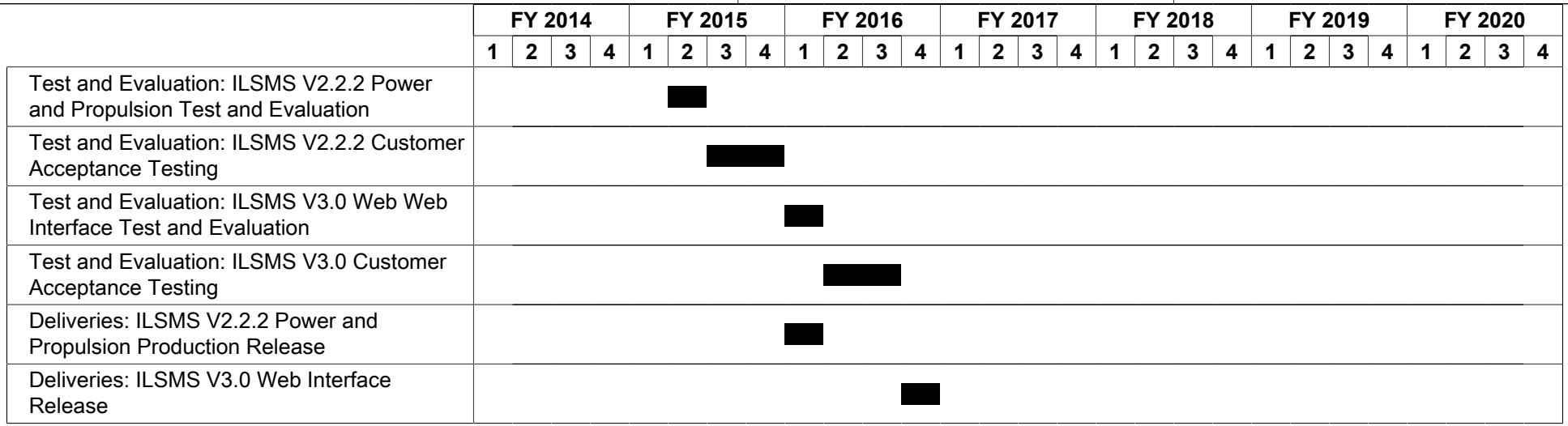


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DECKPLATE Maint Data Warehouse Auto Log Set (ALS)				
Systems Development: Software Development: Contract Award ALS Functionality & Reporting into Deckplate	1	2015	1	2015
Systems Development: Software Development: ALS Requirements Development	1	2015	4	2015
Systems Development: Software Development: ALS Design & Schema Architecture	3	2015	4	2015
Systems Development: Software Development: ALS Software Development	4	2015	4	2015
Systems Development: Software Development: Contract Award ALS Functionality & Reporting into DECKPLATE Base	1	2016	1	2016
Systems Development: Software Development: ALS Software Development Base	1	2016	3	2016
Test & Evaluation: ALS IV&V Testing Base	3	2016	3	2016
Test & Evaluation: ALS Customer Acceptance Testing Base	3	2016	4	2016
Deliveries: ALS Production Release Delivery Base	4	2016	4	2016
DECKPLATE Maint Data Warehouse OEM/DEPOT				
Systems Development: Software Development: Contract Award OEM/DEPOT Reporting into Deckplate Base	1	2014	1	2014
Systems Development: Software Development: OEM/DEPOT Reporting Requirements Development Base	1	2014	4	2014
Systems Development: Software Development: OEM/DEPOT Design & Schema Architecture Base	3	2014	4	2014
Systems Development: Software Development: OEM/DEPOT Software Development Base	4	2014	4	2014
Systems Development: Software Development: Contract Award OEM/DEPOT Reporting into DECKPLATE OY1	1	2015	1	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Systems Development: Software Development: OEM/DEPOT Software Development OY1	1	2015	3	2015
Test & Evaluation: OEM/DEPOT IV&V Testing OY1	3	2015	3	2015
Test & Evaluation: OEM/DEPOT Customer Acceptance Testing OY1	3	2015	4	2015
Deliveries: OEM/DEPOT Production Release Delivery OY1	4	2015	4	2015
DECKPLATE Maint Data Warehouse RAMP				
Systems Development: Software Development: Contract Award RAMP Functionality into Deckplate OY1	1	2015	1	2015
Systems Development: Software Development: RAMP Requirements Development OY1	1	2015	4	2015
Systems Development: Software Development: RAMP Design & Schema Architecture OY1	3	2015	4	2015
Systems Development: Software Development: RAMP Software Development OY1	4	2015	4	2015
Systems Development: Software Development: Contract Award RAMP Functionality into DECKPLATE OY2	1	2016	1	2016
Systems Development: Software Development: RAMP Software Development OY2	1	2016	3	2016
Test & Evaluation: RAMP IV&V Testing OY2	3	2016	3	2016
Test & Evaluation: RAMP Customer Acceptance Testing OY2	3	2016	4	2016
Deliveries: RAMP Production Release Delivery OY2	4	2016	4	2016
DECKPLATE IT EXXCOMM Portfolio Consolidation				
Systems Development: Software Development: Contract Award-DECKPLATE IT EXXCOMM Portfolio Functionality	1	2017	1	2017
Systems Development: Software Development: DECKPLATE IT EXXCOMM Portfolio Consolidation	1	2017	4	2017
Systems Development: Software Development: DECKPLATE Design and Schema Architecture	3	2017	4	2017
Systems Development: Software Development: DECKPLATE Software Development	4	2017	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Systems Development: Software Development: Contract Award-DECKPLATE IT EXXCOMM Portfolio Consolidation Functionality	1	2018	1	2018
Systems Development: Software Development: DECKPLATE Software Development 2	1	2018	4	2018
Systems Development: Software Development: Contract Award-DECKPLATE IT EXXCOMM Portfolio Consolidation Functionality 2	1	2019	1	2019
Systems Development: Software Development: DECKPLATE Software Development 3	1	2019	4	2019
Test & Evaluation: DECKPLATE IV&V Testing	1	2020	1	2020
Test & Evaluation: DECKPLATE Customer Acceptance Testing	1	2020	3	2020
Deliveries: DECKPLATE Production Release Delivery	4	2020	4	2020
Condition Based Maintenance Plus (CBM+)				
Systems Development: Software Development: Contract Award-CBM+ Requirements Development	1	2014	1	2014
Systems Development: Software Development: Contract Award-CBM+ Regime Recognition Algorithm Development	2	2014	2	2014
Systems Development: Software Development: CBM+ Regime Recognition Algorithm Development	2	2014	4	2014
Systems Development: Software Development: Contract Award-CBM+ Component Tracking Integration Base	3	2014	3	2014
Systems Development: Software Development: CBM+ Component Tracking Integration Base	3	2014	3	2015
Systems Development: Software Development: Contract Award-CBM+ Environment Proof of Concept H-60/E2D	3	2014	3	2014
Systems Development: Software Development: CBM+ Environment Proof of Concept H-60/E2D	3	2014	3	2016
Systems Development: Software Development: Contract Award-CBM+ Environment Proof of Concept H-1	1	2015	1	2015
Systems Development: Software Development: CBM+ Environment Proof of Concept H-1	1	2015	1	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Systems Development: Software Development: Contract Award-CBM+ Distributed File Storage and Analytics Architecture Dev	4	2014	4	2014
Systems Development: Software Development: CBM+ Distributed File Storage and Analytics Architecture Dev	4	2014	4	2015
Systems Development: Software Development: CBM+ Regime Recognition Algorithm Validation	3	2014	4	2015
Systems Development: Software Development: Contract Award CBM/CBM+ Requirements Development 2	1	2015	1	2015
Systems Development: Software Development: Contract Award-CBM+ Component Tracking Integration 2	3	2015	3	2015
Systems Development: Software Development: CBM+ Component Tracking Integration 2	3	2015	3	2016
Systems Development: Software Development: Contract Award-CBM+ Regime Recognition Production Capability Dev	4	2015	4	2015
Systems Development: Software Development: CBM+ Regime Recognition Production Capability Dev	4	2015	4	2016
Systems Development: Software Development: Contract Award-CBM+ Distributed File Storage and Analytics Dev and Test	1	2016	1	2016
Systems Development: Software Development: CBM+ Distributed File Storage and Analytics Dev and Test	1	2016	4	2016
Systems Development: Software Development: CBM+Requirements Development 3	1	2016	4	2016
Systems Development: Software Development: Contract Award-CBM+ Component Tracking Integration 3	3	2016	3	2016
Systems Development: Software Development: CBM+ Component Tracking Integration 3	3	2016	3	2017
Systems Development: Software Development: Contract Award-CBM+ Regime Recognition Production Capability Integration and Test	4	2016	4	2016
Systems Development: Software Development: CBM+ Regime Recognition Production Capability Integration and Test	4	2016	4	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Systems Development: Software Development: Contract Award-CBM+ Distributed File Storage and Analytics Production	1	2017	1	2017
Systems Development: Software Development: CBM+ Distributed File Storage and Analytics Production	1	2017	4	2017
Systems Development: Software Development: CBM+ Requirements Development 4	1	2017	4	2017
Systems Development: Software Development: Contract Award-CBM+ Component Tracking Integration 4	3	2017	3	2017
Systems Development: Software Development: CBM+ Component Tracking Integration 4	3	2017	3	2018
Systems Development: Software Development: Contract Award-CBM+ Regime Recognition Production Capability 4	1	2018	1	2018
Systems Development: Software Development: CBM+ Regime Recognition Production Capability 4	1	2018	3	2018
Systems Development: Software Development: Contract Award-CBM+ Distributed File Storage and Analytics Enhancements 4	1	2018	1	2018
Systems Development: Software Development: CBM+ Distributed File Storage and Analytics Enhancements 4	1	2018	4	2018
Systems Development: Software Development: CBM+ Requirements Development 5	1	2018	4	2018
Systems Development: Software Development: Contract Award-CBM+ Component Tracking Integration 5	3	2018	3	2018
Systems Development: Software Development: CBM+ Component Tracking Integration 5	3	2018	3	2019
Systems Development: Software Development: Contract Award-CBM+ Regime Recognition Production Capability 5	1	2019	1	2019
Systems Development: Software Development: CBM+ Regime Recognition Production Capability 5	1	2019	3	2019
Systems Development: Software Development: Contract Award-CBM+ Distributed File Storage and Analytics Enhancements 5	1	2019	1	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605013N / *Information Technology Development*	**Project (Number/Name)** 9406 / *Maintenance Data Warehouse*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Systems Development: Software Development: CBM+ Distributed File Storage and Analytics Enhancements 5	1	2019	4	2019
Systems Development: Software Development: CBM+ Requirements Development 6	3	2019	3	2020
Systems Development: Software Development: Contract Award-CBM+ Component Tracking Integration 6	3	2020	3	2020
Integrated Logistics Support Management System (ILSMS)				
System Development: Software Development: Contract Award-ILSMS Software Development	1	2015	1	2015
System Development: Software Development: V2.2.2 ILSMS Power and Propulsion Software Development	1	2015	2	2015
System Development: Software Development: V3.0 ILSMS Web Development Requirements Interface	3	2015	4	2015
System Development: Software Development: ILSMS and RAMP Integration Design Development	1	2015	4	2015
Test and Evaluation: ILSMS V2.2.2 Power and Propulsion Test and Evaluation	2	2015	2	2015
Test and Evaluation: ILSMS V2.2.2 Customer Acceptance Testing	3	2015	4	2015
Test and Evaluation: ILSMS V3.0 Web Web Interface Test and Evaluation	1	2016	1	2016
Test and Evaluation: ILSMS V3.0 Customer Acceptance Testing	2	2016	3	2016
Deliveries: ILSMS V2.2.2 Power and Propulsion Production Release	1	2016	1	2016
Deliveries: ILSMS V3.0 Web Interface Release	4	2016	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy												Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605212N / *CH-53K*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	3,832.886	447.511	559.687	632.092	-	632.092	475.087	176.302	177.999	186.430	-	6,487.994
3059: *CH-53K Development*	3,832.886	447.511	559.687	632.092	-	632.092	475.087	176.302	177.999	186.430	-	6,487.994
MDAP/MAIS Code: 390												

A. Mission Description and Budget Item Justification

The CH-53 is the only marinized heavy-lift helicopter in the world and is the Marine Corp's only heavy-lift helicopter. The CH-53 mission is the conduct of expeditionary heavy-lift assault transport of armored vehicles, equipment and personnel to support distributed operations deep inland from a sea-based center of operations. The CH-53E "Super Stallion" was introduced into operations in 1980 as an upgrade version of the CH-53D. The CH-53E has developed performance degradation, fatigue life, interoperability, maintenance supportability, and other operational concerns. An improved CH-53 is needed to support Marine Air-Ground Task Force heavy-lift requirements in the 21st century joint environment. The CH-53K "King Stallion" will provide improvements in range and payload, performance, cargo handling, turn-around times, reliability and maintainability, interoperability, and survivability. The CH-53K program is required to provide full system capability, including shipboard compatibilities, at Initial Operational Capability (IOC).

Total aircraft quantities for the CH-53K program are 205 helicopters. This includes one Ground Test Vehicle (GTV) and four Engineering Development Models (EDMs) for System Development and Demonstration (SDD), to be purchased with Research, Development, Test & Evaluation (RDT&E) funds. Of the remaining 200 aircraft, six will be System Demonstration Test Articles (SDTA's) and will be incrementally funded using RDT&E funds. The SDTA's will be used to prove out production and integration processes on a pilot production line, and to provide aircraft for Initial Operational Test and Evaluation. The remaining 194 aircraft will be Aircraft Procurement, Navy funded.

FY16 RDT&E funds CH-53K SDD activities which include: Milestone C preparation, ground and flight test of GTV and EDMs, associated subsystems and components, and the continued fabrication and assembly of SDTAs. Additionally, the program takes delivery of the first SDTA aircraft.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full-rate production decision.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy					Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0605212N / *CH-53K*		
B. Program Change Summary ($ in Millions)	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**
Previous President's Budget	462.280	573.187	714.100	-	714.100
Current President's Budget	447.511	559.687	632.092	-	632.092
Total Adjustments	-14.769	-13.500	-82.008	-	-82.008
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-25.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	11.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-14.769	-			
• Rate/Misc Adjustments	-	-	-82.008	-	-82.008

Change Summary Explanation

The FY 2016 funding request was reduced by $16.462 million to account for the availability of prior year execution balances.

Technical: Not applicable.

Schedule: EDM #1 delivered to test earlier than planned - 1QFY15. FRR (1st Flight) moved to 2QFY15 to occur within 30 days of scheduled 1st Flight. OT-B1 moved to 3QFY16 to allow 13 months of flight test prior to start of Operational Testing. MSC moved 1Q right due to test program delays. ILA and PRR shifted to depict more realistic alignment with MSC. Conclusion of IOT&E extended to 2QFY19 to complete Operational Test program. Delivery dates for SDTA's 2-4 have each shifted 1 Quarter per most recent contractor delivery schedule (sub-vendor material delays). Delivery dates for SDTA's 5-6 have each shifted 2 Quarters right as Conference approval delayed RFP release. Delivery dates for LRIP Lot 1 (qty: 2) and first aircraft of LRIP Lot 2 have each shifted 1Q right to correct manufacturer lead time.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605212N / *CH-53K*	Project (Number/Name) 3059 / *CH-53K Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3059: *CH-53K Development*	3,832.886	447.511	559.687	632.092	-	632.092	475.087	176.302	177.999	186.430	-	6,487.994
Quantity of RDT&E Articles	9	-	2	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The CH-53 is the only marinized heavy-lift helicopter in the world and is the Marine Corp's only heavy-lift helicopter. The CH-53 mission is the conduct of expeditionary heavy-lift assault transport of armored vehicles, equipment and personnel to support distributed operations deep inland from a sea-based center of operations. The CH-53E "Super Stallion" was introduced into operations in 1980 as an upgrade version of the CH-53D. The CH-53E has developed performance degradation, fatigue life, interoperability, maintenance supportability, and other operational concerns. An improved CH-53 is needed to support Marine Air-Ground Task Force heavy-lift requirements in the 21st century joint environment. The CH-53K "King Stallion" will provide improvements in range and payload, performance, cargo handling, turn-around times, reliability and maintainability, interoperability, and survivability. The CH-53K program is required to provide full system capability, including shipboard compatibilities, at Initial Operational Capability (IOC).

Total aircraft quantities for the CH-53K program are 205 helicopters. This includes one Ground Test Vehicle (GTV) and four Engineering Development Models (EDMs) for System Development and Demonstration (SDD), to be purchased with Research, Development, Test & Evaluation (RDT&E) funds. Of the remaining 200 aircraft, six will be System Demonstration Test Articles (SDTA's) and will be incrementally funded using RDT&E funds. The SDTA's will be used to prove out production and integration processes on a pilot production line, and to provide aircraft for Initial Operational Test and Evaluation. SDTA's are shown in the year of contract award vice year of delivery. The remaining 194 aircraft will be Aircraft Procurement, Navy funded.

FY16 RDT&E funds CH-53K SDD activities which include: Milestone C preparation, ground and flight test of GTV and EDMs, associated subsystems and components, and the continued fabrication and assembly of SDTAs. Additionally, the program takes delivery of the first SDTA aircraft.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Air Vehicle Development	360.165	463.428	535.389	-	535.389
Articles:	-	2	-	-	-
FY 2014 Accomplishments: Performed Systems Design and Development fabrication and assembly activities for the CH-53K Engineering Development Models (EDMs) air vehicles and their associated subsystems and components, Government Furnished Equipment and CH-53K ancillary systems. Focused on ground and flight test of Ground Test Vehicle (GTV) and EDMs and continued fabrication of System Demonstration Test Articles and associated components.					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605212N / *CH-53K*	**Project (Number/Name)** 3059 / *CH-53K Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Perform ground and flight test of the CH-53K GTV, EDMs and their associated subsystems and components. Evaluate and implement producability, reliability and capability improvements. Continued fabrication and assembly of System Demonstration Test Articles. ***FY 2016 Base Plans:*** Perform ground and flight test of the CH-53K GTV, EDMs and their associated subsystems and components. Evaluate and implement producability, reliability and capability improvements. Continued fabrication and assembly of System Demonstration Test Articles. Accept delivery of the first SDTA aircraft. ***FY 2016 OCO Plans:*** N/A					
Title: Integrated Logistics Support and Test & Evaluation (T&E)	42.137	45.485	46.058	-	46.058
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Performed in-house, field activity, and contractor support of Integrated Logistic support. T&E activities include further component qualifications and ground and flight testing. Continued to increase staffing of Integrated Test Team for flight test. ***FY 2015 Plans:*** Perform in-house, field activity, and contractor support of Integrated Logistic support. T&E activities include further component qualification and validation of Supportability Test Plans during ground and flight test. Continue to further develop Product Support Packages in preparation for an Integrated Logistics Assessment as required for Milestone C decision. ***FY 2016 Base Plans:*** Perform in-house, field activity, and contractor support of Integrated Logistic support. T&E activities include further component qualification and validation of Supportability Test Plans during ground and flight test. Continue to further develop Product Support Packages in preparation for an Integrated Logistics Assessment as required for Milestone C decision. ***FY 2016 OCO Plans:*** N/A					
Title: Systems Engineering & Project Management	45.209	50.774	50.645	-	50.645
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605212N / *CH-53K*	**Project (Number/Name)** 3059 / *CH-53K Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Performed in-house, field activitiy, and contractor support of Integrated Product Teams to allow for the examination and certification of equipment and avionics for the CH-53K. Efforts included continued component qualification, preparation for Engineering Development Model flight certification, government development support, engineering support, program management support, systems engineering support, and travel for the CH-53K program. ***FY 2015 Plans:*** Perform in-house, field activity, and contractor support of Integrated Product Teams to allow for the examination and certification of equipment and avionics for the CH-53K. Efforts include Engineering Development Model flight test certification, component reliability and producability improvements in support of System Demonstration Test Articles (SDTA's), engineering support, program management support, and travel for the CH-53K program. ***FY 2016 Base Plans:*** Perform in-house, field activity, and contractor support of Integrated Product Teams to allow for the examination and certification of equipment and avionics for the CH-53K. Efforts include Engineering Development Model flight test certification, component reliability and producability improvements in support of System Demonstration Test Articles (SDTA's), monitor LRIP Lot 1 Advance Acquisition Contract, engineering support, program management support, and travel for the CH-53K program. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	447.511	559.687	632.092	-	632.092

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN / 0158: *CH-53K (Heavy Lift)*	-	-	41.300	-	41.300	472.424	729.373	1,179.593	1,668.674	17,805.326	21,896.690
• APN / 06051: *CH-53K (Heavy Lift) - Initial Spares*	-	-	-	-	-	-	32.065	45.043	47.594	576.319	701.021

Remarks

D. Acquisition Strategy

On 31 October 2005, the Defense Acquisition Board reviewed the CH-53K program for a Milestone (MS) B decision on entry to Systems Design and Development (SDD). The Under Secretary of the Defense (Acquisition, Technology and Logistics) signed the Acquisition Decision Memorandum allowing the program to proceed with SDD on 22 December 2005. The CH-53K program was initiated as an Acquisition Category 1D program, based on total estimated costs for Research, Development,

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605212N / *CH-53K*	**Project (Number/Name)** 3059 / *CH-53K Development*

Test and Evaluation and Aircraft Procurement, Navy. The SDD prime contract was awarded sole-source contract to Sikorsky Aircraft Corporation on 5 April, 2006, following the MS B decision. SDD efforts will develop and document technology maturations, selections, and integration into CH-53E design modifications for a new CH-53K variant; produce one CH-53K Ground Test Vehicle and four CH-53K Engineering Developmental Models; and conduct and support Test and Evaluation activities fulfilling milestone exit criteria. In FY13 the SDD contract was modified to include four System Demonstration Test Articles (SDTA's). In FY15 the SDD contract will be modified to add two additional SDTA aircraft. The T408-GE-400 engines for SDTAs 1-4, which were converted from Contractor Furnished Equipment to Government Furnished Equipment, were placed on contract in FY14. Additionally, a contract option was included to provide engines for SDTAs 5-6.

E. Performance Metrics

Since MS B, the program team has followed a disciplined, event-driven, design and development process. The program completed Preliminary Design Review in September 2008 and conducted Critical Design Review in July 2010. System meets or exceeds all Key Performance Parameters.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605212N / *CH-53K*	**Project (Number/Name)** 3059 / *CH-53K Development*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development: SDD / SDTA Air Vehicle	SS/CPIF	Sikorsky : Stratford, CT	3,132.586	325.033	Dec 2013	399.063	Dec 2014	461.922	Dec 2015	-		461.922	728.058	5,046.662	5,046.662
GFE: Various	Various	Various : Various	54.955	2.000	Dec 2013	12.786	Dec 2014	5.871	Dec 2015	-		5.871	5.892	81.504	-
GFE: Engines	SS/CPFF	GE : Lynn, MA	23.271	7.752	Jul 2014	36.839	Jan 2015	52.859	Jan 2016	-		52.859	15.442	136.163	136.163
Incentive Fees	SS/CPIF	Sikorsky : Stratford, CT	52.499	25.380	Dec 2013	14.740	Dec 2014	14.737	Dec 2015	-		14.737	7.944	115.300	115.300
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	73.400	-		-		-		-		-	-	73.400	-
		Subtotal	3,336.711	360.165		463.428		535.389		-		535.389	757.336	5,453.029	-

Remarks

Primary Hardware Development Target Value of Contract includes System Demonstration Test Articles (SDTA's).
Government Furnished Equipment/Engines provides funding for SDTA engine contract.
FY14-15 Incentive Fees represent potential Schedule Incentives based on continued progress of the Engineering Development Model (EDM) aircraft.
FY16-17 Incentive Fees represent potential Schedule Incentives based on continued progress of the System Demonstration Test Article (SDTA) aircraft.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	NAWCAD : Lakehurst, NJ	1.824	3.537	Dec 2013	0.540	Dec 2014	1.828	Dec 2015	-		1.828	19.378	27.107	-
Integrated Logistics Support	WR	NAWCAD : Lakehurst, NJ	9.376	5.100	Dec 2013	4.566	Dec 2014	5.409	Dec 2015	-		5.409	13.323	37.774	-
Integrated Logistics Support	WR	NADEP : Cherry Point, NC	6.300	3.000	Dec 2013	4.954	Dec 2014	3.493	Dec 2015	-		3.493	6.700	24.447	-
Integrated Logistics Support	C/CPFF	GDIT : Fairfax, VA	8.484	3.591	Apr 2014	2.942	Apr 2015	3.001	Apr 2016	-		3.001	6.755	24.773	24.773
Integrated Logistics Support	WR	Various : Various	35.595	2.491	Dec 2013	2.691	Dec 2014	3.169	Dec 2015	-		3.169	8.220	52.166	-
Studies & Analyses	WR	NSWC : Crane, IN	2.500	1.000	Dec 2013	-		-		-		-	-	3.500	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605212N / *CH-53K*	Project (Number/Name) 3059 / *CH-53K Development*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Analyses	Various	Various : Various	22.127	-		-		-		-		-	3.000	25.127	-
		Subtotal	86.206	18.719		15.693		16.900		-		16.900	57.376	194.894	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	Various : Various	15.308	4.500	Dec 2013	3.136	Dec 2014	2.391	Dec 2015	-		2.391	27.129	52.464	-
Developmental Test & Evaluation	WR	NAWCAD : Pax River, MD	15.715	16.140	Dec 2013	22.193	Dec 2014	24.610	Dec 2015	-		24.610	55.174	133.832	-
Operational Test & Evaluation	WR	COMPTEVFOR : Norfolk, VA	2.018	0.678	Dec 2013	0.878	Dec 2014	0.961	Dec 2015	-		0.961	14.156	18.691	-
Live Fire Test & Evaluation	WR	NAWCWD : China Lake, CA	4.496	2.100	Dec 2013	3.585	Dec 2014	1.196	Dec 2015	-		1.196	7.550	18.927	-
		Subtotal	37.537	23.418		29.792		29.158		-		29.158	104.009	223.914	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	15.885	3.389	Dec 2013	4.077	Dec 2014	4.163	Dec 2015	-		4.163	6.276	33.790	-
Government Engineering Support	WR	NAWCAD : Pax River, MD	256.422	32.745	Dec 2013	38.550	Dec 2014	38.720	Dec 2015	-		38.720	67.453	433.890	-
Program Management Support	C/CPFF	Camber : Huntsville, AL	35.408	6.300	Mar 2014	-		-		-		-	-	41.708	41.708
Program Management Support	C/CPFF	Zenetix : Herndon, VA	0.000	1.000	Aug 2014	6.528	Jan 2015	6.328	Jan 2016	-		6.328	15.500	29.356	29.356
Program Management Support	Various	Various : Various	59.355	1.500	Dec 2013	1.350	Dec 2014	1.159	Dec 2015	-		1.159	5.918	69.282	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605212N / *CH-53K*	Project (Number/Name) 3059 / *CH-53K Development*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	NAWCAD : Pax River, MD	3.412	0.275	Dec 2013	0.269	Dec 2014	0.275	Dec 2015	-		0.275	1.950	6.181	-
Prior year Mgmt cost no longer funded in the FYDP	Various	Various : Various	1.950	-		-		-		-		-	-	1.950	-
		Subtotal	372.432	45.209		50.774		50.645		-		50.645	97.097	616.157	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3,832.886	447.511		559.687		632.092		-		632.092	1,015.818	6,487.994	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605212N / *CH-53K*	**Project (Number/Name)** 3059 / *CH-53K Development*

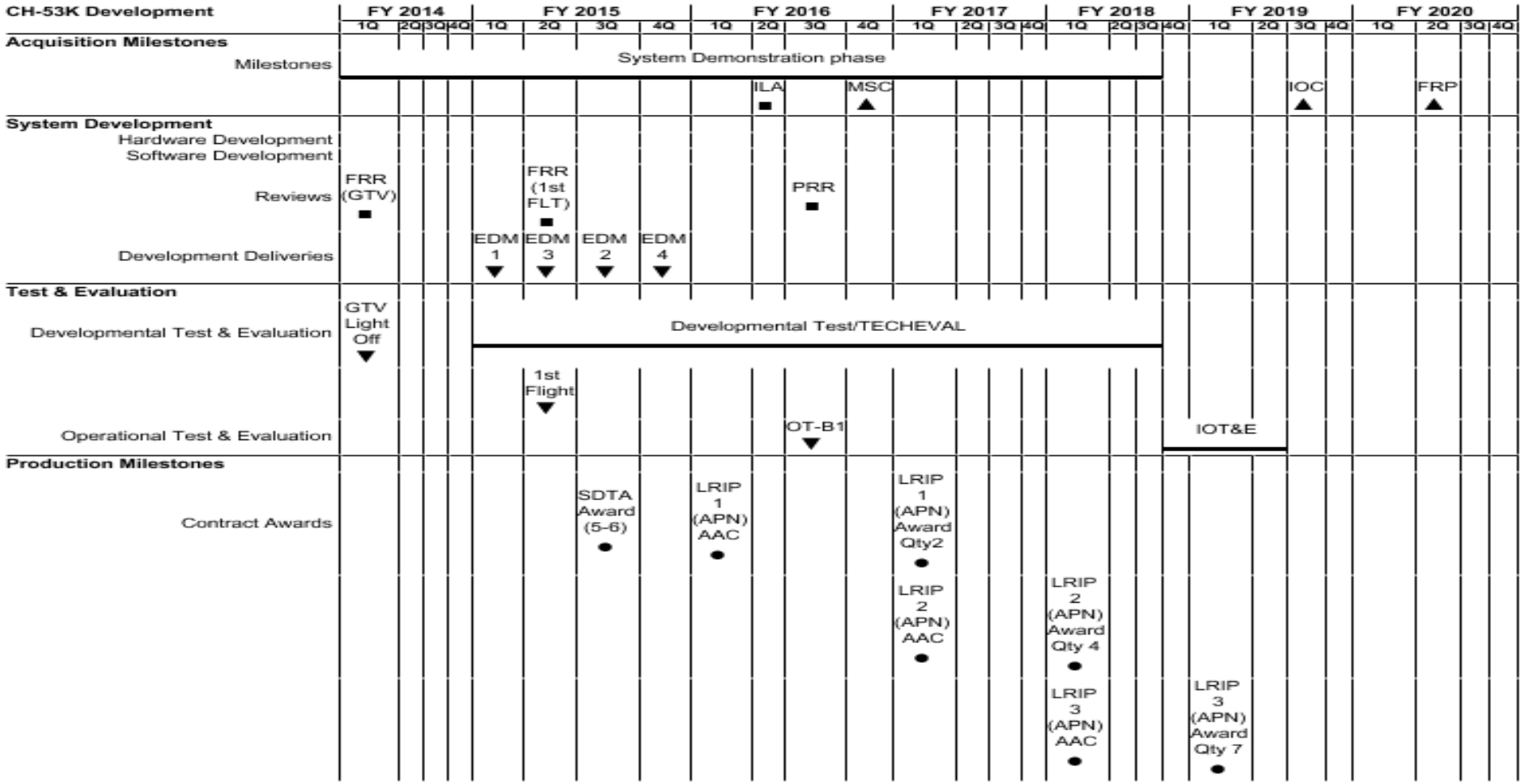
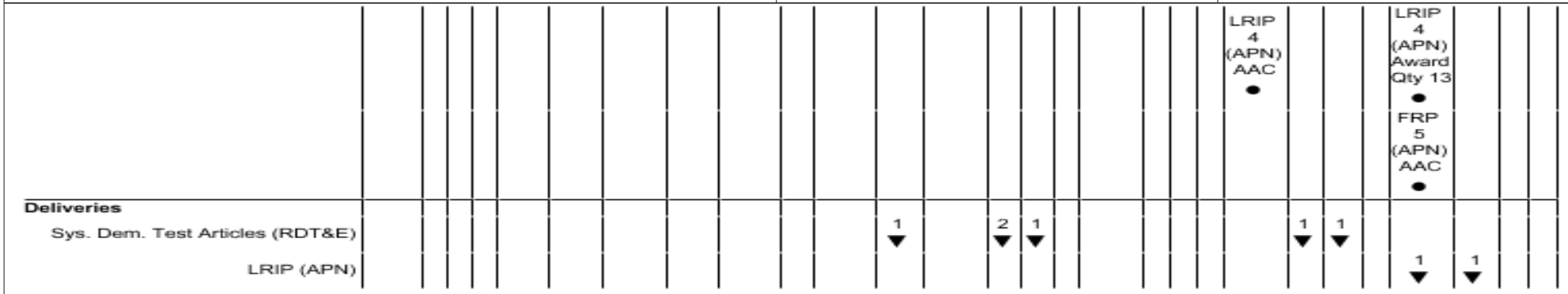


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605212N / *CH-53K*	**Project (Number/Name)** 3059 / *CH-53K Development*



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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605212N / *CH-53K*	**Project (Number/Name)** 3059 / *CH-53K Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CH-53K Development				
Acquisition Milestones: Milestones: System Demonstration phase	1	2014	3	2018
Acquisition Milestones: Milestones: Integrated Logistics Assessment (ILA)	2	2016	2	2016
Acquisition Milestones: Milestones: Milestone C	4	2016	4	2016
Acquisition Milestones: Milestones: Initial Operational Capability	3	2019	3	2019
Acquisition Milestones: Milestones: Full Rate Production	2	2020	2	2020
System Development: Reviews: Flight Readiness Review (FRR) - Ground Test Vehicle (GTV)	1	2014	1	2014
System Development: Reviews: Flight Readiness Review (FRR) - 1st Flight	2	2015	2	2015
System Development: Reviews: Production Readiness Review (PRR)	3	2016	3	2016
System Development: Development Deliveries: Engineering Development Model (EDM) #1 delivery	1	2015	1	2015
System Development: Development Deliveries: Engineering Development Model (EDM) #2 delivery	3	2015	3	2015
System Development: Development Deliveries: Engineering Development Model (EDM) #3 delivery	2	2015	2	2015
System Development: Development Deliveries: Engineering Development Model (EDM) #4 delivery	4	2015	4	2015
Test & Evaluation: Developmental Test & Evaluation: Developmental Test / TECHEVAL	1	2015	3	2018
Test & Evaluation: Developmental Test & Evaluation: GTV Light Off	1	2014	1	2014
Test & Evaluation: Developmental Test & Evaluation: First Flight	2	2015	2	2015
Test & Evaluation: Operational Test & Evaluation: Operational Test & Evaluation (OT) B1 (OT-B1)	3	2016	3	2016
Test & Evaluation: Operational Test & Evaluation: IOT&E	4	2018	2	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605212N / *CH-53K*	**Project (Number/Name)** 3059 / *CH-53K Development*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Milestones: Contract Awards: System Demonstration Test Articles (SDTA) Award (5-6)	3	2015	3	2015
Production Milestones: Contract Awards: LRIP Advance Acquisition Contract (lot 1) - APN	1	2016	1	2016
Production Milestones: Contract Awards: LRIP 1 Contract Award - APN Qty 2	1	2017	1	2017
Production Milestones: Contract Awards: LRIP Advance Acquisition Contract (lot 2) - APN	1	2017	1	2017
Production Milestones: Contract Awards: LRIP 2 Contract Award - APN Qty 4	1	2018	1	2018
Production Milestones: Contract Awards: LRIP Advance Acquisition Contract (lot 3) - APN	1	2018	1	2018
Production Milestones: Contract Awards: LRIP 3 Contract Award - APN Qty 7	1	2019	1	2019
Production Milestones: Contract Awards: LRIP Advance Acquisition Contract (lot 4) - APN	1	2019	1	2019
Production Milestones: Contract Awards: LRIP 4 Contract Award - APN Qty 13	1	2020	1	2020
Production Milestones: Contract Awards: FRP Advance Acquisition Contract (lot 5) - APN	1	2020	1	2020
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #1	4	2016	4	2016
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #2-3	2	2017	2	2017
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #4	3	2017	3	2017
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #5	2	2019	2	2019
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #6	3	2019	3	2019
Deliveries: LRIP (APN): LRIP Lot #1 1st delivery of 2	1	2020	1	2020
Deliveries: LRIP (APN): LRIP Lot #1 2nd delivery of 2	2	2020	2	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605220N *I Ship to Shore Connector (SSC)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	-	42.778	7.778	-	7.778	7.021	1.068	1.098	1.120	Continuing	Continuing
3133: *Ship to Shore Connectors Contract Design*	0.000	-	3.391	3.153	-	3.153	3.221	1.068	1.098	1.120	Continuing	Continuing
3137: *SSC Construction*	0.000	-	39.387	4.625	-	4.625	3.800	-	-	-	-	47.812
MDAP/MAIS Code: **Other MDAP/MAIS Code(s):** 303												

A. Mission Description and Budget Item Justification

Note: Funding for this effort in FY 2014 and earlier was previously under PE 0604567N under projects 3133 and 3137.

This PE directly funds and supports the detail design, development, construction, issue resolution, certification, integration and testing to include Live Fire Test and Evaluation (LFT&E) of the Ship to Shore Connector (SSC). The lead craft (Craft 100) will be maintained as a test and training platform throughout its life cycle.

SSC is an air-cushioned landing craft intended to transport personnel, weapon systems, equipment, and cargo from amphibious vessels to shore in assault and non-assault operations. The SSC program provides the capability to rapidly move assault forces with the littoral operational environment to accomplish Unified Command Plan (UCP) missions and ensures the Joint Force Commander's (JFCDR's) ability to conduct amphibious operations and operate over the high water mark, including movement over ice, mud, rivers, swamps and marshes. The SSC program provides the functional replacement for the LCAC craft, including (SLEP) which begin to degrade below the Required Operational Capability/Projected Operational Environment (ROC/POE) requirement beginning in 2015. SSC addresses this capability gap.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	67.815	7.812	-	7.812
Current President's Budget	-	42.778	7.778	-	7.778
Total Adjustments	-	-25.037	-0.034	-	-0.034
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-20.037			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-0.034	-	-0.034

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605220N *I Ship to Shore Connector (SSC)*

Change Summary Explanation

Cost/Funding: P.L. 113-235 rescinds $16.33M of FY 14 RDTEN under PE 0604567N and transfers $20.037M from RDTEN to SCN of FY15. Craft 101 execution in FY 15 and out will be under SCN LI 5112.

Technical: Not applicable.
Schedule: Test and Training Craft 100 delivery delayed to 3Q FY 2017.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605220N / *Ship to Shore Connector (SSC)*	Project (Number/Name) 3133 / *Ship to Shore Connectors Contract Design*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3133: *Ship to Shore Connectors Contract Design*	-	-	3.391	3.153	-	3.153	3.221	1.068	1.098	1.120	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 303

A. Mission Description and Budget Item Justification

Ship to Shore Connector (SSC) - This project provides the Preliminary and Contract design and Class test efforts for the SSC Program. The SSC program provides the capability to rapidly move assault forces with the littoral operational environment to accomplish Unified Command Plan (UCP) missions and ensures the Joint Force Commander's (JFCDR's) ability to conduct amphibious operations and operate over the high water mark, including movement over ice, mud, rivers, swamps and marshes. SSC provides the functional replacement for the LCAC crafts, which begin reaching extended service life in 2015. For FY15 and beyond, this project will provide for Class Test and Evaluation of components and systems, as well as all programmatic effort and support activities necessary for the development and execution of Class T&E plans and programs. The Test and Training craft (Craft 100) and R&D cost for Craft 101 are funded in RDT&E Project 3137, which realigns from PE 0604567N to PE 0605220N in FY15 and out.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Ship to Shore Connector (Contract Des)	-	3.391	3.153	-	3.153
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: Execute Class Test and Evaluation program including Test Planning and Coordination, Interoperability Testing, Vulnerability Assessment Report (VAR), and Modeling and Simulation and Live Fire Test and Evaluation (LFT&E) component surrogate tests.					
FY 2016 Base Plans: Continue Class Test and Evaluation program, including Test Planning and Coordination and Live Fire Test and Evaluation (LFT&E).					
FY 2016 OCO Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605220N / *Ship to Shore Connector (SSC)*	**Project (Number/Name)** 3133 / *Ship to Shore Connectors Contract Design*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A					
Accomplishments/Planned Programs Subtotals	-	3.391	3.153	-	3.153

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTEN/0604567N: *SSC (PRJ 3133/3137)*	68.351	-	-	-	-	-	-	-	-	-	400.204
• RDTEN/0605220N: *SSC Construction (PRJ 3137)*	-	39.387	4.625	-	4.625	3.800	-	-	-	-	47.812
• SCN 5112: *Ship to Shore Connector*	-	159.600	255.630	-	255.630	275.581	500.550	560.634	509.943	1,556.612	3,818.550

Remarks

D. Acquisition Strategy

The Test and Training craft (Craft 100) and Craft 101 have been executed on contract. Craft 100 will be procured and constructed with RDTEN. Craft 101 was awarded with RDTEN and transferred to SCN for completion. The Detail Design and Construction contract includes options for construction of an additional seven SCN craft, if exercised.

E. Performance Metrics

Continue Test and Evaluation Master Plan (TEMP) updates. Continue Developmental Testing Phase B and Operational Testing Phase B.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605220N / *Ship to Shore Connector (SSC)*	Project (Number/Name) 3133 / *Ship to Shore Connectors Contract Design*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Support	WR	NSWC PCD : Panama City, FL	0.000	-		-		-		-		-	-	-	-
Software Development	Various	Various : Various	0.000	-		-		-		-		-	-	-	-
Integrated Logistics Support	WR	NSWC : Various	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
Studies & Analyses	TBD	Various : Various	0.000	-		-		-		-		-	-	-	-
		Subtotal	0.000	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various : Various	0.000	-		0.624	Oct 2014	-		-		-	Continuing	Continuing	Continuing
Operational Test & Evaluation	Various	Various : Various	0.000	-		0.869	Oct 2014	0.898	Oct 2015	-		0.898	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	Various	Various : Various	0.000	-		1.898	Oct 2014	2.255	Oct 2015	-		2.255	Continuing	Continuing	Continuing
		Subtotal	0.000	-		3.391		3.153		-		3.153	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		3.391		3.153		-		3.153	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605220N / *Ship to Shore Connector (SSC)*	**Project (Number/Name)** 3133 / *Ship to Shore Connectors Contract Design*

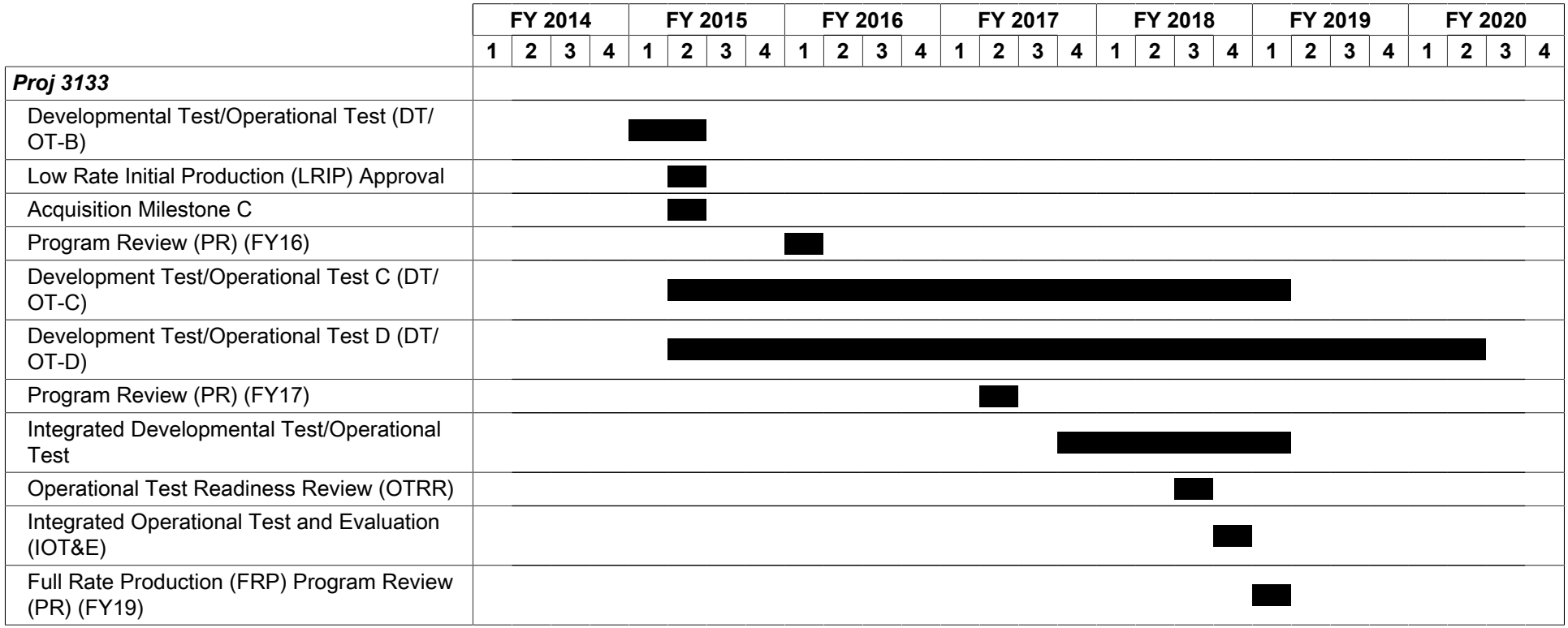


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605220N / *Ship to Shore Connector (SSC)*	**Project (Number/Name)** 3133 / *Ship to Shore Connectors Contract Design*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3133				
Developmental Test/Operational Test (DT/OT-B)	1	2015	2	2015
Low Rate Initial Production (LRIP) Approval	2	2015	2	2015
Acquisition Milestone C	2	2015	2	2015
Program Review (PR) (FY16)	1	2016	1	2016
Development Test/Operational Test C (DT/OT-C)	2	2015	1	2019
Development Test/Operational Test D (DT/OT-D)	2	2015	2	2020
Program Review (PR) (FY17)	2	2017	2	2017
Integrated Developmental Test/Operational Test	4	2017	1	2019
Operational Test Readiness Review (OTRR)	3	2018	3	2018
Integrated Operational Test and Evaluation (IOT&E)	4	2018	4	2018
Full Rate Production (FRP) Program Review (PR) (FY19)	1	2019	1	2019

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605220N / *Ship to Shore Connector (SSC)*				Project (Number/Name) 3137 / *SSC Construction*			
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
3137: *SSC Construction*	-	-	39.387	4.625	-	4.625	3.800	-	-	-	-	47.812
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 303												

A. Mission Description and Budget Item Justification

This project funds the Ship to Shore Connector (SSC) Engineering & Manufacturing Development phase which includes Detail Design and Construction, Product Support, Government Furnished Equipment (GFE), Program support, and Outfitting and Post Delivery. The lead craft will be maintained as a test and training platform throughout its life cycle. The SSC program provides the capability to rapidly move assault forces within the littoral operational environment to accomplish Unified Command Plan (UCP) missions, and ensures the Joint Force Commander's (JFCDR's) ability to conduct amphibious operations and operate over the high water mark, including movement over ice, mud, rivers, swamps and marshes. The SSC program provides the functional replacement for the LCAC craft, which begin reaching extended service life in 2015. Funding for this project unit effort is executed under PE 0605220N in FY15 and out.

Below end cost for Craft 100 and R&D cost for Craft 101 reflects total program funding in project 3137 between PE 0604567N and PE 0605220N. P.L. 113-235 transfers Craft 101 to SCN 5112 for FY15. The total RDT&E,N funding for craft 101 is $34.1M (FY 13 and FY 14).

TEST AND TRAINING CRAFT 100:

Plans/Basic Construction:
TOTAL 226.6 (FY16 0.0)
Change Orders:
TOTAL 16.2 (FY16 0.0)
Electronics
TOTAL 9.6 (FY16 0.2)
HM&E:
TOTAL 31.0 (FY16 2.7)
Other Support:
TOTAL 30.0 (FY16 1.7)
Ordnance
Total 0.05 (FY16 0.0)
Post Delivery/Outfitting:
TOTAL 4.0 (FY16 0.0)
Ship Total:

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605220N / *Ship to Shore Connector (SSC)*	**Project (Number/Name)** 3137 / *SSC Construction*

TOTAL 317.4 (FY16 4.6)

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: SSC Construction	-	39.387	4.625	-	4.625
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: Execute procurement, planning and construction activities for Test and Training Craft 100.					
FY 2016 Base Plans: Continue procurement, planning, and construction activities for Test and Training Craft 100.					
FY 2016 OCO Plans: N/A					
Accomplishments/Planned Programs Subtotals	-	39.387	4.625	-	4.625

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDTEN/0604567N: *SSC (PRJ 3133/3137)*	68.351	-	-	-	-	-	-	-	-	-	400.204
• RDTEN/0605220N: *SSC Contract Design (PRJ 3133)*	-	3.391	3.153	-	3.153	3.221	1.068	1.098	1.120	-	13.051
• SCN 5112: *Ship to Shore Connector*	-	159.600	255.630	-	255.630	275.581	500.550	560.634	509.943	1,556.612	3,818.550

Remarks

D. Acquisition Strategy

The Test and Training craft (Craft 100) and Craft 101 have been executed on contract. Craft 100 will be procured and constructed with RDTEN. Craft 101 was awarded with RDTEN and transferred to SCN for completion. The Detail Design and Construction contract includes options for construction of an additional seven SCN craft, if exercised.

E. Performance Metrics

Achieve Milestone C

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605220N / *Ship to Shore Connector (SSC)*	**Project (Number/Name)** 3137 / *SSC Construction*

Construct Test and Training Craft 100

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605220N / *Ship to Shore Connector (SSC)*	Project (Number/Name) 3137 / *SSC Construction*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Ship Design	C/CPFF	Various : Various	0.000	-		3.509	Oct 2014	-		-		-	-	3.509	-
Test & Trng Craft Detail Design/Construction	C/FPIF	Textron : New Orleans, LA	0.000	-		16.203	Oct 2014	-		-		-	-	16.203	-
Test & Trng Craft Government Furnished Equipment (GFE)	Various	Various : Various	0.000	-		0.400	Oct 2014	0.180	Oct 2015	-		0.180	-	0.580	-
Test & Trng Craft Change Orders	C/FPIF	Textron : New Orleans, LA	0.000	-		8.485	Oct 2014	-		-		-	-	8.485	-
Craft 101 Ship Design	C/CPFF	Alion : Washington, DC	0.000	-		-		-		-		-	-	-	-
Craft 101 LLTM & Construction Planning	C/FPIF	Textron : New Orleans, LA	0.000	-		-		-		-		-	-	-	-
Craft 101 Government Furnished Equipment	Various	Various : Various	0.000	-		-		-		-		-	-	-	-
Craft 101 Change Orders	C/FPIF	Textron : New Orleans, LA	0.000	-		-		-		-		-	-	-	-
		Subtotal	0.000	-		28.597		0.180		-		0.180	-	28.777	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Studies and Analysis	Various	Various : Various	0.000	-		2.102	Oct 2014	0.705	Oct 2015	-		0.705	-	2.807	-
Craft 101 Studies and Analysis	Various	Various : Various	0.000	-		-		-		-		-	-	-	-
Test & Trng Craft Integrated Logistics Support	WR	NSWC : Various	0.000	-		0.741	Oct 2014	0.988	Oct 2015	-		0.988	-	1.729	-
Craft 101 Integrated Logistics Support	WR	NSWC : Various	0.000	-		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605220N / *Ship to Shore Connector (SSC)*	Project (Number/Name) 3137 / *SSC Construction*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	-		2.843		1.693		-		1.693	-	4.536	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Construction Test Program	Various	Various : Various	0.000	-		1.990	Oct 2014	2.752	Oct 2015	-		2.752	-	4.742	-
		Subtotal	0.000	-		1.990		2.752		-		2.752	-	4.742	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Contractor Engineering Support	C/CPFF	CSC/Alion : Washington, DC	0.000	-		3.987	Jun 2015	-		-		-	-	3.987	-
Travel	Various	Various : Various	0.000	-		0.060	Oct 2014	-		-		-	-	0.060	-
Test & Trng Craft Government Engineering Support	WR	Various : Various	0.000	-		1.910	Oct 2014	-		-		-	-	1.910	-
Craft 101 Contractor Engineering Services	WR	CSC/Alion : Washington, DC	0.000	-		-		-		-		-	-	-	-
Craft 101 Government Engineering Serivces	WR	Various : Various	0.000	-		-		-		-		-	-	-	-
		Subtotal	0.000	-		5.957		-		-		-	-	5.957	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		39.387		4.625		-		4.625	-	44.012	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605220N / *Ship to Shore Connector (SSC)*	Project (Number/Name) 3137 / *SSC Construction*	

	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605220N / *Ship to Shore Connector (SSC)*	**Project (Number/Name)** 3137 / *SSC Construction*

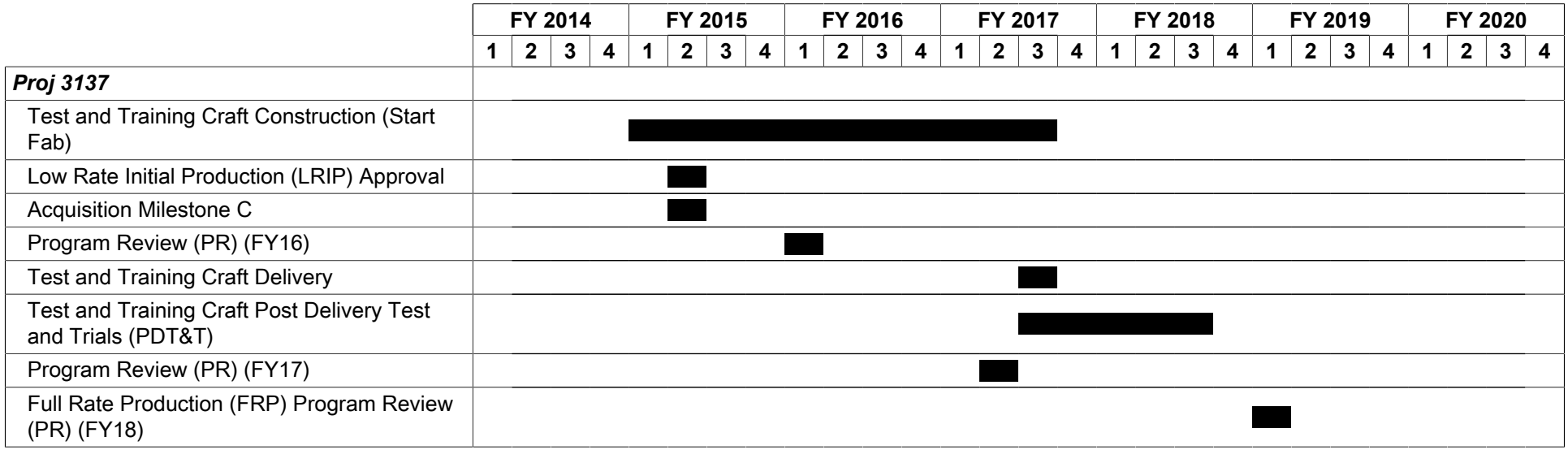


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605220N / *Ship to Shore Connector (SSC)*	**Project (Number/Name)** 3137 / *SSC Construction*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3137				
Test and Training Craft Construction (Start Fab)	1	2015	3	2017
Low Rate Initial Production (LRIP) Approval	2	2015	2	2015
Acquisition Milestone C	2	2015	2	2015
Program Review (PR) (FY16)	1	2016	1	2016
Test and Training Craft Delivery	3	2017	3	2017
Test and Training Craft Post Delivery Test and Trials (PDT&T)	3	2017	3	2018
Program Review (PR) (FY17)	2	2017	2	2017
Full Rate Production (FRP) Program Review (PR) (FY18)	1	2019	1	2019

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605450N *I Joint Air-to-ground Missile (JAGM)*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	205.820	4.757	6.300	25.898	-	25.898	19.798	8.999	4.399	0.003	Continuing	Continuing
2211: *Joint Air-to-Ground Missile*	205.820	4.757	6.300	25.898	-	25.898	19.798	8.999	4.399	0.003	Continuing	Continuing

A. Mission Description and Budget Item Justification

Joint Air-to-Ground Missile (JAGM) is an Army-led close-air-support missile program that will utilize multi-mode seeker technology and be employed against land and maritime stationary and moving targets. JAGM will provide an air launched missile system that provides advanced Line-of-Sight and Beyond Line-of-Sight capabilities, including precision point targeting and fire and forget seeker technologies, and increased lethality against soft and hardened moving and stationary targets. Its multi-mode seeker will provide robust capability in adverse weather, day or night, and in an obscured/countermeasure environments. The Navy's threshold platform for JAGM is the AH-1Z. The JAGM system includes the missile, trainers, containers, support equipment and the M-299 launcher.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	-	6.300	25.900	-	25.900
Current President's Budget	4.757	6.300	25.898	-	25.898
Total Adjustments	4.757	-	-0.002	-	-0.002
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.757	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-25.900	-	-25.900
• Rate/Misc Adjustments	-	-	25.898	-	25.898

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605450N / *Joint Air-to-ground Missile (JAGM)*	Project (Number/Name) 2211 / *Joint Air-to-Ground Missile*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2211: *Joint Air-to-Ground Missile*	205.820	4.757	6.300	25.898	-	25.898	19.798	8.999	4.399	0.003	Continuing	Continuing
Quantity of RDT&E Articles		-	43	10	-	10	-	-	-	-		

Note

The FY14 Above Threshold Reprogramming (ATR) will be used to procure test assets and related cost in support of Milestone B and AH-1Z integration.

A. Mission Description and Budget Item Justification

Joint Air-to-Ground Missile (JAGM) is an Army-led close-air-support missile program that will utilize multi-mode seeker technology and be employed against land and maritime stationary and moving targets. JAGM will provide an air launched missile system that utilizes open architecture for future technology improvements, providing advanced Line-of-Sight and Beyond Line-of-Sight capabilities, including precision point targeting and fire and forget seeker technologies, and increased lethality against soft and hardened moving and stationary targets. Its multi-mode seeker will provide robust capability in adverse weather, day or night, and in an obscured/ countermeasure environments. The Navy's threshold platform for JAGM is the AH-1Z. The JAGM system includes the missile, trainers, containers, support equipment and the M-299 launcher.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: JAGM Technology Development (TD) Phase	4.757	6.300	25.898	-	25.898
Articles:	-	43	10	-	10
FY 2014 Accomplishments: Technology Development (TD) Seeker Critical Design Review with Lockheed Martin was completed in January 2014. The ATR for $4.757M supported MS B and AH-1Z integration. Restructured the program schedule to align AH-1Z software configuration development schedule with ARMY program milestones to support Navy FY19 Initial Operating Capability.					
FY 2015 Plans: Funding supports initial AH-1Z software integration, platform air worthiness analysis, test planning, procurement of integration hardware, acquisition and buildup of test articles, and joint cost and schedule planning for Milestone B and Engineering, Manufacturing and Development (EMD).					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605450N / *Joint Air-to-ground Missile (JAGM)*	**Project (Number/Name)** 2211 / *Joint Air-to-Ground Missile*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Funding supports AH-1Z software integration, platform air worthiness analysis/testing, test planning/execution, procurement of test and integration hardware, acquisition and buildup of test articles, future technology insertion, and joint cost and schedule planning for Milestone C and EMD. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	4.757	6.300	25.898	-	25.898

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• RDT&E ARMY, 0605450A: *JAGM*	15.684	83.800	88.900	-	88.900	41.300	16.900	-	-	Continuing	Continuing
• 0206138M: BLI 2211: *JAGM*	-	-	-	-	-	26.200	26.200	24.300	24.300	Continuing	Continuing
• MPA, ARMY, C70302: *JAGM.*	-	-	27.700	-	27.700	57.500	151.600	109.900	128.600	Continuing	Continuing

Remarks

D. Acquisition Strategy

The JAGM system is a pre-MDAP Joint Army/Navy program with the Army designated as lead service. The Army is continuing Technology Development efforts with a planned Milestone B in FY15.

E. Performance Metrics

Milestone B in FY15.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605450N / *Joint Air-to-ground Missile (JAGM)*	Project (Number/Name) 2211 / *Joint Air-to-Ground Missile*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWCWD : China Lake, CA	45.334	0.854	Nov 2014	0.142	Aug 2015	1.870	Nov 2015	-		1.870	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWCAD : Patuxent River, MD	0.000	0.335	Nov 2014	0.056	Aug 2015	0.343	Nov 2015	-		0.343	Continuing	Continuing	Continuing
Aircraft Integration	WR	NAWCAD : Patuxent River, MD	4.860	0.570	Nov 2014	0.095	Aug 2015	0.581	Nov 2015	-		0.581	Continuing	Continuing	Continuing
Aircraft Integration (AH-1Z)	Various	NAWCWD : China Lake, CA	0.250	1.768	Jan 2015	1.132	Aug 2015	6.200	Nov 2015	-		6.200	Continuing	Continuing	Continuing
Hardware-Integration & Test	TBD	TBD : TBD	0.000	0.500	Jun 2015	4.491	Jun 2015	15.839	Jan 2016	-		15.839	Continuing	Continuing	Continuing
Prior year cost Prod Dev no longer funded in the FYDP	Various	Various : Various	83.338	-		-		-		-		-	-	83.338	-
		Subtotal	133.782	4.027		5.916		24.833		-		24.833	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	WR	NAWCWD : China Lake, CA	1.602	0.046	Nov 2014	0.047	Aug 2015	0.157	Nov 2015	-		0.157	Continuing	Continuing	Continuing
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	24.653	-		-		-		-		-	-	24.653	-
		Subtotal	26.255	0.046		0.047		0.157		-		0.157	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	Various	NAWCAD : Patuxent River, MD	11.865	0.067	Sep 2015	-		-		-		-	-	11.932	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605450N / *Joint Air-to-ground Missile (JAGM)*	Project (Number/Name) 2211 / *Joint Air-to-Ground Missile*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	Various	NAWCWD : China Lake, CA	8.422	0.103	Nov 2014	0.035	Aug 2015	0.211	Nov 2015	-		0.211	Continuing	Continuing	Continuing
Prior year T&E cost no longer funded in the FYDP	Various	Various : Various	8.125	-		-		-		-		-	-	8.125	-
		Subtotal	28.412	0.170		0.035		0.211		-		0.211	-	-	-

Management Services ($ in Millions)

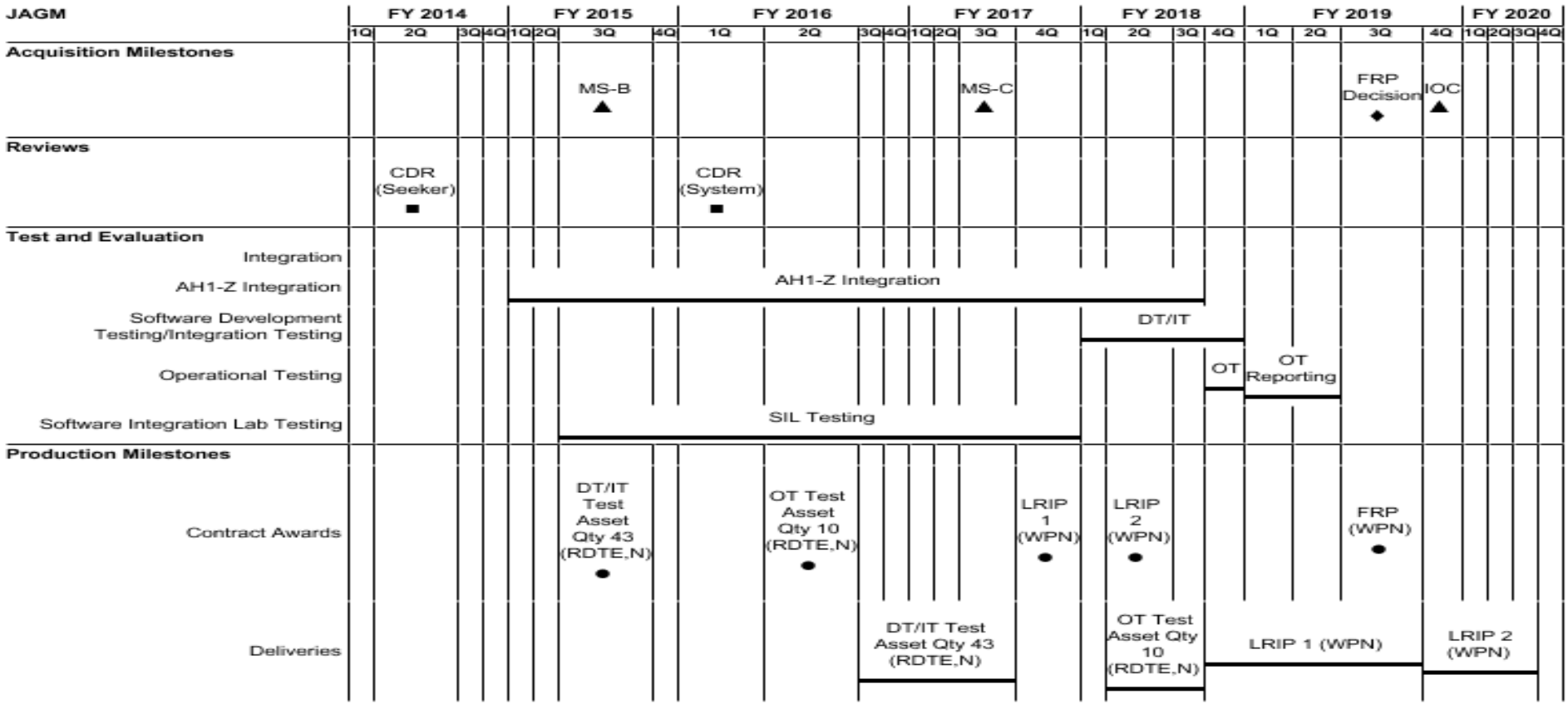
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contr Eng Supt - ETS (NONFFRDC)	Various	Various : Various	7.414	0.236	Nov 2014	0.242	Jan 2015	0.353	Feb 2016	-		0.353	Continuing	Continuing	Continuing
Management Services	Various	NAWCAD : Patuxent River, MD	0.000	0.278	Nov 2014	-		0.284	Nov 2015	-		0.284	Continuing	Continuing	Continuing
Travel	Various	NAWCAD : Patuxent River, MD	0.360	-		0.060	Nov 2014	0.060	Nov 2015	-		0.060	Continuing	Continuing	Continuing
Prior year Mngt Svcs cost no longer funded in the FYDP	Various	Various : Various	9.597	-		-		-		-		-	-	9.597	-
		Subtotal	17.371	0.514		0.302		0.697		-		0.697	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	205.820	4.757		6.300		25.898		-		25.898	-	-	-

Remarks

Program acquisition milestones (minus unique Initial Operating Capability) and production milestones are joint program milestones for both Army and Navy.

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605450N / *Joint Air-to-ground Missile (JAGM)*	**Project (Number/Name)** 2211 / *Joint Air-to-Ground Missile*



2016PB - 0605450N - 2211

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605450N / *Joint Air-to-ground Missile (JAGM)*	**Project (Number/Name)** 2211 / *Joint Air-to-Ground Missile*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
JAGM				
Acquisition Milestones: Milestone B	3	2015	3	2015
Acquisition Milestones: Milestone C	3	2017	3	2017
Acquisition Milestones: IOC	4	2019	4	2019
Acquisition Milestones: FRP Decision	3	2019	3	2019
Reviews: Seeker Critical Design Review	2	2014	2	2014
Reviews: System Critical Design Review	1	2016	1	2016
Test and Evaluation: AH1-Z Integration: AH1-Z Integration	1	2015	3	2018
Test and Evaluation: Software Development Testing/Integration Testing: DT/IT	1	2018	4	2018
Test and Evaluation: Operational Testing: OT	4	2018	4	2018
Test and Evaluation: Operational Testing: OT Reporting	1	2019	2	2019
Test and Evaluation: Software Integration Lab Testing: SIL Testing	3	2015	4	2017
Production Milestones: Contract Awards: DT/IT Test Asset	3	2015	3	2015
Production Milestones: Contract Awards: OT Test Asset	2	2016	2	2016
Production Milestones: Contract Awards: LRIP 1 (WPN)	4	2017	4	2017
Production Milestones: Contract Awards: LRIP 2 (WPN)	2	2018	2	2018
Production Milestones: Contract Awards: FRP (WPN)	3	2019	3	2019
Production Milestones: Deliveries: DT/IT Test Asset	3	2016	3	2017
Production Milestones: Deliveries: OT Test Asset	2	2018	3	2018
Production Milestones: Deliveries: LRIP 1 (WPN)	4	2018	3	2019
Production Milestones: Deliveries: LRIP 2 (WPN)	4	2019	3	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605500N *I Multi-mssn Maritime Aircraft (MMA) (P-8A)*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	7,644.038	252.426	306.033	247.929	-	247.929	238.734	211.931	207.778	163.785	Continuing	Continuing
2696: *Multi-Mission Maritime Aircraft*	7,456.766	162.497	150.546	102.818	-	102.818	47.156	23.300	-	-	-	7,943.083
3181: *P-8A Spiral One Development*	114.213	57.624	68.458	39.485	-	39.485	-	-	-	-	-	279.780
3218: *P-8A Spiral 2 Development*	25.242	27.305	72.029	104.116	-	104.116	189.501	185.567	197.548	153.350	Continuing	Continuing
3368: *P-8 Improvements*	0.000	-	-	1.510	-	1.510	2.077	3.064	10.230	10.435	Continuing	Continuing
9999: *Congressional Adds*	47.817	5.000	15.000	-	-	-	-	-	-	-	-	67.817
MDAP/MAIS Code: 334												

A. Mission Description and Budget Item Justification

The P-8A Multi-mission Maritime Aircraft will replace the aging P-3 aircraft. The P-8A program was initiated in response to the Joint Requirements Oversight Council (JROC) validated Mission Needs Statement, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the P-8A Capability Production Document #791-88-09, validated and approved on 22 June 2009. A successful Critical Design Review was completed in June 2007. In August 2007 the Design Readiness Review was conducted and resulted in approval to obligate funding for the fabrication of the Stage II flight test aircraft. The first flight of P-8A occurred on 25 Apr 2009. Milestone (MS) C was successfully completed on 11 August 2010. The program completed Initial Operational Test and Evaluation (IOT&E) in March 2013 and achieved Initial Operational Capability (IOC) in November 2013. The Acquisition Decision Memorandum approved entry into Full Rate Production on January 3, 2014.

The primary objectives of Systems Development and Demonstration (SDD) are to perform the system detailed design, develop and produce Systems Integration Labs, develop and build ground and flight test articles, and conduct ground and flight tests to sucessfully achieve program milestones. Ground testing includes the conduct of static testing, fatigue testing and Live Fire Test and Evaluation. Six flight test aircraft have been built during SDD (PU 2696). These test aircraft are grouped into two stages based on which phase of the test program the aircraft will support. SDD Stage I flight test aircraft (FY06/Qty-3) support Integrated Test and Evaluation (IT&E). SDD Stage II flight test aircraft (FY09/Qty-3) support the completion of IT&E and Initial Operational Test and Evaluation (IOT&E) after being updated to the production configuration. The SDD contract includes the development and initial building of training devices to support IOT&E. The scope of SDD includes activities necessary to facilitate an efficient transition of the fleet to achieve the P-8A Initial Operational Capability (IOC) of SDD (PU 2696) in CY13. The scope of SDD also includes the engineering and verification of corrected deficiencies identified in testing and Fleet operational use. P-8A entered Production and Deployment phase in the 4th quarter of FY10 and entered Full Rate Production in 2nd quarter of FY14.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605500N *I Multi-mssn Maritime Aircraft (MMA) (P-8A)*

P-8A program is based on an evolutionary acquisition strategy consisting of sequential incremental enhancements to system capabilities that will retain cost-wise effectiveness for winning major combat operations beyond 2020. In order to pace the threat, Spiral One (Increment 2), the Next Phase of Capabilities, will incorporate the following capabilities into the P-8A: Multi-Static Active Coherent (MAC), Automatic Identification System, Rapid Capabilities Insertion (RCI), updates to the Tactical Operations Center (TOC), as well as additional Anti-Submarine Warfare (ASW), Anti-Surface Warfare (ASuW) and Intelligence Surveillance and Reconnaissance capabilities as Engineering Change Proposals (ECPs). The scope of this effort includes the integration, design, ground testing (lab & aircraft) and flight test of the capability enhancements to the P-8A and associated Tactical Operations Center ground support facilities and initial trainers. Integration and test of these capabilities as well as integration of Advanced Airborne Sensor (AAS) capability will be accomplished incrementally, based on the scope of the integration effort. This includes support of Special Mission Configuration Test Program (SMCTP).

As part of the P-8A evolutionary acquisition strategy, Spiral 2 (Increment 3) will incorporate the capabilities defined in the Capability Development Document approved by JROC on 25 June 2010. In order to pace the threat, Increment 3 will incorporate the following capabilities into the P-8A: MAC Enhancement, continued Net Ready enhancements, Net Enabled ASuW Weapon, Rapid Capability Insertion (RCI) Engineering Change Proposal (ECP) including ECP3 (early delivery of High Altitude ASW Weapons capability (HAAWC) Datalink), updates to the TOC, as well as additional ASW, ASuW and Intelligence Surveillance and Reconnaissance capabilities. These capabilities and other emergent capability requirements will be investigated during the Pre-Engineering Manufacturing Development phase of Increment 3 for the P-8A and Tactical Operations Center (ground support facility). Those capabilities that are mature will be integrated and tested in the P-8A as ECPs, utilizing an approach similar to that used by P-8A Increment 2. Acquisition Decision Memorandum, dated 18 October 2013, approved Pre-Engineering Development activities leading up to MS B. Work activities during the pre-Engineering and Manufacturing Development (EMD) and EMD phases includes: development of the Applications Based Architecture (ABA), risk reduction, technical analysis and maturation of a subset of technologies in preparation for MS B.

The P-8A Multi-mission Maritime Aircraft (MMA) program also includes a sequence of RCI's and rapid development efforts to respond to evolving threats which will retain cost-wise effectiveness for winning major combat operations beyond 2020. In order to pace the threat, these efforts will incorporate incremental software and hardware improvements to existing sensors, communications systems, mission systems, weapons capabilities and Tactical Operations Center (TOC) to build on the P-8A capability baseline. These capabilities, and other emergent capability requirements, will be prioritized through the Navy Integration and Interoperability (I&I)-aligned Capability Prioritization Process (CPP) and P-8A Tier 3 Capability Roadmap. The CPP process will be supported by detailed analysis and the maturation of developing technologies.

Budget Activity 5.
JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under SYSTEM DEVELOPMENT AND DEMONSTRATION because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605500N *I Multi-mssn Maritime Aircraft (MMA) (P-8A)*

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	272.352	308.037	257.692	-	257.692
Current President's Budget	252.426	306.033	247.929	-	247.929
Total Adjustments	-19.926	-2.004	-9.763	-	-9.763
• Congressional General Reductions	-	-0.004			
• Congressional Directed Reductions	-	-17.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	15.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-9.700	-			
• SBIR/STTR Transfer	-10.226	-			
• Program Adjustments	-	-	-14.000	-	-14.000
• Rate/Misc Adjustments	-	-	4.237	-	4.237

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2014	FY 2015
Project: 9999: *Congressional Adds*		
Congressional Add: *Small Business Technology Insertion*	-	15.000
Congressional Add: *P-8A Sensor Development - Cong*	5.000	-
Congressional Add Subtotals for Project: 9999	5.000	15.000
Congressional Add Totals for all Projects	5.000	15.000

Change Summary Explanation

The FY 2016 funding request was reduced by $12.95 million to account for the availability of prior year execution balances.

Technical: Not applicable.

Schedule:
Project 2696: Follow On Test & Evaluation (FOT&E) 1 Verification of Corrected Deficiencies (VCD) completed 2Q FY14. Renamed Correction of Deficiencies Engineering to Correction of Deficiencies/Air to Air Refueling.

Project 3181: Additional software build required as a result of initial (Development Test) DT causing a delay in Operational Test & Evaluation (OT&E) Early Operational Capability (EOC) start from 3Q FY14 to 1Q FY15, and extending it thru 2Q FY15; delaying OT&E Initial Operational Capability (IOC) start from 3Q FY15 to 4Q FY15 and extending it thru 2Q FY16. Delayed EOC from 4Q FY14 to 2Q FY15 and IOC from 2Q FY16 to 3Q FY16.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605500N *I Multi-mssn Maritime Aircraft (MMA) (P-8A)*

Project 3218: Funding for technical correction for MAC Enhancements transferred from this line to PE 0604261N/PU 0480 in FY16 thru FY20. Total transferred is $102.4M. Added Capabilities Development Award for 2Q FY17 and renamed Risk Reduction(RR) contract award to RR Interface. MS B adjusted from 2Q FY17 to 3Q FY17, MS C adjusted from 2Q FY19 to outside the FYDP. Remaining Systems Development and Test and Evaluation activities adjusted to align to the updated MS dates.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	Project (Number/Name) 2696 / *Multi-Mission Maritime Aircraft*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2696: *Multi-Mission Maritime Aircraft*	7,456.766	162.497	150.546	102.818	-	102.818	47.156	23.300	-	-	-	7,943.083
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The P-8A Multi-mission Maritime Aircraft (MMA) will replace the aging P-3 aircraft. The P-8A program was initiated in response to the Joint Requirements Oversight Council (JROC) validated Mission Needs Statement (MNS), "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the P-8A Capability Production Document (CPD) #791-88-09, validated and approved on 22 June 2009. A successful Critical Design Review was completed in June 2007. In August 2007 the Design Readiness Review was conducted and resulted in approval to obligate funding for the fabrication of the Stage II flight test aircraft. The first flight of P-8A occurred on 25 Apr 2009. Milestone (MS) C was successfully completed on 11 August 2010. The program completed Initial Operational Test and Evaluation (IOT&E) in March 2013 and achieved Initial Operational Capability (IOC) in November 2013. The Acquisition Decision Memorandum approved entry into Full Rate Production on January 3, 2014.

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Continue System Development & Demonstration	130.490	128.891	82.299	-	82.299
Articles:	-	-	-	-	-
FY 2014 Accomplishments: SDD phase. Scope of effort included: ground and flight test articles (SDD Stage I, FY06, Qty-3; SDD Stage II, FY09, Qty-3), other test articles, associated Tactical Operations Center (TOC) Systems, training devices, 1st life of fatigue testing, supported continuation of engineering for correction of deficiencies, Follow-on Operational Test & Evaluation (FOT&E) Verification of Corrected Deficiencies (VCD), and start of horizontal stabilizer static					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 2696 / *Multi-Mission Maritime Aircraft*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
testing and fatigue testing. Conducted periodic cost and schedule performance reviews associated with Earned Value Management (EVM) and prepared and conducted technical, test and logistic reviews. ***FY 2015 Plans:*** SDD phase. Scope of effort includes: engineering for identified deficiencies, support and update to ground and flight test articles (Stage I and II), conduct of fatigue testing, updates and test of TOC Systems and training systems, continuation of horizontal stabilizer static testing and fatigue testing, conduct of Integrated Test and Evaluation (IT&E), FOT&E/VCD and Air to Air Refueling (AAR). Conduct of periodic cost and schedule performance reviews associated with EVM and preparation and conduct of technical, test and logistic reviews. ***FY 2016 Base Plans:*** SDD phase. Scope of effort includes: engineering for identified and prioritized deficiencies, support and update to ground and flight test articles (Stage I and II), continuation of fatigue testing, AAR and completion of horizontal stabilizer static testing. ***FY 2016 OCO Plans:*** N/A					
Title: Continue Engineering and Technical Development and Test for Sys Dev & Demonstration contracts	32.007	21.655	20.519	-	20.519
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued analysis of contracted deliverables; direct technical and logistic support of system development test aircraft; engineering for correction of deficiencies; verification of correction of deficiencies; evaluated contract cost, schedule, and performance; test preparations, provided necessary government furnished equipment and test articles, risk assessment/mitigation; program control; and performance status. Conducted and supported IT&E and FOT&E/VCD. ***FY 2015 Plans:*** Continue analysis of contracted deliverables; direct technical and logistic support of system development test aircraft; engineering for correction of deficiencies; verification of corrected deficiencies; fatigue testing; horizontal stabilizer testing; evaluate contract cost, schedule, and performance; test preparations; provide necessary government furnished equipment and test articles, risk assessment/mitigation; program control; and performance status. Conduct and support IT&E and FOT&E /VCD. ***FY 2016 Base Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 2696 / *Multi-Mission Maritime Aircraft*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue analysis of contracted deliverables; direct technical and logistic support of system development test aircraft; engineering for correction of deficiencies; verification of corrected deficiencies; fatigue testing; horizontal stabilizer testing; evaluate contract cost, schedule, and performance; test preparations, provide necessary government furnished equipment and test articles, risk assessment/mitigation; program control; and performance status. Conduct and support IT&E and FOT&E/VCD. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	162.497	150.546	102.818	-	102.818

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN1/0193: *P-8A MMA*	3,196.024	2,171.144	3,278.496	-	3,278.496	2,420.241	2,431.701	1,694.346	-	-	23,622.684
• APN6/0605: *P-8A Initial Spares*	20.553	0.204	1.569	-	1.569	20.096	20.559	20.804	-	-	490.765
• MILCON: *P-8A MILCON*	100.691	52.216	83.186	-	83.186	-	-	-	-	-	343.527

Remarks

D. Acquisition Strategy

The MMA Milestone 0 was approved 22 March 2000 and the resulting Acquisition Decision Memorandum directed P-8A to begin the Concept Exploration phase consisting of an Analysis of Alternatives and industry concept studies. These activities began 3Q/01 and were funded under Program Element 0702207N Project Unit W2737. Approval to enter Component Advance Development (CAD) was attained from the Overarching Integrated Product Team on 18 Jan 2002 and the Milestone Decision Authority Under Secretary of Defense for Acquisition, Technology, & Logistics approved the program Acquisition Strategy on 8 Feb 2002. The CAD was a competitive award to multiple contractors to define alternative MMA concept system architectures and evaluate associated risks and proposed mitigations. Selection of MMA concept and approval to enter SDD phase occurred at MS B decision review on 28 May 2004. The contract was awarded to Boeing on 14 June 2004. The SDD phase is being used to design, develop and test the P-8A system. The P-8A program was initiated in response to the Joint Requirements Oversight Council validated Mission Needs Statement, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the Capability Production Document. MS C was successfully completed on 11 August 2010 approving entry into the Production and Deployment Phase. P-8A Initial Operational Capability achieved in November 2013. Entry into Full Rate Production was approved on 3 January 2014.

E. Performance Metrics

Completed first period of Follow-On Test & Evaluation (FOT&E) and Verification of Corrected Deficiencies (VCD) in 2nd quarter 2014.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	Project (Number/Name) 2696 / *Multi-Mission Maritime Aircraft*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HW Dev - Boeing	C/CPAF	Boeing : Seattle, WA	6,635.482	124.354	Oct 2013	123.224	Oct 2014	78.050	Oct 2015	-		78.050	50.033	7,011.143	7,011.143
Sys Eng (gov)	WR	NAWC AD : Pax River, MD	65.673	6.136	Nov 2013	5.667	Nov 2014	4.249	Nov 2015	-		4.249	4.428	86.153	-
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	319.529	-		-		-		-		-	-	319.529	-
		Subtotal	7,020.684	130.490		128.891		82.299		-		82.299	54.461	7,416.825	-

Remarks

The total award fee issued to date was 2.6% of the total budget. No award fee is planned for FY 2014 based on current contract.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Int. Log Gov	WR	NAWC AD : Pax River, MD	41.925	1.133	Nov 2013	0.423	Nov 2014	0.445	Nov 2015	-		0.445	0.445	44.371	-
Int. Log Gov	WR	NAWC TSD : Orlando, FL	15.039	0.135	Nov 2013	0.135	Nov 2014	-		-		-	-	15.309	-
Tech Dev Gov	WR	NAWC AD : Pax River, MD	72.030	3.946	Nov 2013	1.584	Nov 2014	1.541	Nov 2015	-		1.541	0.757	79.858	-
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	16.561	-		-		-		-		-	-	16.561	-
		Subtotal	145.555	5.214		2.142		1.986		-		1.986	1.202	156.099	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev T&E - Gov	WR	NAWC AD : Pax River, MD	78.935	10.673	Nov 2013	9.261	Nov 2014	9.284	Nov 2015	-		9.284	5.965	114.118	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	Project (Number/Name) 2696 / *Multi-Mission Maritime Aircraft*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GFE & GFI	WR	NAWC AD : Pax River, MD	68.689	9.800	Nov 2013	4.000	Nov 2014	4.000	Nov 2015	-		4.000	4.000	90.489	-
LFT&E - Gov	WR	NAWC WD : China Lake	28.892	0.092	Nov 2013	-		-		-		-	-	28.984	-
Oper Test & Eval	WR	NAWC AD : Pax River, MD	5.926	0.662	Nov 2013	1.000	Nov 2014	1.000	Nov 2015	-		1.000	1.000	9.588	-
Prior year T&E cost no longer funded in the FYDP	Various	Various : Various	10.487	-		-		-		-		-	-	10.487	-
		Subtotal	192.929	21.227		14.261		14.284		-		14.284	10.965	253.666	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mgmt Suppt Serv (NON-FFRDC)	C/CPFF	RBC INC : Alexandria, VA	26.368	0.628	Nov 2013	0.622	Nov 2014	0.622	Nov 2015	-		0.622	1.244	29.484	29.484
Eng Tech Serv (NON-FFRDC)	C/CPFF	ASEC : Lexington Park MD	5.695	0.404	Nov 2013	0.400	Nov 2014	0.400	Nov 2015	-		0.400	0.800	7.699	7.699
Program Mgmt Support	WR	NAWC AD : Pax River, MD	41.892	4.409	Nov 2013	4.105	Nov 2014	3.102	Nov 2015	-		3.102	1.661	55.169	-
Travel	Allot	NAWC AD : Pax River, MD	3.583	0.125	Oct 2013	0.125	Nov 2014	0.125	Nov 2015	-		0.125	0.123	4.081	-
Prior year Mgmt cost no longer funded in the FYDP	Various	Various : Various	20.060	-		-		-		-		-	-	20.060	-
		Subtotal	97.598	5.566		5.252		4.249		-		4.249	3.828	116.493	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7,456.766	162.497		150.546		102.818		-		102.818	70.456	7,943.083	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 2696 / *Multi-Mission Maritime Aircraft*

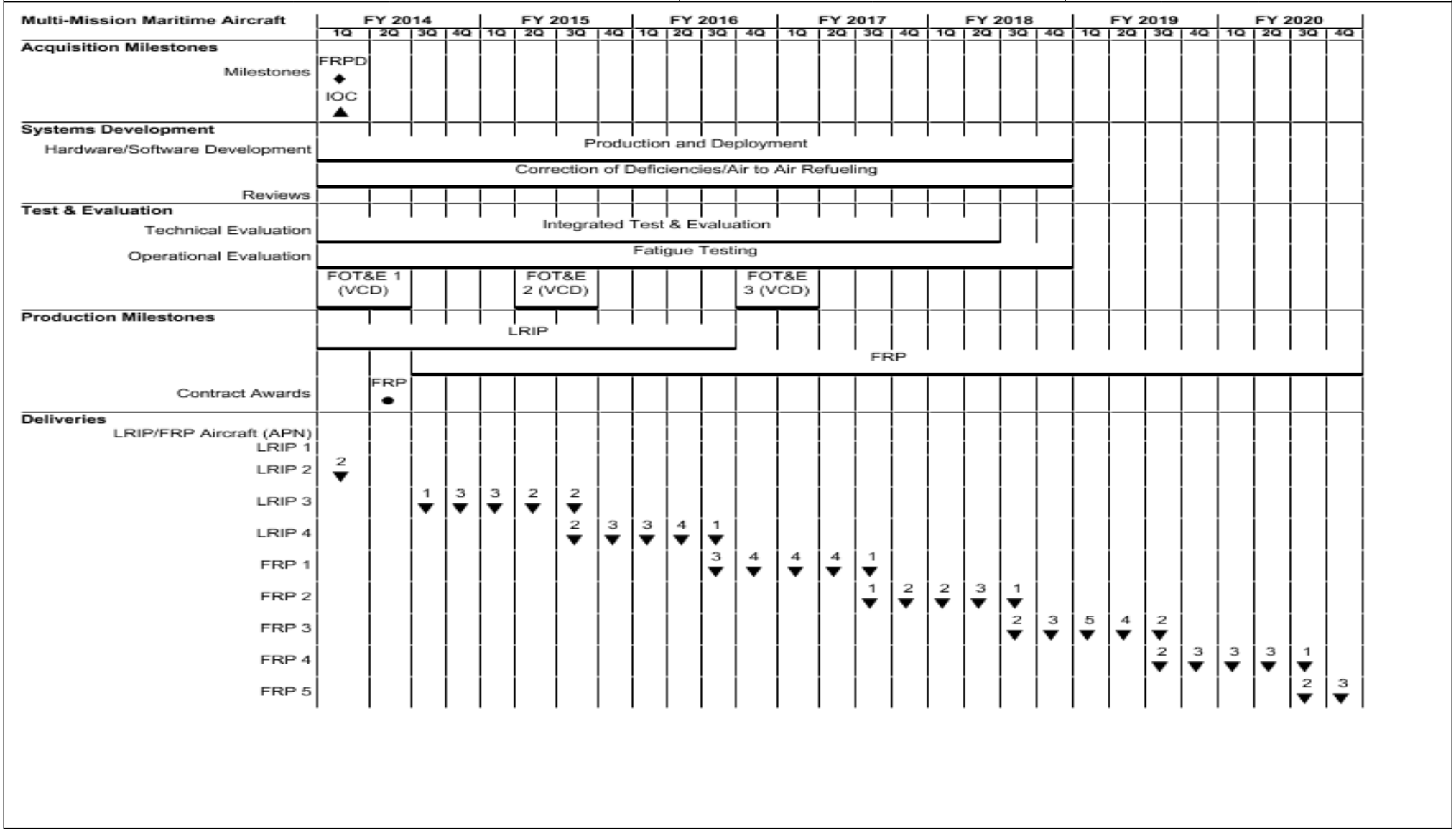


Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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2016PB - 0605500N - 2696

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 2696 / *Multi-Mission Maritime Aircraft*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Multi-Mission Maritime Aircraft				
Acquisition Milestones: Milestones: Full Rate Production (FRP) Decision	1	2014	1	2014
Acquisition Milestones: Milestones: Initial Operating Capability (IOC)	1	2014	1	2014
Systems Development: Hardware/Software Development: Production and Deployment	1	2014	4	2018
Systems Development: Hardware/Software Development: Correction of Deficiencies/ Air to Air Refueling	1	2014	4	2018
Test & Evaluation: Technical Evaluation: Integrated Test & Evaluation (Flight Test)	1	2014	2	2018
Test & Evaluation: Operational Evaluation: Fatigue Testing	1	2014	4	2018
Test & Evaluation: Operational Evaluation: Follow-on Test & Evaluation 1 (Defferals & High Priority Correction of Deficiencies)	1	2014	2	2014
Test & Evaluation: Operational Evaluation: Follow-on Test & Evaluation 2 (Verification of Corrected Deficiencies)	2	2015	3	2015
Test & Evaluation: Operational Evaluation: Follow-on Test & Evaluation 3 (Verification of Correct Deficiencies)	4	2016	1	2017
Production Milestones: Low Rate Initial Production (LRIP)	1	2014	3	2016
Production Milestones: Full Rate Production (FRP)	3	2014	4	2020
Production Milestones: Contract Awards: FRP Contract Award	2	2014	2	2014
Deliveries: LRIP 2: LRIP Aircraft (APN) Q1 2014	1	2014	1	2014
Deliveries: LRIP 3: LRIP Aircraft (APN) Q3 2014	3	2014	3	2014
Deliveries: LRIP 3: LRIP Aircraft (APN) Q4 2014	4	2014	4	2014
Deliveries: LRIP 3: LRIP Aircraft (APN) Q1 2015	1	2015	1	2015
Deliveries: LRIP 3: LRIP Aircraft (APN) Q2 2015	2	2015	2	2015
Deliveries: LRIP 3: LRIP Aircraft (APN) Q3 2015	3	2015	3	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Deliveries: LRIP 4: LRIP Aircraft (APN) Q3 2015	3	2015	3	2015
Deliveries: LRIP 4: LRIP Aircraft (APN) Q4 2015	4	2015	4	2015
Deliveries: LRIP 4: LRIP Aircraft (APN) Q1 2016	1	2016	1	2016
Deliveries: LRIP 4: LRIP Aircraft (APN) Q2 2016	2	2016	2	2016
Deliveries: LRIP 4: LRIP Aircraft (APN) Q3 2016	3	2016	3	2016
Deliveries: FRP 1: FRP Aircraft (APN) Q3 2016	3	2016	3	2016
Deliveries: FRP 1: FRP Aircraft (APN) Q4 2016	4	2016	4	2016
Deliveries: FRP 1: FRP Aircraft (APN) Q1 2017	1	2017	1	2017
Deliveries: FRP 1: FRP Aircraft (APN) Q2 2017	2	2017	2	2017
Deliveries: FRP 1: FRP Aircraft (APN) Q3 2017	3	2017	3	2017
Deliveries: FRP 2: FRP Aircraft (APN) Q3 2017	3	2017	3	2017
Deliveries: FRP 2: FRP Aircraft (APN) Q4 2017	4	2017	4	2017
Deliveries: FRP 2: FRP Aircraft (APN) Q1 2018	1	2018	1	2018
Deliveries: FRP 2: FRP Aircraft (APN) Q2 2018	2	2018	2	2018
Deliveries: FRP 2: FRP Aircraft (APN) Q3 2018	3	2018	3	2018
Deliveries: FRP 3: FRP Aircraft (APN) Q3 2018	3	2018	3	2018
Deliveries: FRP 3: FRP Aircraft (APN) Q4 2018	4	2018	4	2018
Deliveries: FRP 3: FRP Aircraft (APN) Q1 2019	1	2019	1	2019
Deliveries: FRP 3: FRP Aircraft (APN) Q2 2019	2	2019	2	2019
Deliveries: FRP 3: FRP Aircraft (APN) Q3 2019	3	2019	3	2019
Deliveries: FRP 4: FRP Aircraft (APN) Q3 2019	3	2019	3	2019
Deliveries: FRP 4: FRP Aircraft (APN) Q4 2019	4	2019	4	2019
Deliveries: FRP 4: FRP Aircraft (APN) Q1 2020	1	2020	1	2020
Deliveries: FRP 4: FRP Aircraft (APN) Q2 2020	2	2020	2	2020
Deliveries: FRP 4: FRP Aircraft (APN) Q3 2020	3	2020	3	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Deliveries: FRP 5: FRP Aircraft (APN) Q3 2020	3	2020	3	2020
Deliveries: FRP 5: FRP Aircraft (APN) Q4 2020	4	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
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COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3181: *P-8A Spiral One Development*	114.213	57.624	68.458	39.485	-	39.485	-	-	-	-	-	279.780
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The P-8A Multi-mission Maritime Aircraft (MMA) program is based on an evolutionary acquisition strategy consisting of sequential incremental enhancements to system capabilities that will retain cost-wise effectiveness for winning major combat operations beyond 2020. In order to pace the threat, Spiral One (Increment 2), the Next Phase of Capabilities (NPC-1), will incorporate the following capabilities into the P-8A: Multi-Static Active Coherent (MAC), Automatic Identification System (AIS), Rapid Capabilities Insertion (RCI), updates to the Tactical Operations Center (TOC), as well as additional Anti-Submarine Warfare (ASW), Anti-Surface Warfare (ASuW) and Intelligence Surveillance and Reconnaissance (ISR) capabilities. Increment 2 will be executed as an Engineering Change Proposal (ECP) to the baseline program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Perform technology demonstrations and analyses of proposed new capabilities	43.206	48.415	28.088	-	28.088
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued development of integration design of new P-8A capabilities. Conducted laboratory and development testing. Incrementally funded primary Integration/Engineering & Manufacturing Development (EMD) contract for comprehensive design, installation, test and initial fielding of all Spiral One (Increment 2) capabilities such as Multi-Static Active Coherent (MAC), Automatic Identification System (AIS), and Rapid Capabilities Insertion (RCI). Maintained integration alignment with external development programs.					
FY 2015 Plans: Continue development of integration design of new P-8A capabilities. Achieve MAC Early Operational Capability. Conduct laboratory and development testing. Incrementally fund primary Integration/EMD contract for comprehensive design, installation, test and initial fielding of all Spiral One (Increment 2) capabilities such as MAC, AIS, and RCI. Maintain integration alignment with external development programs.					
FY 2016 Base Plans: Complete development of integration design of new P-8A capabilities. Complete laboratory and development testing. Incrementally fund primary Integration/EMD contract for comprehensive design, installation, test and					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
initial fielding of all Spiral One (Increment 2) capabilities such as MAC, AIS, and RCI. Maintain integration alignment with external development programs. Achieve ECP2 Initial Operational Capability. ***FY 2016 OCO Plans:*** N/A					
Title: Conduct technical, cost, risk and logistics analysis of proposed technologies	14.418	20.043	11.397	-	11.397
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted technical, cost, risk and logistics analysis of proposed technologies. Provided technical and management support for the development of acquisition documentation. Provided engineering and management of technical development effort. Conducted flight testing of Spiral One (Increment 2) capabilities. Provided technical and management support for the development of training courseware. ***FY 2015 Plans:*** Conduct technical, cost, risk and logistics analysis of proposed technologies. Provide technical and management support for the development of acquisition documentation. Provide engineering and management of technical development effort. Conduct flight testing of Spiral One (Increment 2) capabilities. Provide technical and management support for the development of training courseware. ***FY 2016 Base Plans:*** Complete technical, cost, risk and logistics analysis of proposed technologies. Complete technical and management support for the development of acquisition documentation. Complete engineering and management of technical development effort. Complete flight testing of Spiral One (Increment 2) capabilities. Complete technical and management support for the development of training courseware. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	57.624	68.458	39.485	-	39.485

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN5/0586: *P-8 Series*	9.485	29.797	28.492	-	28.492	20.920	21.805	208.237	212.397	2,194.656	2,730.684

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

The P-8A MMA program is based on an evolutionary acquisition strategy consisting of sequential incremental enhancements to system capabilities that will retain cost-wise effectiveness for winning major combat operations beyond 2020. As part of the P-8A evolutionary acquisition strategy, Spiral One (Increment 2) will incorporate the capabilities defined in the Capability Development Document approved by JROC on 25 June 2010. Next Phase of Capabilities (NPC-1) will incorporate the following capabilities into the P-8A: Multi-Static Active Coherent, Rapid Capabilities Insertion, updates to the Tactical Operations Center, as well as additional Anti-Submarine Warfare, Anti-Surface Warfare and Intelligence Surveillance and Reconnaissance capabilities.

E. Performance Metrics

Approval of Spiral One (Increment 2) Engineering Change Proposals (ECPs).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HW Dev - Integration/EMD	C/CPFF	Boeing : Seattle, WA	33.279	35.316	Nov 2013	42.283	Nov 2014	23.240	Nov 2015	-		23.240	-	134.118	134.118
Sys Eng (gov)	WR	NAWC AD : Pax River, MD	25.532	7.890	Nov 2013	6.132	Nov 2014	4.848	Nov 2015	-		4.848	-	44.402	-
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	23.454	-		-		-		-		-	-	23.454	-
		Subtotal	82.265	43.206		48.415		28.088		-		28.088	-	201.974	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Sup	WR	NAWC AD : Pax River, MD	2.649	0.369	Nov 2013	0.728	Nov 2014	0.723	Nov 2015	-		0.723	-	4.469	-
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	0.742	-		-		-		-		-	-	0.742	-
		Subtotal	3.391	0.369		0.728		0.723		-		0.723	-	5.211	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval	WR	NAWC AD : Pax River, MD	5.821	8.881	Nov 2013	8.475	Nov 2014	-		-		-	-	23.177	-
GFE/GFI/GFP	WR	NAWC AD : Pax River, MD	10.821	3.280	Nov 2013	6.627	Nov 2014	6.600	Nov 2015	-		6.600	-	27.328	-
Oper Test & Eval	WR	NAWC AD : Pax River, MD	0.000	-		2.544	Nov 2014	2.600	Nov 2015	-		2.600	-	5.144	-
		Subtotal	16.642	12.161		17.646		9.200		-		9.200	-	55.649	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3181 / *P-8A Spiral One Development*

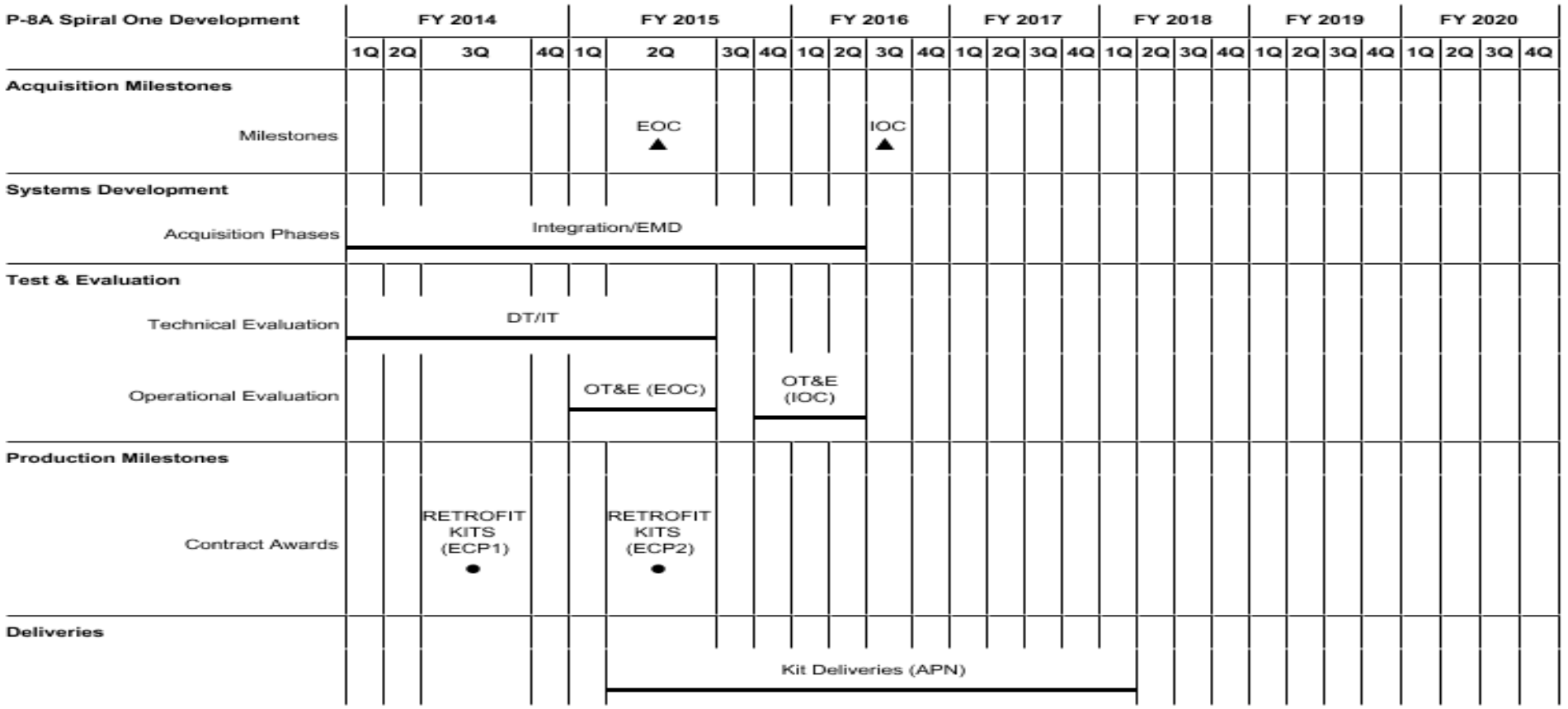
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Services	C/CPFF	ASEC : Lexington Park, MD	1.288	-	Nov 2013	-		-		-		-	-	1.288	1.288
Mgmt Suppt Serv (NON-FFRDC)	C/CPFF	RBC INC : Alexandria, VA	6.712	0.934	Nov 2013	0.729	Nov 2014	0.728	Nov 2015	-		0.728	-	9.103	9.103
Program Mgmt Support	WR	NAWC AD : Pax River, MD	3.743	0.940	Nov 2013	0.910	Nov 2014	0.716	Nov 2015	-		0.716	-	6.309	-
Travel	Allot	NAWC AD : Pax River, MD	0.172	0.014	Oct 2013	0.030	Oct 2014	0.030	Oct 2015	-		0.030	-	0.246	-
		Subtotal	11.915	1.888		1.669		1.474		-		1.474	-	16.946	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	114.213	57.624		68.458		39.485		-		39.485	-	279.780	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3181 / *P-8A Spiral One Development*



2016OSD - 0605500N - 3181

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3181 / *P-8A Spiral One Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
P-8A Spiral One Development				
Acquisition Milestones: Milestones: Early Operational Capability (EOC)	2	2015	2	2015
Acquisition Milestones: Milestones: Initial Operational Capability (IOC)	3	2016	3	2016
Systems Development: Acquisition Phases: Integration/EMD	1	2014	2	2016
Test & Evaluation: Technical Evaluation: Developmental Testing (Integration Testing)	1	2014	2	2015
Test & Evaluation: Operational Evaluation: Operational Test & Evaluation (OT&E) (EOC)	1	2015	2	2015
Test & Evaluation: Operational Evaluation: Operational Test & Evaluation (OT&E) (IOC)	4	2015	2	2016
Production Milestones: Contract Awards: Retrofit Kits (ECP1)	3	2014	3	2014
Production Milestones: Contract Awards: Retrofit Kits (ECP2)	2	2015	2	2015
Deliveries: Kit Deliveries (APN)	2	2015	1	2018

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	Project (Number/Name) 3218 / *P-8A Spiral 2 Development*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3218: *P-8A Spiral 2 Development*	25.242	27.305	72.029	104.116	-	104.116	189.501	185.567	197.548	153.350	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The P-8A Multi-mission Maritime Aircraft (MMA) program is based on an evolutionary acquisition strategy consisting of sequential increments that will retain cost-wise effectiveness for winning major combat operations beyond 2020. In order to pace the threat, Spiral 2 (Increment 3) will incorporate improvements in aircraft systems, such as Architecture Upgrades, Net-Ready Key Performance Parameters (KPP) implementation, integration of a network enabled Anti-Surface Warfare (ASuW) weapon, Survivability Upgrades, Precision Targeting improvements, and Rapid Capabilities Insertion (RCI), as well as additional Anti-Submarine Warfare (ASW), ASuW and Intelligence Surveillance and Reconnaissance (ISR) capabilities. These capabilities and other emergent capability requirements will be investigated during the Pre-Engineering Manufacturing Development phase of Increment 3 for the P-8A and Tactical Operations Center (TOC)(ground support facility). Acquisition Decision Memorandum, dated 18 October 2013, approved Pre-Engineering Development activities leading up to MS B.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Perform technology demonstrations and analyses of proposed new capabilities	22.611	64.671	94.669	-	94.669
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued government led competitive prototyping efforts for Spiral 2 (Increment 3) Architecture. Awarded development contracts for Spiral 2 (Increment 3) Architecture and other Spiral 2 (Increment 3) capabilities such as Multi-Static Active Coherent (MAC) Enhancement development. Began Risk Reduction Interface for architecture to include development of system interfaces. Continued P-8A TOC design and integration efforts.					
FY 2015 Plans: Increase government led Lead System Integrator (LSI) Spiral 2 (Increment 3) architecture prototyping, capability application prototyping, and integration analysis efforts. Ramp up initial Spiral 2 (Increment 3) execution of Applications Based Architecture competitive software development contracts. Continue execution of Spiral 2 (Increment 3) Risk Reduction Interface contracting efforts. Initiate execution of Risk Reduction Capabilities Analysis contract effort to identify capability Size Weight Power and Cooling (SWAP-C) efficiencies. Continued ramp up of Capability Development and Integration efforts to include MAC Enhancements, Net Enabled Weapon, and Sensor Upgrades. Continue P-8A TOC design and integration efforts.					
FY 2016 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3218 / *P-8A Spiral 2 Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Continue execution of Spiral 2 (Increment 3) Applications Based Architecture (ABA) system development, Risk Reduction Interface and Risk Reduction Capability Integration Analysis contracting efforts. Continue Lead System Integrator (LSI) Spiral 2 (Increment 3) core mission system architecture prototyping, capability application prototyping, and integration analysis efforts. Continue Capability Development and Integration maturity analysis efforts to include Anti-Submarine Warfare (ASW) capability, Wide Band SATCOM, Net Enabled Weapon, and Sensor Upgrades. Continue P-8A TOC design and integration efforts. Prepare, create, and conduct program Milestone activities in preparation of formal "Ready For Proposal (RFP) Release" Milestone. Prepare and execute all Increment 3 System Engineering Technical Review (SETR) activities necessary to conduct formal program Preliminary Design Review (PDR) event. ***FY 2016 OCO Plans:*** N/A					
Title: Conduct technical, cost, risk and logistics analysis of proposed technologies	4.694	7.358	9.447	-	9.447
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Conducted technical, cost, risk and logistics analysis of proposed technologies. Evaluated system requirements through cost/performance trade-off analysis. Provided technical and management support for the development of acquisition documentation. Provided engineering and management of technical development effort. Continued government prototyping.					
FY 2015 Plans: Conduct technical, cost, risk and logistics analysis of proposed technologies. Evaluate system requirements through cost/performance trade-off analysis. Provide technical and management support for the development of acquisition documentation. Provide engineering and management of technical development effort. Increase in government led prototyping.					
FY 2016 Base Plans: Conduct technical, cost, risk and logistics analysis of proposed technologies. Evaluate system requirements through					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3218 / *P-8A Spiral 2 Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
cost/performance trade-off analysis. Provide technical and management support for the development of acquisition documentation. Provide engineering and management of technical development effort. Increase in government led prototyping. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	27.305	72.029	104.116	-	104.116

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• APN5/0586: *P-8 Series*	9.485	29.797	28.492	-	28.492	20.920	21.805	208.237	212.397	2,194.656	2,730.684

Remarks

D. Acquisition Strategy

The P-8A MMA program is based on an evolutionary acquisition strategy consisting of sequential increments that will retain cost-wise effectiveness for winning major combat operations beyond 2020. As part of the P-8A evolutionary acquisition strategy, Spiral 2 (Increment 3) will incorporate the capabilities defined in the Capability Development Document approved by JROC on 25 June 2010. In order to pace the threat, Increment 3 will incorporate improvements in aircraft systems such as Architecture Upgrades, Net-Ready Key Performance Parameters (KPP) implementation, integration of a network enabled Anti-Surface Warfare (ASuW) weapon, Survivability Upgrades, Precision Targeting improvements, and Rapid Capabilities Insertion, as well as additional Anti-Submarine Warfare, ASuW and Intelligence Surveillance and Reconnaissance capabilities. The scope of this effort includes the integration design and test of capability enhancements to the P-8A. Fleet introduction is planned to be accomplished, based on the scope of change, in FY21. These capabilities and other emergent capability requirements will be investigated during the Pre-Engineering Manufacturing Development phase of Increment 3 for the P-8A and Tactical Operation Center (ground support facility).

E. Performance Metrics

The Acquisition Strategy signed by OSD on 18 October 2013, authorizes execution of Pre-EMD activities leading up to a MS B, eliminating MS A; Milestone B to be completed 3rd quarter 2017.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3218 / *P-8A Spiral 2 Development*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Dev - RR Interface	C/CPIF	Boeing : Seattle	0.000	3.344	Jun 2014	5.717	Jan 2015	5.802	Nov 2015	-		5.802	-	14.863	14.863
Primary HW Dev - Capability Analysis	C/CPIF	Boeing : Seattle	0.000	-		5.000	Jul 2015	23.512	Mar 2016	-		23.512	25.000	53.512	53.512
Primary HW Dev - ABA Vendor A	C/CPIF	Raytheon : Dallas, TX	0.000	1.412	Dec 2014	9.432	Feb 2015	8.906	Nov 2015	-		8.906	0.970	20.720	20.720
Primary HW Dev - ABA Vendor B	C/CPIF	Lockheed Martin : Manassas, VA	0.000	1.412	Dec 2014	9.432	Feb 2015	9.328	Nov 2015	-		9.328	0.970	21.142	21.142
Primary HW Dev - EMD ABA	TBD	TBD : TBD	0.000	-		-		-		-		-	85.864	85.864	85.864
Primary HW Dev - EMD Platform Integration	TBD	TBD : TBD	0.000	-		-		-		-		-	94.959	94.959	94.959
Primary HW Dev - Prototyping	Various	Various : Various	0.000	1.440	Dec 2014	1.000	Mar 2015	1.000	Nov 2015	-		1.000	0.877	4.317	-
Primary HW Dev - MAC Enhancements	Various	Various : Various	3.947	8.000	Nov 2013	11.000	Nov 2014	-		-		-	-	22.947	-
RCI2 - ECP3	C/CPIF	Boeing : Seattle	0.000	-		7.716	Dec 2014	26.817	Nov 2015	-		26.817	12.500	47.033	47.033
Capability Development & Integration	WR	NAWC AD : Pax River, MD	0.150	0.052	Nov 2013	6.952	Nov 2014	10.044	Nov 2015	-		10.044	17.049	34.247	-
Capability Development & Integration	Various	TBD/Various : TBD/ Various	0.000	-		-		-		-		-	322.036	322.036	322.036
Sys Eng (gov)	WR	NAWC AD : Pax River, MD	10.828	6.951	Nov 2013	8.422	Nov 2014	9.260	Nov 2015	-		9.260	59.321	94.782	-
Prior year Prod dev no longer funded in the FYDP	Various	Various : Various	3.665	-		-		-		-		-	-	3.665	3.665
		Subtotal	18.590	22.611		64.671		94.669		-		94.669	619.546	820.087	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	Project (Number/Name) 3218 / *P-8A Spiral 2 Development*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Sup	WR	NAWC AD : Pax River, MD	0.660	0.489	Nov 2013	0.685	Nov 2014	0.757	Nov 2015	-		0.757	4.418	7.009	-
Studies & Analysis	C/CPFF	JHU : Pax River, MD	1.558	0.123	Nov 2013	0.763	Nov 2014	0.801	Nov 2015	-		0.801	0.841	4.086	4.086
		Subtotal	2.218	0.612		1.448		1.558		-		1.558	5.259	11.095	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval	WR	NAWC AD : Pax River, MD	0.305	0.300	Nov 2013	0.883	Nov 2014	1.295	Nov 2015	-		1.295	Continuing	Continuing	Continuing
GFE/GFI/GFP	WR	NAWC AD : Pax River, MD	0.000	-		-		1.279	Nov 2015	-		1.279	21.344	22.623	-
Oper Test & Eval	WR	NAWC AD : Pax River, MD	0.000	-		-		-		-		-	62.332	62.332	-
Test Assets	WR	NAWC AD : Pax River, MD	0.000	-		-		-		-		-	32.832	32.832	-
		Subtotal	0.305	0.300		0.883		2.574		-		2.574	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Eng Tech Serv (NON-FFRDC)	C/CPFF	Various : Various	1.123	0.907	Nov 2013	0.934	Nov 2014	0.980	Nov 2015	-		0.980	0.490	4.434	4.434
Mgmt Suppt Serv (NON-FFRDC)	C/CPFF	RBC : Alexandria, VA	1.988	1.783	Nov 2013	2.471	Nov 2014	2.563	Nov 2015	-		2.563	10.122	18.927	18.927
Program Mgmt Support	WR	NAWC AD : Pax River, MD	1.018	1.090	Nov 2013	1.522	Nov 2014	1.672	Nov 2015	-		1.672	6.111	11.413	-
Travel	Allot	NAWC AD : Pax River, MD	0.000	0.002	Oct 2013	0.100	Oct 2014	0.100	Oct 2015	-		0.100	0.500	0.702	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3218 / *P-8A Spiral 2 Development*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	4.129	3.782		5.027		5.315		-		5.315	17.223	35.476	-

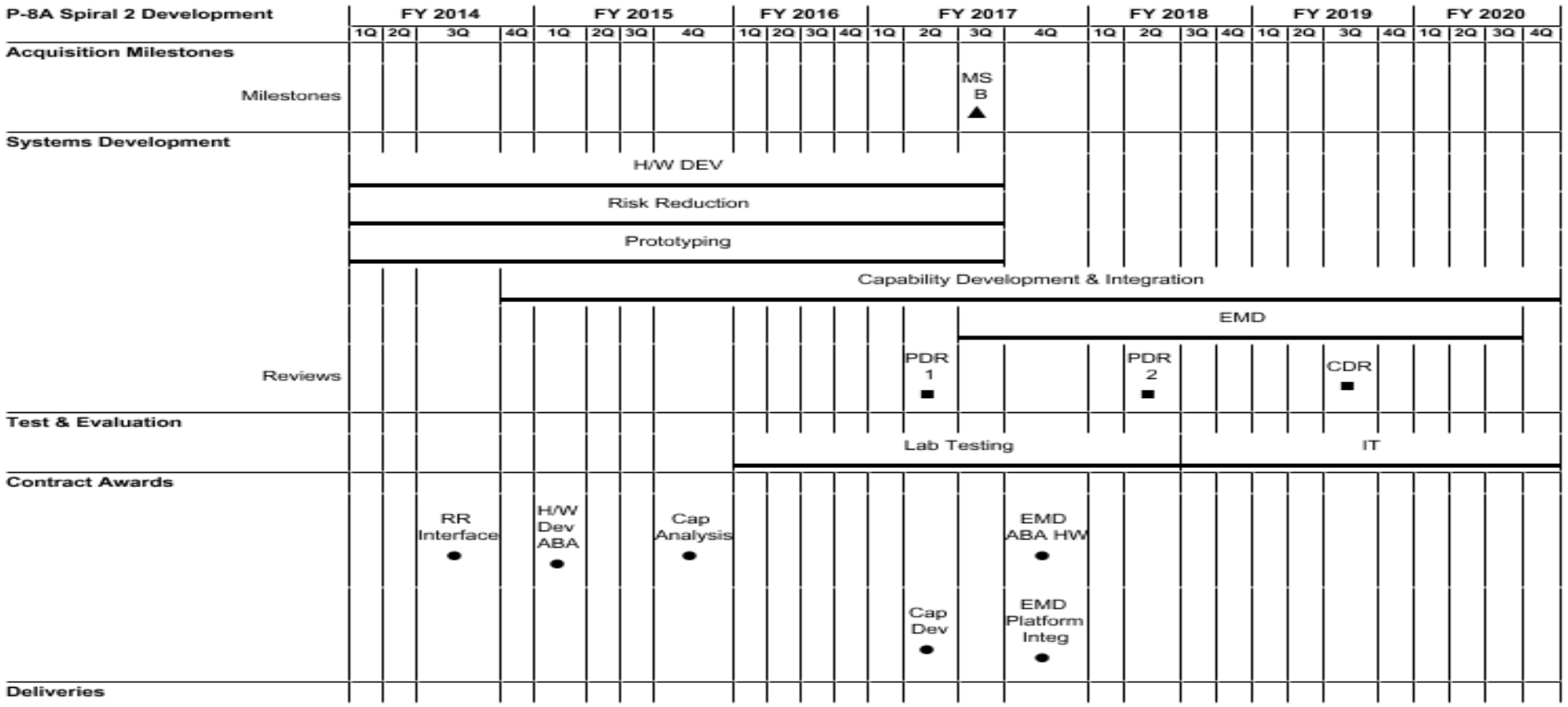
Remarks

Continued engineering and management support reflected in FY16 profile are necessary to mature prototyping efforts.

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	25.242	27.305		72.029		104.116		-		104.116	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3218 / *P-8A Spiral 2 Development*



2016PB - 0605500N - 3218

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3218 / *P-8A Spiral 2 Development*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
P-8A Spiral 2 Development				
Acquisition Milestones: Milestones: Increment 3 MS B	3	2017	3	2017
Systems Development: Hardware Development	1	2014	3	2017
Systems Development: Risk Reduction	1	2014	3	2017
Systems Development: Prototyping	1	2014	3	2017
Systems Development: Capability Development & Integration	4	2014	4	2020
Systems Development: Engineering Manufacturing & Development (EMD)	3	2017	3	2020
Systems Development: Reviews: Preliminary Design Review (PDR) 1	2	2017	2	2017
Systems Development: Reviews: Preliminary Design Review (PDR) 2	2	2018	2	2018
Systems Development: Reviews: Critical Design Review (CDR)	3	2019	3	2019
Test & Evaluation: Integrated Test (IT)	3	2018	4	2020
Test & Evaluation: Lab Testing	1	2016	2	2018
Contract Awards: Contract Award - Hardware Development ABA	1	2015	1	2015
Contract Awards: Contract Award - Risk Reduction Interface	3	2014	3	2014
Contract Awards: Contract Award - Capability Analysis	4	2015	4	2015
Contract Awards: Engineering Manufacturing & Development (EMD) ABA Hardware	4	2017	4	2017
Contract Awards: Engineering Manufacturing & Development (EMD) Platform Integration	4	2017	4	2017
Contract Awards: Capabilities Development	2	2017	2	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	Project (Number/Name) 3368 / *P-8 Improvements*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
3368: *P-8 Improvements*	-	-	-	1.510	-	1.510	2.077	3.064	10.230	10.435	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The P-8A Multi-mission Maritime Aircraft (MMA) program also includes a sequence of Rapid Capability Insertions (RCI) and rapid development efforts to respond to evolving threats which will retain cost-wise effectiveness for winning major combat operations beyond 2020. In order to pace the threat, these efforts will incorporate incremental software and hardware improvements to existing sensors, communications systems, mission systems, weapons capabilities and Tactical Operations Center (TOC) to build on the P-8A capability baseline. These capabilities, and other emergent capability requirements, will be prioritized through the Navy Integration and Interoperability (I&I)-aligned Capability Prioritization Process (CPP) and P-8A Tier 3 Capability Roadmap. The CPP process will be supported by detailed analysis and the maturation of developing technologies.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Perform technology demonstrations and analyses of proposed new capabilities	-	-	1.170	-	1.170
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans: N/A					
FY 2016 Base Plans: Develop Rapid Capability Insertions to incorporate incremental software and hardware improvements to build on the P-8A capability baseline.					
FY 2016 OCO Plans: N/A					
Title: Conduct technical, cost, risk and logistics analysis of proposed technologies	-	-	0.340	-	0.340
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A					
FY 2015 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3368 / *P-8 Improvements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 Base Plans:*** Conduct technical, cost, risk and logistics analysis of proposed technologies. Evaluate system requirements through cost/performance trade-off analysis. Provide technical and management support for the development of acquisition documentation. Provide engineering and management of technical development effort. Increase in government led prototyping. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	-	-	1.510	-	1.510

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The P-8A Multi-mission Maritime Aircraft (MMA) program also includes a sequence of Rapid Capability Insertions (RCI) and rapid development efforts to respond to evolving threats which will retain cost-wise effectiveness for winning major combat operations beyond 2020. In order to pace the threat, these efforts will incorporate incremental software and hardware improvements to existing sensors, communications systems, mission systems, weapons capabilities and Tactical Operations Center (TOC) to build on the P-8A capability baseline. These capabilities, and other emergent capability requirements, will be prioritized through the Navy Integration and Interoperability (I&I)-aligned Capability Prioritization Process (CPP) and P-8A Tier 3 Capability Roadmap. The CPP process will be supported by detailed analysis and the maturation of developing technologies.

E. Performance Metrics

Complete ABA prototyping on capabilities beyond Increment 3.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	Project (Number/Name) 3368 / *P-8 Improvements*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HW Dev - P-8A Improvements	TBD	TBD : TBD	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
Sys Eng - Gov	WR	NAWCAD : Pax River, MD	0.000	-		-		1.170	Nov 2015	-		1.170	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		1.170		-		1.170	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	WR	NAWCAD : Pax River, MD	0.000	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev T&E - Gov	WR	NAWCAD : Pax River, MD	0.000	-		-		-		-		-	-	-	-
		Subtotal	0.000	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Eng Tech Serv (NON-FFRDC)	Various	Various : Various	0.000	-		-		0.105	Nov 2015	-		0.105	Continuing	Continuing	Continuing
Mgmt Support Serv	C/CPFF	RBC : Alexandria, VA	0.000	-		-		0.105	Nov 2015	-		0.105	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3368 / *P-8 Improvements*

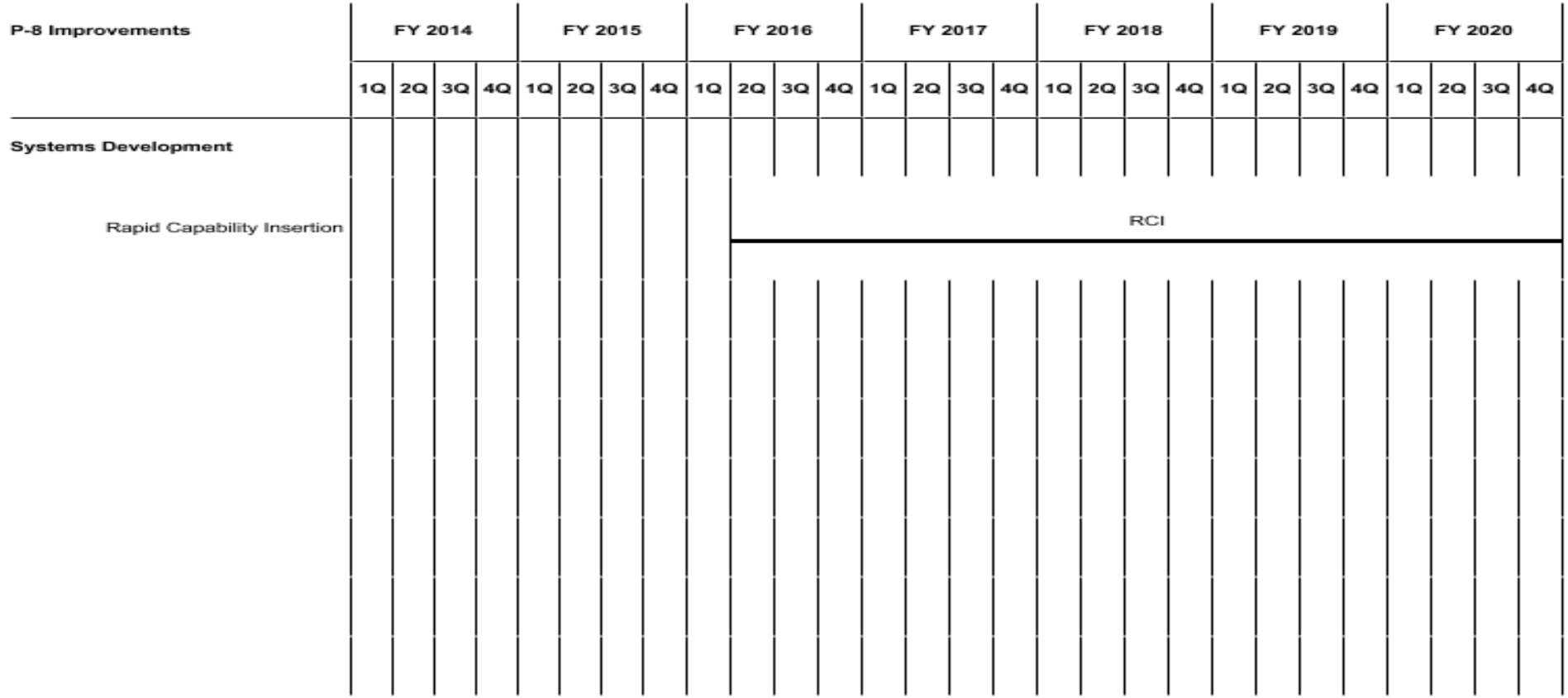
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgmt Support	WR	NAWCAD : Pax River, MD	0.000	-		-		0.130	Nov 2015	-		0.130	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		0.340		-		0.340	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		1.510		-		1.510	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3368 / *P-8 Improvements*



2016OSD - 0605500N - 3368

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 3368 / *P-8 Improvements*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
P-8 Improvements				
Systems Development: Rapid Capability Insertion: Rapid Capability Insertion	2	2016	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	Project (Number/Name) 9999 / *Congressional Adds*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
9999: *Congressional Adds*	47.817	5.000	15.000	-	-	-	-	-	-	-	-	67.817
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Congressional Add.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015
Congressional Add: Small Business Technology Insertion ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A	-	15.000
Congressional Add: P-8A Sensor Development - Cong ***FY 2014 Accomplishments:*** N/A ***FY 2015 Plans:*** N/A	5.000	-
Congressional Adds Subtotals	5.000	15.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not required for Congressional Adds.

E. Performance Metrics

Not required for Congressional Adds.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 9999 / *Congressional Adds*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HW Dev - NAWCAD	WR	NAWC AD : Patuxent River, MD	0.435	0.200	Jul 2014	1.500	May 2015	-		-		-	-	2.135	-
Primary HW Dev - Progeny	C/CPFF	PROGENY : Manassas, VA	19.453	-		10.000	Sep 2015	-		-		-	-	29.453	29.453
Primary HW Dev - SBIR - Various	Various	Various : Various	25.250	-		3.500	Sep 2015	-		-		-	-	28.750	28.750
Primary HD Dev - Prototyping - Various	Various	Various : Various	0.000	-		-		-		-		-	-	-	-
Primary HD Dev - Sensor Development	Various	Various : Various	0.000	4.800	Aug 2014	-		-		-		-	-	4.800	4.800
		Subtotal	45.138	5.000		15.000		-		-		-	-	65.138	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Services	WR	NAWC AD : Paxtuxent River, MD	0.458	-		-		-		-		-	-	0.458	0.458
Mgmt Suppt Serv (NONFFRDC)	C/CPFF	RBC INC : Alexandria,	2.221	-		-		-		-		-	-	2.221	2.221
		Subtotal	2.679	-		-		-		-		-	-	2.679	2.679

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	47.817	5.000		15.000		-		-		-	-	67.817	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 9999 / *Congressional Adds*

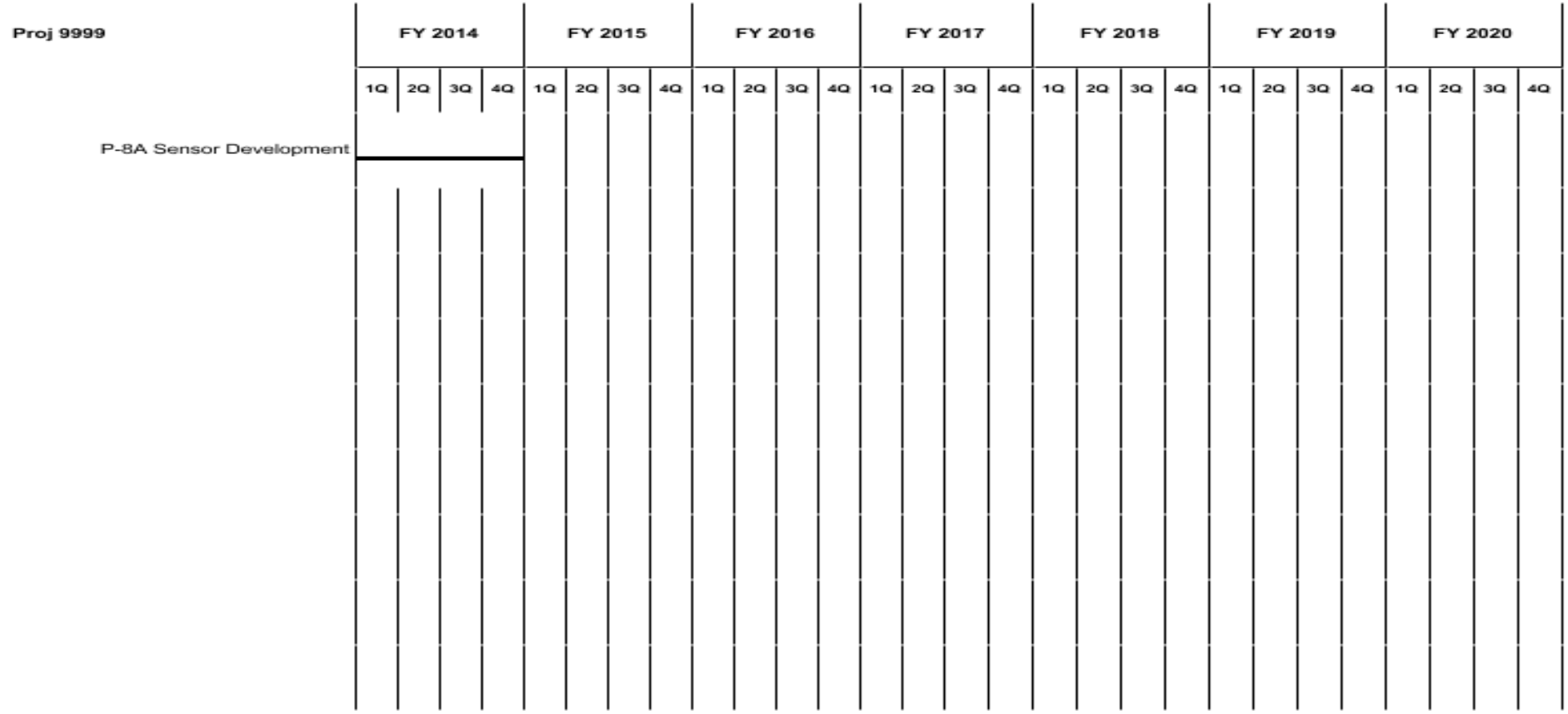


Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0605500N / *Multi-mssn Maritime Aircraft (MMA) (P-8A)*	**Project (Number/Name)** 9999 / *Congressional Adds*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 9999				
P-8A Sensor Development: Schedule Detail	1	2014	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy												Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0204202N / *DDG-1000*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	952.750	189.580	202.517	103.199	-	103.199	20.126	13.132	-	-	-	1,481.304
2464: *DD(X) Sys Design, Dev & Integration*	952.750	189.580	202.517	103.199	-	103.199	20.126	13.132	-	-	-	1,481.304
MDAP/MAIS Code: 197												

A. Mission Description and Budget Item Justification

This Program Element (PE) provides funds for development of the DDG 1000 Class of U.S. Navy surface combatants. The mission of the DDG 1000 class is to provide credible independent forward presence/deterrence and operate as an integral part of Naval, Joint or Combined Maritime Forces. DDG 1000 will provide advanced land attack capability in support of the ground campaign and contribute to Naval, Joint or Combined battlespace dominance in littoral operations. DDG 1000 will establish and maintain surface and sub-surface superiority, provide local air defense, and incorporate signature reduction to operate in all threat environments. DDG 1000 will have seamless Joint Interoperability to integrate all source information for battlespace awareness and weapons direction.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	187.904	202.522	128.998	-	128.998
Current President's Budget	189.580	202.517	103.199	-	103.199
Total Adjustments	1.676	-0.005	-25.799	-	-25.799
• Congressional General Reductions	-	-0.005			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	8.140	-			
• SBIR/STTR Transfer	-6.457	-			
• Program Adjustments	-	-	-25.800	-	-25.800
• Rate/Misc Adjustments	-0.007	-	0.001	-	0.001

Change Summary Explanation

The FY 2014 increase supports continued RDTE efforts.

The FY 2016 funding request was reduced by $25.800 million to account for the delay in DDG 1000 delivery.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0204202N / *DDG-1000*	Project (Number/Name) 2464 / *DD(X) Sys Design, Dev & Integration*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2464: *DD(X) Sys Design, Dev & Integration*	952.750	189.580	202.517	103.199	-	103.199	20.126	13.132	-	-	-	1,481.304
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project encompasses DDG 1000 development efforts required to deliver the Flight I DDG 1000 Class Ships. Major efforts include software requirements analysis, architectural and design code and unit testing, integration, qualification testing, and Independent Verification and Validation (IV&V) for Software Release 6 and Spiral Releases; execution of Integrated Power Systems (IPS) and ship control system testing and integration; Live Fire Test and Evaluation (LFT&E), Developmental Testing (DT), and Integrated Testing (IT) in support of the TEMP and development of Tactical Tomahawk Weapon Control System (TTWCS) software. Funding for previous years is included in PE 0604300N.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Product / Software Development	101.795	98.885	54.341	-	54.341
Articles:	-	-	-	-	-

Description: Product Development/Software Development

FY 2014 Accomplishments:

Completed development and test of Release 6 software build requirements for Self Defense Test Ship (SDTS)/ Post Delivery Availability (PDA). Completed Multi-Function Radar (MFR) with Volume Search software modifications. Developed capability required to launch and control missiles for Integrated Test ITB-1. Continued development of software build to support Post Shakedown Availability (PSA) required capabilities for full operation of Integrated Undersea Warfare (IUSW), Surface Electronic Warfare Improvement Program (SEWIP), Tomahawk, and Vertical Launch Anti-Submarine Rocket (VLA). Developed corrections to Hull, Mechanical & Electrical (HM&E) and combat systems code in support of ship activation.
Development of interface specifications for Tactical Tomahawk Weapon Control Systems (TTWCS) with MK 57 for DDG 1000 Class unique implementation.
Completed the Long Range Land Attached Projectile (LRLAP) Engineering & Manufacturing Development (E&MD) phase.

FY 2015 Plans:

Continue development of software build to support PSA required capabilities. Complete PDA combat systems activation. Continue development of corrections to HM&E and combat systems code in support of ship activation. Support ship activation and SDTS, PDA and PSA software builds. Develop, integrate and test as

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0204202N / *DDG-1000*	**Project (Number/Name)** 2464 / *DD(X) Sys Design, Dev & Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
required to correct issues to the existing code base. Populate Data Centers to enable shipboard integrated training capability, support Overall Combat Systems Operability Test (OCSOT) implementation, and provide system redundancy in the event of operational casualty. ***FY 2016 Base Plans:*** Complete software to support Sail Away. Develop, integrate, and test as required corrections to HM&E and Mission System code through completion of fully capable Software Delivery in FY16. Continue development of interface specifications of TTWCS. ***FY 2016 OCO Plans:*** N/A					
Title: Test and Evaluation	87.385	103.282	48.503	-	48.503
Articles:	-	-	-	-	-
Description: Test and Evaluation Master Plan Execution ***FY 2014 Accomplishments:*** Procured STANDARD Missile 2 (SM-2) test ordnance to conduct Integrated Test (ITB1-Self Defense Test Ship (SDTS) and ITB3-Lead Ship) for Anti-Air Warfare Mission Testing. Procured Long Range Land Attack Projectile (LRLAP) blast shapes, propellant charges and pallets to conduct Integrated Test (ITB3-Lead Ship) Land Attack Mission Testing. Conducted SDTS suite land based test at Wallops Island. Conducted DTB3-414 SPY 3 volume surveillance testing at SCSC Wallops Island. Prepared for installation of the AAW suite on the SDTS. Continued development of Modeling and Simulation (M&S) Probability of Raid Annihilation (PRA) and Measures of Effectiveness (MOE). ***FY 2015 Plans:*** Initiate Integrated Testing (ITB1-120) Evolved Sea Sparrow Missiles (ESSM) engagements using the SDTS. Procure test ordnance SM-2 to conduct Operational Testing (OT) and Follow-on Test and Evaluation (FOT&E) for Anti-Air Warfare Mission Testing. Plan Integrated Test (ITB4 - Lead Ship). Procure LRLAP rounds and pallets to conduct Integrated Test (ITB4 - Lead Ship) Land Attack Mission. Continue development of M&S PRA and MOE. Initiate test planning for lead ship Developmental Testing (DT) and Integrated Testing (IT). ***FY 2016 Base Plans:*** Complete ITB1-120 ESSM engagements using the SDTS. Demonstrate safe firing of an SM-2 on the SDTS. Initiate ITB3 Integrated Testing Radar Cross Section Measurements, characterize Medium Frequency Sonar,					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0204202N / *DDG-1000*	**Project (Number/Name)** 2464 / *DD(X) Sys Design, Dev & Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
and perform accuracy check to High Frequency Sonar. Continue test planning for lead ship DT and IT. Initiate test planning for Operational Evaluation (OPEVAL). ***FY 2016 OCO Plans:*** N/A					
Title: Management Support ***Articles:*** ***Description:*** Government and Contractor Engineering Support. ***FY 2014 Accomplishments:*** Continue to provide travel. ***FY 2015 Plans:*** Continue to provide travel. ***FY 2016 Base Plans:*** Continue to provide travel. ***FY 2016 OCO Plans:*** N/A	0.400 -	0.350 -	0.355 -	- -	0.355 -
Accomplishments/Planned Programs Subtotals	189.580	202.517	103.199	-	103.199

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SCN / 2119: *DDG 1000*	231.694	419.532	433.404	-	433.404	139.479	-	-	-	-	4,026.791
• OMN / 3B1K: *Specialized Skill Training (BSO 24)*	3.351	3.173	1.018	-	1.018	1.078	3.126	3.198	3.261	-	25.593
• RDTE / 0439: *Standard Missile Improvement*	12.706	8.825	0.170	-	0.170	-	-	-	-	-	61.309
• PANMC / 0198: *LRLAP 6*	4.687	113.092	11.596	-	11.596	71.022	73.000	75.960	77.309	-	433.219
• OPN/9020: *OPN Spares*	0.017	-	-	-	-	-	-	-	-	-	0.017
• SCN/5110: *Outfitting/Post Delivery*	49.259	60.382	87.060	-	87.060	77.882	23.284	35.038	39.061	143.600	527.392
• OPN/0947: *DDG 1000 Class Support Equipment*	-	-	-	-	-	35.099	33.610	2.548	2.613	-	73.870

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0204202N / *DDG-1000*	**Project (Number/Name)** 2464 / *DD(X) Sys Design, Dev & Integration*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• WPN/2356: *STANDARD Missile Mods*	-	-	-	-	-	8.581	11.829	12.042	12.259	-	44.711
• OMN/1B5B: *DDG 1000*	-	-	10.918	-	10.918	9.162	9.327	4.495	-	-	33.902

Remarks

D. Acquisition Strategy

A revised acquisition strategy has been determined that supports the DDG-1000/DDG-51 restart shipyard allocation workload Memorandum of Agreements (MOAs). Execution of the MOAs shifted primary construction of all three DDG-1000 class ships to Bath Iron Works (BIW). Award of the DDG 1001/1002 to BIW occurred in September 2011.

E. Performance Metrics

Successfully achieve Milestone C. Successfully achieve Initial Operational Capability. Successfully complete Operation Test Readiness Review. Successfully complete Developmental Test/Operational Test.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0204202N / *DDG-1000*	**Project (Number/Name)** 2464 / *DD(X) Sys Design, Dev & Integration*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Ship Integration Development Phase IV (SW)	SS/CPAF	Raytheon : Tewksbury MA	714.632	87.198	Jan 2014	77.531	Dec 2014	38.100	Dec 2015	-		38.100	89.700	1,007.161	-
Ship Integration Development (Prod Dev)	SS/CPFF	Various : Various	12.250	12.167	Mar 2014	21.354	Dec 2014	16.241	Dec 2015	-		16.241	-	62.012	-
LRLAP	Various	Various : Various	0.000	2.430	Aug 2014	-		-		-		-	-	2.430	-
		Subtotal	726.882	101.795		98.885		54.341		-		54.341	89.700	1,071.603	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SDTS (ITB1-120) / PRA TB	SS/CPFF	Raytheon : Portsmouth, RI	74.125	15.100	Jan 2014	13.325	Jan 2015	10.525	Dec 2015	-		10.525	11.800	124.875	-
T&E Engineering	C/CPIF	CSC : Washington, DC	1.730	0.870	Feb 2014	0.200	Jan 2015	0.200	Dec 2015	-		0.200	-	3.000	-
SDTS/PRA	Various	Various : Various	10.372	7.690	Dec 2013	5.369	Nov 2014	14.972	Nov 2015	-		14.972	40.069	78.472	-
PRA/MOE	C/CPIF	NSMA : Arlington, VA	3.496	1.038	Feb 2014	2.145	Dec 2014	-		-		-	5.300	11.979	-
Eng/M&S/Cert Agents	WR	NSWC : Dahlgren, VA	5.928	1.599	Dec 2013	0.200	Nov 2014	0.200	Nov 2015	-		0.200	0.300	8.227	-
Integrated Test	WR	NSWC : Bethesda, MD	9.910	1.157	Dec 2013	0.310	Nov 2014	2.860	Nov 2015	-		2.860	8.478	22.715	-
SDTS/PRA/Test Bed	Various	Various : Various	7.483	1.300	Nov 2013	2.000	Nov 2014	1.300	Nov 2015	-		1.300	1.100	13.183	-
SDTS	WR	SCSC : Wallops, Is, VA	3.531	1.100	Dec 2013	0.835	Dec 2014	-		-		-	-	5.466	-
Live Fire Test & Evaluation	C/CPIF	ROI : Mullica Hills, NJ	7.950	-		-		-		-		-	-	7.950	-
Live Fire Test and Evaluation	Various	Various : Various	1.800	-		-		-		-		-	-	1.800	-
OA/DT Assist	WR	COTF : Norfolk, VA.	4.872	0.868	Dec 2013	2.248	Jan 2015	2.201	Dec 2015	-		2.201	5.353	15.542	-
Int Test/Undersea Warfare	WR	Various : Various	0.000	-		-		0.747	Nov 2015	-		0.747	2.507	3.254	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0204202N / *DDG-1000*	Project (Number/Name) 2464 / *DD(X) Sys Design, Dev & Integration*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
LRLAP Test Article Procurement ITB3/ITB4 (EMD)	C/CPIF	BAE : Minneapolis, MN	0.000	18.400	Feb 2014	35.214	Jan 2015	4.500	Dec 2015	-		4.500	0.900	59.014	-
LFT&E Engineering	C/CPIF	ROI : Mullica Hills, NJ	28.352	3.800	Feb 2014	0.700	Jan 2015	0.800	Dec 2015	-		0.800	3.400	37.052	-
ESSM/SM2 Procurement	C/CPIF	Raytheon : Tucson, AZ	9.460	15.828	Feb 2014	14.250	Jan 2015	-		-		-	-	39.538	-
MOE Test Bed	WR	NUWC : Various	0.578	0.582	Nov 2013	0.350	Dec 2014	0.250	Nov 2015	-		0.250	0.800	2.560	-
TTWCS	C/CPIF	Lockheed Martin : Valley Forge, PA	0.000	-		-		-		-		-	-	-	-
Travel	Various	NAVSEA : Washington, DC	0.048	0.049	Oct 2013	-		-		-		-	0.300	0.397	-
SDTS and Integrated Test	Various	PEO IWS : Washington, DC	1.049	17.949	Dec 2013	25.936	Nov 2014	6.948	Nov 2015	-		6.948	6.126	58.008	-
ITB4	C/CPFF	General Dynamics : ME	0.000	-		-		-		-		-	-	-	-
T&E Engineering	WR	NSWC : Panama City, FL	0.275	0.055	Nov 2013	0.200	Jan 2015	3.000	Nov 2015	-		3.000	-	3.530	-
		Subtotal	170.959	87.385		103.282		48.503		-		48.503	86.433	496.562	-

Management Services ($ in Millions)

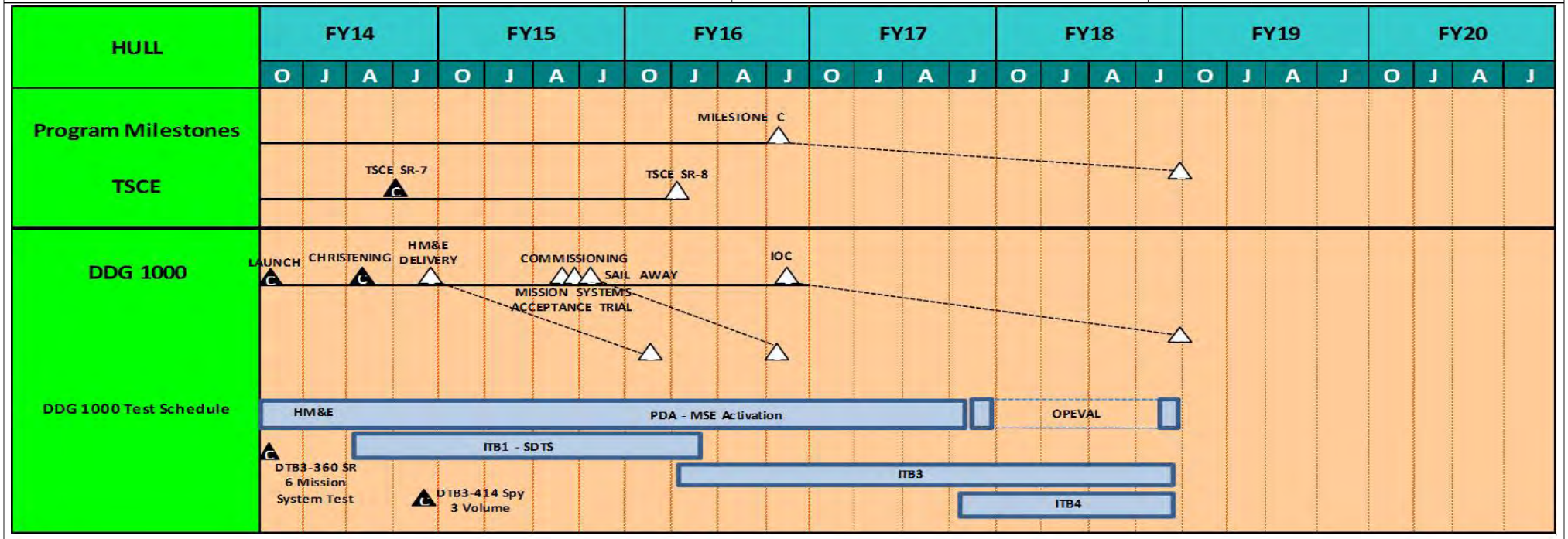
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	NAVSEA : Washington, DC	2.470	0.400	Dec 2013	0.350	Dec 2014	0.355	Nov 2015	-		0.355	0.400	3.975	-
Government Services Engineering	Various	Various : Various	52.439	-		-		-		-		-	-	52.439	-
		Subtotal	54.909	0.400		0.350		0.355		-		0.355	0.400	56.414	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0204202N / *DDG-1000*	Project (Number/Name) 2464 / *DD(X) Sys Design, Dev & Integration*	

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	952.750	189.580		202.517		103.199		-		103.199	176.533	1,624.579	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0204202N / *DDG-1000*	**Project (Number/Name)** 2464 / *DD(X) Sys Design, Dev & Integration*



KEY

IOC	INITIAL OPERATIONAL CAPABILITY
SR	SOFTWARE RELEASE
OPEVAL	OPERATIONAL EVALUATION
▲	COMPLETED EVENT
HM&E	HULL, MECHANICAL & ELECTRICAL
SDTS	SELF-DEFENSE TEST SHIP
PDA	POST DELIVERY AVAILABILITY

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0204202N / *DDG-1000*	**Project (Number/Name)** 2464 / *DD(X) Sys Design, Dev & Integration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2464				
Conduct ITB1-120 - SDTS	3	2014	2	2016
Software Release 8 - Spiral Post Shakedown Availability	2	2016	2	2016
Conduct ITB3	2	2016	4	2018
Conduct ITB4	4	2017	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0304231N *I Tactical Command System - MIP*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	3.362	2.140	1.011	0.998	-	0.998	1.007	1.037	1.067	1.089	Continuing	Continuing
2009: *OSIS Evolutionary Development (OED)*	3.362	2.140	1.011	0.998	-	0.998	1.007	1.037	1.067	1.089	Continuing	Continuing

A. Mission Description and Budget Item Justification

Radiant Mercury (RM) is a secure information platform that provides an automated means to sanitize, downgrade, guard, and transliterate formatted data at various classifications, compartments and releasabilities. It enables Combatant Commanders as well as operational commanders, afloat and ashore to disseminate and receive critical operational and intelligence information with coalition and allied forces.

Major Focus Area for FY16: Deliver 6.x and commence RM Version 7.0 development and begin the certification process.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	2.140	1.011	1.007	-	1.007
Current President's Budget	2.140	1.011	0.998	-	0.998
Total Adjustments	-	-	-0.009	-	-0.009
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.009	-	-0.009

Change Summary Explanation

Schedule:

1. Certification Test & Evaluation (CT&E) of Radiant Mercury (RM) Version 5.1 shifted from 3QFY13 to 1Q 2014
2. Delivery of RM Version 5.1 shifted from 4QFY13 to 1Q 2014

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0304231N / *Tactical Command System - MIP*	Project (Number/Name) 2009 / *OSIS Evolutionary Development (OED)*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2009: *OSIS Evolutionary Development (OED)*	3.362	2.140	1.011	0.998	-	0.998	1.007	1.037	1.067	1.089	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Trusted Information System (TIS) Radiant Mercury (RM) is a system that successfully provides accredited Cross Domain Solutions (CDS) to the Navy, the Department of Defense (DoD), and the Intelligence Community (IC). TIS RM is a critical component of network-centric warfare, supporting joint operations and allied and coalition forces world-wide. The ability to pass sensitive and critical data across security domains and to our allied and coalition partners in a timely fashion can only be met by accredited CDS systems such as RM. RM enables the Navy to operate in a multi-national environment.

TIS RM provides automated, bi-directional sanitization, transliteration and guarding capability for formatted and unformatted data between security enclaves. RM helps ensure critical intelligence is provided quickly to operational decision-makers. TIS RM provides the capability to disseminate information for operating forces worldwide, including the operating forces of key allies in the Pacific, Central and European Command regions. This capability to move all-source intelligence-derived track information into the realm of the operational community significantly improves the situational awareness of tactical operators and planners. Unformatted data is handled by the Information Review Process (IRP). The system provides cross domain services to a wide variety of customers including Combatant Commanders, Air Force (Shared Early Warning program), Army (Blue Force Tracking Program), Missile Defense Agency (MDA), Navy Cyber Defense Operations Command (NCDOC), Naval Modular Automated Communication Systems (NAVMACS), Mobile User Objective Systems (MUOS), Navy (Global Command and Control System - Maritime/J (GCCS-M/J), Automatic Identification System (AIS), Maritime Operations Centers (MOC), Distributed Common Ground System-Navy (DCGS-N), Tactical Ranges (TR), and numerous other DoD and Intelligence agencies.

Major Focus Area for FY16: Deliver RM Version 6.x. Begin development and certification process for RM Version 7.0.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Radiant Mercury (RM)	2.140	1.011	0.998	-	0.998
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Completed development of the Radiant Mercury (RM) Version 6.0 baseline to run on SE Linux which removes dependency on proprietary vendor products whose pricing models have had a negative impact on the program. SE Linux allows the program to customize the Operating System (OS) for the RM application, increasing processing speed and improving security. Improved remote configuration management by replacing the current version of Windows with a Lightweight Text Interface for initial configuration control and a web-based interface to					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0304231N / *Tactical Command System - MIP*	**Project (Number/Name)** 2009 / *OSIS Evolutionary Development (OED)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
configure the system. Free and Open Source Software (FOSS) is used to manage the log, audit reduction, and mission assessment capabilities. Enhanced Message Analysis Generator (MAG) Generic Interface Functionality (MGIF) to take advantage of software and capabilities developed elsewhere within the Navy, DoD, and the Intelligence Communities (IC). Completed certification testing. ***FY 2015 Plans:*** Deliver RM Version 6.0. Begin the development and certification of RM Version 6.x process which includes Factory Acceptance Testing (FAT), alpha testing, and government testing. FAT will include test procedure development to ensure all systems requirements are tested properly, dry-run testing to ensure the procedures are sufficient, and formal testing which will be witnessed by the government. Alpha testing is conducted by the Independent Verification and Validation (IV&V) team and is separate from the FAT. Upon successful FAT and alpha testing the software is provided to the National Security Agency (NSA) and Defense Intelligence Agency (DIA) government labs for the actual certification and testing event. In parallel to these testing activities, the software will also be provided to RM customers who maintain their own labs. ***FY 2016 Base Plans:*** Deliver RM Version 6.x. Begin the development and certification of RM Version 7.0 process which includes FAT, alpha testing, and government testing. FAT will include test procedure development to ensure all systems requirements are tested properly, dry-run testing to ensure the procedures are sufficient, and formal testing which will be witnessed by the government. Alpha testing is conducted by the IV&V team and is separate from the FAT. Upon successful FAT and alpha testing the software is provided to the NSA and DIA government labs for the actual certification and testing event. In parallel to these testing activities, the software will also be provided to RM customers who maintain their own labs. ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	2.140	1.011	0.998	-	0.998

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN/2608: *Trusted Information System (TIS)*	0.396	0.324	0.284	-	0.284	0.290	0.295	0.302	0.308	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0304231N / *Tactical Command System - MIP*	**Project (Number/Name)** 2009 / *OSIS Evolutionary Development (OED)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Trusted Information Systems (TIS) Radiant Mercury (RM) provides automated, bi-directional sanitization, transliteration and guarding capability for formatted and unformatted data between security enclaves. RM helps ensure critical Indications and Warning intelligence is provided quickly to operational decision-makers. RM provides certified and accredited Cross Domain capabilities in the Pacific Command (PACOM), Europe Command (EUCOM) and Central Command (CENTCOM), Northern Command (NORTHCOM), Areas of Responsibility (AOR). RM is a fee-for-service program, it receives partial funding from the Navy to cover basic program management and infrastructure costs. The remaining funds needed to keep the program operating are generated from a fee-for-service model which charges customers a Life Cycle Surcharge (LCS) on all new task orders and an Annual User Fee (AUF) on all operational RM systems currently fielded.

E. Performance Metrics

Radiant Mercury (RM) provides and develops certified, accredited Cross Domain Solutions (CDS) and transfer capabilities to DoD and Intelligence Community (IC), and provides the capability to disseminate and receive operational and intelligence information for 100% of authorized sites.

Complete 100% of certification, system and security testing of RM version (X) for release. Provide the capability to sanitize, downgrade, guard, and transliterate formatted data at various classifications, compartments and releasabilities to combatant and operational commanders, coalition and allied forces at over 420 sites world-wide.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0304231N / *Tactical Command System - MIP*	Project (Number/Name) 2009 / *OSIS Evolutionary Development (OED)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	C/CPFF	Lockheed Martin : Denver, CO	2.505	1.552	Dec 2013	0.723	Dec 2014	0.713	Dec 2015	-		0.713	Continuing	Continuing	Continuing
Software Development	C/CPFF	Various : Various	0.000	0.231	Dec 2013	0.092	Dec 2014	0.091	Dec 2015	-		0.091	Continuing	Continuing	Continuing
		Subtotal	2.505	1.783		0.815		0.804		-		0.804	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Requirements Analysis	C/CPFF	Various : Various	0.000	-		0.096	Dec 2014	0.095	Dec 2015	-		0.095	Continuing	Continuing	Continuing
Requirements Analysis	C/CPFF	BAH : San Diego, CA	0.614	0.357	Dec 2013	0.100	Dec 2014	0.099	Dec 2015	-		0.099	-	1.170	-
		Subtotal	0.614	0.357		0.196		0.194		-		0.194	-	-	-

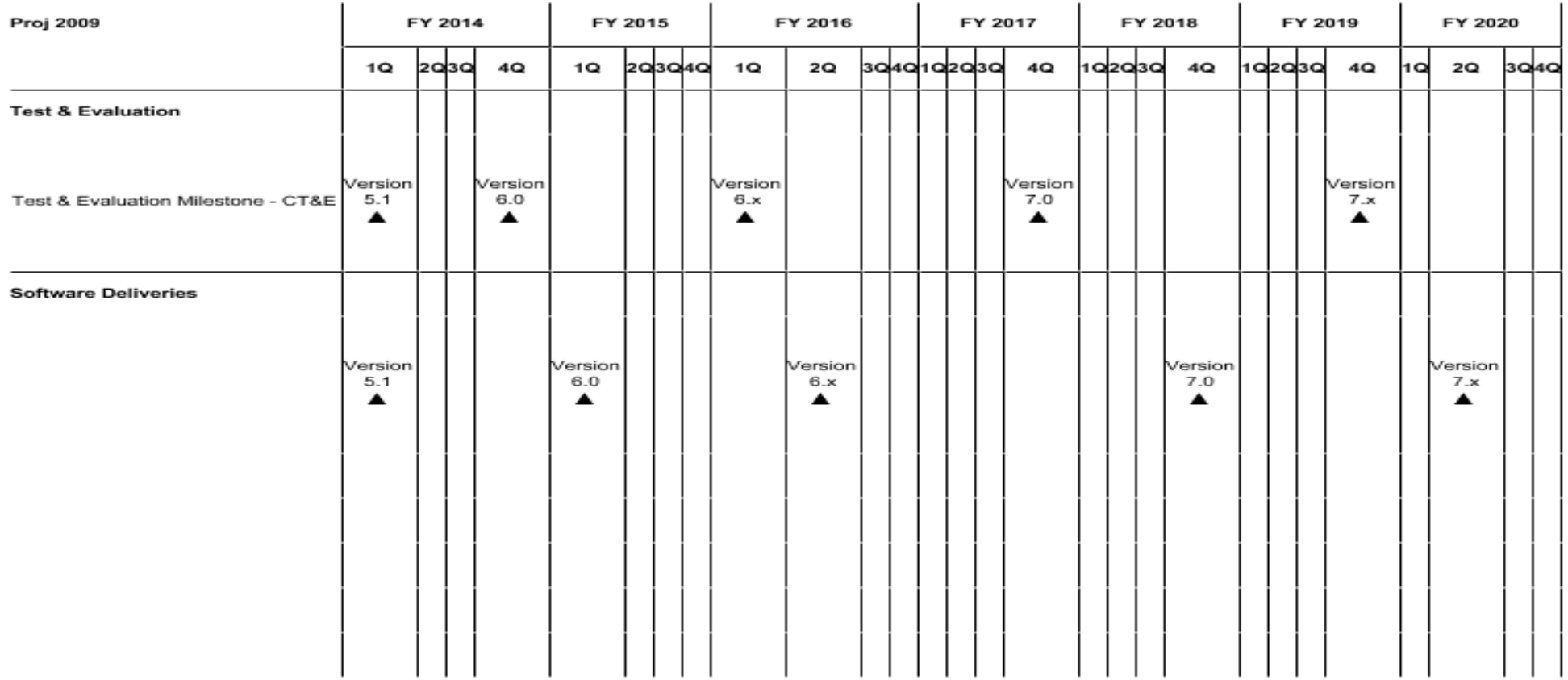
Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Certification Test	WR	SSC LANT : Charleston, SC	0.243	-		-		-		-		-	-	0.243	-
		Subtotal	0.243	-		-		-		-		-	-	0.243	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3.362	2.140		1.011		0.998		-		0.998	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0304231N / *Tactical Command System - MIP*	**Project (Number/Name)** 2009 / *OSIS Evolutionary Development (OED)*



2016DON - 0304231N - 2009 CT&E of RM Version 5.1 shifted from 3Q 2013 to 1Q 2014
Delivery of RM Version 5.1 shifted from 4Q 2013 to 1Q2014

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0304231N / *Tactical Command System - MIP*	**Project (Number/Name)** 2009 / *OSIS Evolutionary Development (OED)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2009				
Test & Evaluation: Test & Evaluation Milestone - CT&E: RM Test & Evaluation Milestone - CT&E - RM Version 5.1	1	2014	1	2014
Test & Evaluation: Test & Evaluation Milestone - CT&E: RM Test & Evaluation Milestone - CT&E - RM Version 6.0	4	2014	4	2014
Test & Evaluation: Test & Evaluation Milestone - CT&E: RM Test & Evaluation Milestone - CT&E - RM Version 6.x	1	2016	1	2016
Test & Evaluation: Test & Evaluation Milestone - CT&E: RM Test & Evaluation Milestone - CT&E - RM Version 7.0	4	2017	4	2017
Test & Evaluation: Test & Evaluation Milestone - CT&E: RM Test & Evaluation Milestone - CT&E - RM Version 7.x	4	2019	4	2019
Software Deliveries: RM Software - Delivery of RM Version 5.1	1	2014	1	2014
Software Deliveries: RM Software - Delivery of RM Version 6.0	1	2015	1	2015
Software Deliveries: RM Software - Delivery of RM Version 6.x	2	2016	2	2016
Software Deliveries: RM Software - Delivery of RM Version 7.0	4	2018	4	2018
Software Deliveries: RM Software - Delivery of RM Version 7.x	2	2020	2	2020

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0304785N *I Tactical Cryptologic Systems*

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	258.427	9.406	10.827	17.785	-	17.785	15.429	12.535	25.038	25.552	Continuing	Continuing
2134.: *Shipboard IW Exploit*	258.427	9.406	10.827	17.785	-	17.785	15.429	12.535	25.038	25.552	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Shipboard Information Warfare (IW) line includes the Ship's Signal Exploitation Equipment (SSEE) Increment (Inc) E, F, G and Modifications programs. The SSEE program is a classified IW / Electronic Warfare (EW) and tactical cryptologic system that provide critical tactical intelligence, situational awareness, battlespace awareness, indications and warnings and hostile threat assessment. These systems provide the battle group and combatant commanders with the surface fleet's only EW non-kinetic capabilities ("Finish"). In addition they provide the battle groups with real time indications and warnings by acquisition ("Find") and localization ("Fix") of Signals of Interest (SOI). As an incremental acquisition program, Research, Development, Test & Evaluation (RDT&E) funding is required to have new technologies and associated new operational capabilities rapidly developed and transitioned as Pre-Planned Product Improvements (P3I) upgrades into the system's hardware/software configuration. This program's funding incorporates P3I, new Commercial Off-the-Shelf (COTS) based technologies and software into the existing systems. Funding will also focus on developing and delivering expanded non-kinetic EW capabilities and net-centric Service Oriented Architecture (SOA), which includes the development, integration and test of Medusa and the SSEE Modifications capabilities in support of "Ballistic Missile Defense (BMD) Executive Committee (EXCOM) Anti-Submarine Warfare (ASW) Chief of Naval Operations (CNO) Executive Board Information Operation (IO) Countermeasure Red Flash/Medusa (Additional details held at a higher classification level)."

FY15 OCO funds ($470K) required for the development of Red Falcon systems in order to combat future SOI.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	9.406	10.357	18.949	-	18.949
Current President's Budget	9.406	10.827	17.785	-	17.785
Total Adjustments	-	0.470	-1.164	-	-1.164
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-	-	-
• Rate/Misc Adjustments	-	0.470	-1.164	-	-1.164

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy	Date: February 2015
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0304785N *I Tactical Cryptologic Systems*

Change Summary Explanation

The increase in funding from FY15 to FY16 is due to commencement of SSEE Modifications Phase 3 hardware and software development to provide capabilities to the Fleet in support of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa", as well as Red Falcon system development.

As a result of ongoing Pre-Acquisition Activities including AoA and cost estimates, the below changes have been made to the Inc G Schedule:
INC G - 3 EDMs reduced to 2 EDMs
INC G - RFP shifted from QTR 1 FY16 to QTR 2 FY16
INC G - Development contract award shifted from QTR 3 FY16 to QTR 4 FY16
INC G - SRR shifted from QTR 1 FY17 to QTR 2 FY17
INC G - PDR shifted from QTR 1 FY17 to QTR 4 FY17
INC G - CDR shifted from QTR 2 FY17 to QTR 3 FY18

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy			Date: February 2015
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0304785N / *Tactical Cryptologic Systems*	Project (Number/Name) 2134. / *Shipboard IW Exploit*	

COST ($ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
2134.: *Shipboard IW Exploit*	258.427	9.406	10.827	17.785	-	17.785	15.429	12.535	25.038	25.552	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Shipboard Information Warfare (IW) line includes the Ship's Signal Exploitation Equipment (SSEE) Increment (Inc) E, F, G and Modifications programs. The SSEE program is a classified IW / Electronic Warfare (EW) and tactical cryptologic system that provide critical tactical intelligence, situational awareness, battlespace awareness, indications and warnings and hostile threat assessment. These systems provide the battle group and combatant commanders with the surface fleet's only EW non-kinetic capabilities ("Finish"). In addition they provide the battle groups with real time indications and warnings by acquisition ("Find") and localization ("Fix") of Signals of Interest (SOI). As an incremental acquisition program, Research, Development, Test & Evaluation (RDT&E) funding is required to have new technologies and associated new operational capabilities rapidly developed and transitioned as Pre-Planned Product Improvements (P3I) upgrades into the system's hardware/software configuration. This program's funding incorporates P3I, new Commercial Off-the-Shelf (COTS) based technologies and software into the existing systems. Funding will also focus on developing and delivering expanded non-kinetic EW capabilities and net-centric Service Oriented Architecture (SOA), which includes the development, integration and test of Medusa and the SSEE Modifications capabilities in support of "Ballistic Missile Defense (BMD) Executive Committee (EXCOM) Anti-Submarine Warfare (ASW) Chief of Naval Operations (CNO) Executive Board Information Operation (IO) Countermeasure Red Flash/Medusa (Additional details held at a higher classification level)."

SSEE Inc E will initiate software and hardware development of Medusa intended for integration into the SSEE Inc E system in support of accelerated development and operationalization of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa.

SSEE Inc F will be developing software and hardware upgrades in support of emergent adversary Signal of Interest (SOI), inserting SOI and new technology enhancements via incremental software builds and corresponding hardware upgrades.

SSEE Inc G will integrate and improve upon all aspects of the "BMD EXCOM ASW CNO CEB IO Countermeasure Red Flash/Medusa" and expand upon the IW / Electronic Warfare (EW) and tactical cryptologic system capability of exploiting signals throughout the Radio Frequency (RF) spectrum, in addition to focusing new technologies towards new and previously unexplored/unexploited CYBER capabilities to integrate into the Integrated Fires (IF) architecture. SSEE Inc G will build off of the advancement of the Inc F system to automate and integrate all existing Ship's Signal Exploitation Space (SSES) capabilities into a common user interface, while still advancing and incorporating new technologies through an open software architecture that allows for rapid integration and deployment of those capabilities.

The SSEE Modifications program includes the "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa", capabilities of Paragon and Graywing. Paragon is a classified Navy tactical signals intelligence frequency extension capability that will be integrated into Ship's Signal Exploitation Equipment (SSEE) Inc E and F programs. This capability provides simultaneous detection, collection, processing, Electronic Warfare and display of communication intelligence data from hostile, high threat and adversary platforms in select frequency ranges that are not prosecuted or encountered today. Graywing is an electronic sensing and attack capability that shares the Paragon topside exploitation assets and will be integrated into SSEE Inc E and F systems.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0304785N / *Tactical Cryptologic Systems*	**Project (Number/Name)** 2134. / *Shipboard IW Exploit*

FY16 funding for Ship's Signal Exploitation Equipment (SSEE) Increment (Inc) F will continue pre-planned product improvements (P3I), expand the SOI processing capability, enhance SSEE Inc F remote capabilities and integrate Medusa HW into the SSEE Inc F scan chassis.

FY16 funding for SSEE Inc G will be used to complete acquisition activities and contract development efforts. Contract development efforts will continue to integrate and improve upon all aspects of the "BMD EXCOM ASW CNO CEB IO Countermeasure Red Flash/Medusa" and expand upon the IW / Electronic Warfare (EW) and tactical cryptologic system capability of exploiting signals throughout the Radio Frequency (RF) spectrum, in addition to focusing new technologies towards new and previously unexplored/unexploited cyber capabilities as we integrate into the Integrated Fires (IF) architecture.

FY16: Commence SSEE Modifications Phase 3 hardware and software development to provide capabilities to the Fleet in support of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa." Improved capabilities will include: (1) A 200% increase in the number of signal types which can be countered by Graywing (2) Addition of high fidelity Graywing techniques against existing and new signals to dramatically improve combat effectiveness (3) Integration of new special signals capabilities (Red Falcon and Joint Signals Processor) providing a 200% increase in the types of special signals exploited by Paragon (4) Use of High Gain Information Operations (HGIO) antenna to triple the range of detection, exploitation, and information operations against high priority special signals.
Speed to Fleet efforts within SSEE Mods uses hardware provided in conjunction with Graywing development to deliver a self-contained, transportable system to provide shore based capabilities. In addition to providing an independent shore based capability the Speed to Fleet design provides an alternative Graywing receive and transmit subsystem design for risk reduction to Program of Record (POR). The transportable Speed to Fleet Graywing also provides an accessible platform to rapidly demonstrate new or improved Information Operations (IO) capabilities by providing a relatively low cost land-based field test article. Furthermore, the hardware developed under this project could be adapted as a roll-on/roll-off ship configuration to supplement the POR installations, if needed by the Fleet. Graywing is a sub system of the SSEE Modification Program to expand the capability of the Ship Signal Exploitation Equipment (SSEE).

The Speed to Fleet efforts will deliver a new firmware spiral that increases the capability of Medusa to respond to a wider range of threat systems, and to improve aspects of its capabilities. It will also deliver a laboratory test system that will be used to validate future firmware changes. Medusa is a sub system of the SSEE POR.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Title: Ship's Signal Exploitation Equipment Inc F (SSEE Inc F)	2.119	1.554	2.759	-	2.759
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued pre-planned product improvements (P3I) to provide enhanced and additional capabilities into the SSEE Inc F system. Expanded SOI processing capabilities to allow collection of the newest high priority modern technology threat signals for tightly integrated IO/non-kinetic capabilities. Continued development and delivery of Electronic Warfare (EW) capabilities based upon the warfighter identified, FY14 SOI threats (annually-updated) for integration into the SSEE Inc F system. Enhanced the SSEE Inc F remote capabilities and usability providing increased functionality and capabilities to remote and local users. Incorporated the next incremental					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0304785N / *Tactical Cryptologic Systems*	**Project (Number/Name)** 2134. / *Shipboard IW Exploit*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
software build, which allowed transition of the SSEE Inc F software Graphic User Interface (GUIs) to SSEE Inc E. Continued development of third party software, including an Interface Control Drawing (ICD) and Software Development Kit (SDK) processes, which allows new capabilities to be hosted into the SSEE Inc F system in support of the "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa". Continued hardware and software development of Medusa Phase II. ***FY 2015 Plans:*** Continue pre-planned product improvements (P3I) to provide enhanced and additional capabilities into the SSEE Inc F system. Expand SOI processing capability to allow collection of the newest high priority modern technology threat signals for tightly integrated IO/non-kinetic capabilities in support of time critical military strike operations and subsequent processing and analysis for timely and accurate situational awareness for force protection. Develop and deliver EW capabilities based upon the warfighter identified, FY15 SOI threats (annually-updated) for integration into the SSEE Inc F system. Enhance the SSEE Inc F remote capabilities and usability providing increased functionality and capabilities to remote and local users. Integrate Medusa hardware into the SSEE Inc F scan chassis. Maintain cognizance of current warfighter-identified signal set and make additions and improvements to the system as needed. ***FY 2016 Base Plans:*** Continue pre-planned product improvements (P3I) to provide enhanced and additional capabilities into the SSEE Inc F system. Expand SOI processing capability to allow collection of the newest high priority modern technology threat signals for tightly integrated IO/non-kinetic capabilities in support of time critical military strike operations and subsequent processing and analysis for timely and accurate situational awareness for force protection. Develop and deliver EW capabilities based upon the warfighter identified FY16 SOI threats (annually-updated) for integration into the SSEE Inc F system. Develop enhanced Red Falcon systems to combat future SOI. Enhance the SSEE Inc F remote capabilities and usability providing increased functionality and capabilities to remote and local users. Maintain cognizance of current warfighter-identified signal set and make additions and improvements to the system as needed. ***FY 2016 OCO Plans:*** N/A					
Title: Ship's Signal Exploitation Equipment Inc G (SSEE Inc G)	0.840	1.472	4.787	-	4.787
Articles:	-	-	-	-	-
FY 2014 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0304785N / *Tactical Cryptologic Systems*	**Project (Number/Name)** 2134. / *Shipboard IW Exploit*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Commenced pre-acquisition activities, capability gap analysis, AoA analysis, and continued to integrate and improve upon all aspects of the "BMD EXCOM ASW CNO CEB IO Countermeasure Red Flash/Medusa." ***FY 2015 Plans:*** Continue pre-acquisition activities, requirements documentation, contract development, and continue to integrate and improve upon all aspects of the "BMD EXCOM ASW CNO CEB IO Countermeasure Red Flash/Medusa." ***FY 2016 Base Plans:*** Complete pre-acquisition activities. Deliver requirements and acquisition documentation to support milestone decision. Award contract for development efforts. Integrate and improve upon all aspects of the "BMD EXCOM ASW CNO CEB IO Countermeasure Red Flash/Medusa." ***FY 2016 OCO Plans:*** N/A					
Title: Ship's Signal Exploitation Red Falcon (OCO)	-	0.470	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: N/A ***FY 2015 Plans:*** Develop enhanced Red Falcon systems which will provide additional processing and collection of simultaneous targets (additional details held at a higher classification). ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: SSEE Modifications	5.348	7.331	10.239	-	10.239
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Continued Phase 1.5 development for Operational Testing (OT) and commenced Phase 2 hardware and software development to provide capabilities to the Fleet in support of "BMD EXCOM ASW CEB IO Countermeasure Red Flash" including automation of key system operation and maintenance procedures and additional SOIs in support of Fleet needs; and enhanced system capabilities for Graywing and Paragon in					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0304785N / *Tactical Cryptologic Systems*	**Project (Number/Name)** 2134. / *Shipboard IW Exploit*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
order to meet FRP performance thresholds. Integrated SSEE Modifications with SSEE Increment F special capabilities. Continued support of SSEE Modifications Low Rate Initial Production (LRIP) system to MIL-STD-461F and MIL-STD-464C standards. Conducted topside survey for SSEE Modifications installation on ARLEIGH BURKE Flight IIA Class Destroyers. Developed Level 3 Technical Data Packages. ***FY 2015 Plans:*** Complete SSEE Modifications Phase 2 hardware and software development to provide: capabilities to the Fleet in support of "BMD EXCOM ASW CEB IO Countermeasure Red Flash" including automation of key system operation and maintenance procedures; additional SOIs in support of Fleet needs; and enhanced system capabilities for Graywing and Paragon in order to meet Full Rate Production (FRP) performance thresholds and provide P3I improvement. Funds will support development efforts to enable more robust signal exploitation. Expand integration with SSEE Increment F special capabilities. Enrich Graywing scan and search capabilities. Provide test plans and procedures for follow on testing and evaluation, including an updated Test and Evaluation Master Plan (TEMP). Conduct extensive integration and testing in support of correction of deficiencies identified during test events. ***FY 2016 Base Plans:*** Commence SSEE Modifications Phase 3 hardware and software development to provide capabilities to the Fleet in support of "BMD EXCOM ASW CEB IO Countermeasure Red Flash" including additional SOIs in support of Fleet needs; and enhanced system capabilities for Graywing and Paragon in order to meet Full Rate Production (FRP) performance thresholds and provide P3I improvement. Continue to support development efforts to enable more robust signal exploitation and expand integration with SSEE Increment F special capabilities. Provide test plans and procedures for follow on testing and evaluation. Conduct Developmental Testing (DT) as well as Initial Operational Test & Evaluation (IOT&E). Attain Joint Integration Test Command (JITC) certification. Continue to conduct extensive integration and testing in support of the correction of deficiencies identified during test events. ***FY 2016 OCO Plans:*** N/A					
Title: Ship's Signal Exploitation Equipment Inc E (SSEE Inc E)	0.200	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Integrated, assembled and tested Medusa Splitrock capabilities to the SSEE Inc E System. ***FY 2015 Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Title: Shipboard IW Exploit	0.899	-	-	-	-
Articles:	-	-	-	-	-
FY 2014 Accomplishments: Graywing: - Continue development, test and evaluation in support of Operational Testing (OT) and enhance system capabilities for Graywing in order to meet Full Rate Production (FRP) performance thresholds. TACAID: - Continue development of an enhanced tactical decision aid (TACAID) which will provide additional capabilities compared to the baseline TACAID being incorporated into Ship Signals Exploitation Equipment (SSEE) under the SSEE prototype tool and at sea testing. ***FY 2015 Plans:*** N/A ***FY 2016 Base Plans:*** N/A ***FY 2016 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	9.406	10.827	17.785	-	17.785

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• OPN / 2360: *Shipboard IW Exploit*	100.736	125.662	148.221	-	148.221	169.819	163.988	186.667	190.437	Continuing	Continuing
• OPN / 2188: *Electronic Warfare MILDEC*	8.958	-	-	-	-	-	-	-	-	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0304785N / *Tactical Cryptologic Systems*	**Project (Number/Name)** 2134. / *Shipboard IW Exploit*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost

Remarks

D. Acquisition Strategy

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to a Prime Contractor and Space & Naval Warfare Systems Command (SPAWAR) Systems Center (SSC) - Atlantic, SSC - Pacific and miscellaneous contractors, with management oversight by SPAWAR. Funding supports development and demonstration to rapidly deliver advanced and improved Information Operation (IO) capabilities to the Fleet. The Shore based Graywing unit developed will provide a rapidly deployable capability for the protection of land based resources. Multiple copies of the first article can be replicated depending on operational needs. These systems could also be used as a carry on capability to supplement the Graywing ship installations via the SSEE Mods ACAT III program or to those ships that are not SSEE capable. The Medusa upgrade adds additional capabilities via software to address a different class of radars which are proliferating, allowing backfit into existing systems via a new software load.

E. Performance Metrics

Ship's Signal Exploitation Equipment (SSEE) Increment (Inc) F will incorporate pre-planned product improvements (P3I) to provide enhanced and additional capabilities into the SSEE Inc F system. SSEE Inc F improvements along with the addition of the SSEE Modifications and Medusa capabilities will expand signals of interest (SOI) processing capability to allow collection of the newest high priority modern technology threat signals for tightly integrated IO/non-kinetic capabilities in support of time critical military strike operations and subsequent processing and analysis for timely and accurate situational awareness for force protection. The SSEE Modifications program includes the "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa", capabilities of Paragon and Graywing. Paragon is a classified Navy tactical signals intelligence frequency extension capability that will be integrated into Ship's Signal Exploitation Equipment (SSEE) Inc E and F programs. SSEE Inc G will expand upon the IW / Electronic Warfare (EW) and tactical cryptologic system capability of exploiting signals throughout the Radio Frequency (RF) spectrum, in addition to focusing new technologies towards new and previously unexplored/unexploited cyber capabilities as we integrate into the Integrated Fires (IF) architecture.
Program of Record (POR) specification has established Graywing performance metrics that will be met in the Speed to Fleet transportable version. Field testing will be used to verify this performance. Medusa firmware modifications will meet existing Medusa performance metrics for the new signal classes and will be verified via bench testing and end-to-end field testing.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	Various	Various : Various	73.395	-		-		-		-		-	-	73.395	-
Primary Hardware Development	WR	SSC PAC : San Diego, CA	4.025	-		-		-		-		-	-	4.025	-
Systems Engineering	Various	Various : Various	22.309	-		-		-		-		-	-	22.309	-
Systems Engineering	C/CPAF	Classified Contract : Classified Contract	6.517	0.286	Apr 2014	0.515	Nov 2014	1.500	Nov 2015	-		1.500	Continuing	Continuing	Continuing
Systems Engineering	WR	SSC PAC : San Diego, CA	3.275	0.238	Nov 2013	0.265	Nov 2014	0.500	Nov 2015	-		0.500	Continuing	Continuing	Continuing
Systems Engineering	WR	SSC LANT : Charleston, SC	4.722	-		0.294	Nov 2014	0.551	Nov 2015	-		0.551	Continuing	Continuing	Continuing
Training Development	WR	SSC PAC : San Diego, CA	2.309	-		-		-		-		-	-	2.309	-
Primary Hardware Development	C/CPAF	Classified Contract : Classified Contract	11.231	-		-		-		-		-	-	11.231	-
Primary Hardware Development	WR	NRL : Washington, DC	1.900	-		-		-		-		-	-	1.900	-
Primary Software Development	WR	NRL : Washington, DC	1.220	0.150	Nov 2013	-		-		-		-	Continuing	Continuing	Continuing
Integration, Assembly & Test (PMP Dev)	WR	SSC PAC : San Diego, CA	1.814	0.503	Nov 2013	0.358	Nov 2014	0.668	Nov 2015	-		0.668	Continuing	Continuing	Continuing
Integration, Assembly & Test (PMP Dev)	WR	NRL : Washington, DC	1.670	0.170	Nov 2013	0.170	Nov 2014	0.250	Nov 2015	-		0.250	Continuing	Continuing	Continuing
Software Development	Various	Various : Various	40.776	-		-		-		-		-	-	40.776	-
Integration, Assembly & Test	WR	OPTEVFOR : Norfolk, VA	0.039	-		-		-		-		-	Continuing	Continuing	Continuing
Software Development	C/CPAF	Classified Contracts : Classified Contracts	22.627	3.616	Apr 2014	4.512	Nov 2014	5.334	Nov 2015	-		5.334	Continuing	Continuing	Continuing
Primary Hardware Development	WR	SSC LANT : Charleston, SC	0.747	-		-		-		-		-	-	0.747	-
Software Development	WR	SSC PAC : San Diego, CA	1.328	0.041	Nov 2013	0.070	Nov 2014	0.141	Nov 2015	-		0.141	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration, Assembly & Test	C/CPAF	Classified Contracts : Classified Contracts	1.910	0.071	Nov 2013	0.310	Nov 2014	0.580	Nov 2015	-		0.580	Continuing	Continuing	Continuing
Integration, Assembly & Test	WR	NAVSEA : NAVSEA	0.112	-		-		-		-		-	-	0.112	-
Integration, Assembly & Test	WR	NUWC New Port : NUWC New Port	0.075	-		-		-		-		-	-	0.075	-
Integration, Assembly & Test	WR	NSWC Dahlgren : NSWC Dahlgren	0.042	-		-		-		-		-	-	0.042	-
Software Development	WR	SSC LANT : Charleston, SC	0.000	0.020	Nov 2013	0.040	Nov 2014	0.086	Nov 2015	-		0.086	Continuing	Continuing	Continuing
Integration, Assembly & Test (PMP Dev)	WR	SSC LANT : Charleston, SC	0.000	0.217	Apr 2014	0.245	Nov 2014	0.461	Nov 2015	-		0.461	Continuing	Continuing	Continuing
		Subtotal	202.043	5.312		6.779		10.071		-		10.071	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Training Development	Various	Various : Various	0.079	-		-		-		-		-	-	0.079	-
Training Development	C/CPFF	Classified Contract : Classified Contract	0.995	0.050	Nov 2013	0.115	Nov 2014	0.223	Nov 2015	-		0.223	Continuing	Continuing	Continuing
Integrated Logistics Support	Various	Various : Various	2.206	-		-		-		-		-	-	2.206	-
Integrated Logistics Support	C/CPFF	Classified Contract : Classified Contract	0.300	-		0.110	Nov 2014	0.214	Nov 2015	-		0.214	Continuing	Continuing	Continuing
Configuration Management	WR	SSC Lant : Charleston, SC	1.638	0.049	Nov 2013	0.092	Nov 2014	0.181	Nov 2015	-		0.181	Continuing	Continuing	Continuing
Configuration Management	WR	SSC PAC : San Diego, CA	0.336	0.250	Nov 2013	0.085	Nov 2014	0.169	Nov 2015	-		0.169	Continuing	Continuing	Continuing
Technical Data	Various	Various : Various	0.542	-		-		-		-		-	-	0.542	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy			Date: February 2015
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Data	WR	SSC PAC : San Diego, CA	1.456	0.099	Nov 2013	0.155	Nov 2014	0.297	Nov 2015	-		0.297	Continuing	Continuing	Continuing
Training Development	WR	SSC LANT : Charleston, SC	0.225	-		0.053	Nov 2014	0.110	Nov 2015	-		0.110	Continuing	Continuing	Continuing
Integrated Logistic Support	WR	SSC LANT : Charleston, SC	0.250	0.087	Nov 2013	0.125	Nov 2014	0.242	Nov 2015	-		0.242	Continuing	Continuing	Continuing
EDM Installation	WR	SSC LANT IMO : Charleston, SC	1.500	-		-		-		-		-	-	1.500	-
Requirements Analysis	WR	SSC LANT : Charleston, SC	0.000	-		0.085	Nov 2014	0.169	Nov 2015	-		0.169	Continuing	Continuing	Continuing
Requirements Analysis	WR	SSC PAC : San Diego, CA	0.000	-		-		-		-		-	-	-	-
Studies & Design	WR	SSC PAC : San Diego, CA	0.000	-		0.284	Nov 2014	0.533	Nov 2015	-		0.533	Continuing	Continuing	Continuing
Studies & Design	C/CPFF	Classified Contract : Classified Contract	0.000	0.170	Nov 2013	0.192	Nov 2014	0.364	Nov 2015	-		0.364	Continuing	Continuing	Continuing
Studies & Design	WR	NAVSEA : NAVSEA	0.000	-		0.245	Nov 2014	0.461	Nov 2015	-		0.461	Continuing	Continuing	Continuing
Requirements Analysis	C/CPFF	Classified Contract : Classified Contract	0.000	0.319	Apr 2014	0.385	Nov 2014	0.717	Nov 2015	-		0.717	Continuing	Continuing	Continuing
		Subtotal	9.527	1.024		1.926		3.680		-		3.680	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various : Various	7.375	-		-		-		-		-	-	7.375	-
Developmental Test & Evaluation	WR	SSC PAC : San Diego, CA	1.120	0.789	Apr 2014	0.462	Nov 2014	0.858	Nov 2015	-		0.858	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	SSC LANT : Charleston, SC	1.264	0.097	Apr 2014	0.129	Nov 2014	0.249	Nov 2015	-		0.249	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NRL : Washington, DC	1.072	-		-		-		-		-	-	1.072	-
Operational Test & Evaluation	WR	OPTEVFOR : Norfolk, VA	3.473	-		-		-		-		-	-	3.473	-
Test Assets	WR	SSC PAC : San Diego, CA	1.747	-		-		-		-		-	-	1.747	-
Test Assets	WR	SSC LANT : Charleston, SC	0.155	-		-		-		-		-	-	0.155	-
Operational Test & Evaluation	WR	SSC LANT : Charleston, SC	0.500	-		-		-		-		-	-	0.500	-
Developmental Test & Evaluation	WR	OPTEVFOR : Norfolk, VA	0.125	-		-		-		-		-	-	0.125	-
Developmental Test & Evaluation	C/CPFF	Classified Contracts : Classified Contracts	0.833	0.270	Apr 2014	0.320	Nov 2014	0.598	Nov 2015	-		0.598	Continuing	Continuing	Continuing
Operational Test & Evaluation	C/CPFF	Classified Contracts : Classified Contracts	0.090	-		-		-		-		-	-	0.090	-
Developmental Test & Evaluation	C/CPFF	NSWC Dahlgren : Dahlgren, VA	0.000	0.120	Apr 2014	0.125	Nov 2014	0.242	Nov 2015	-		0.242	Continuing	Continuing	Continuing
Developmental Test and Evaluation	WR	NRL : Washington DC	1.097	0.899	Nov 2013	-		-		-		-	-	1.996	-
		Subtotal	18.851	2.175		1.036		1.947		-		1.947	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	0.933	-		-		-		-		-	-	0.933	-
Contractor Engineering Support	C/CPFF	Classified Contract : Classified Contract	1.840	0.196	Nov 2013	0.395	Nov 2014	0.736	Nov 2015	-		0.736	Continuing	Continuing	Continuing
Government Engineering Support	Various	Various : Various	1.290	-		-		-		-		-	-	1.290	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Navy		Date: February 2015
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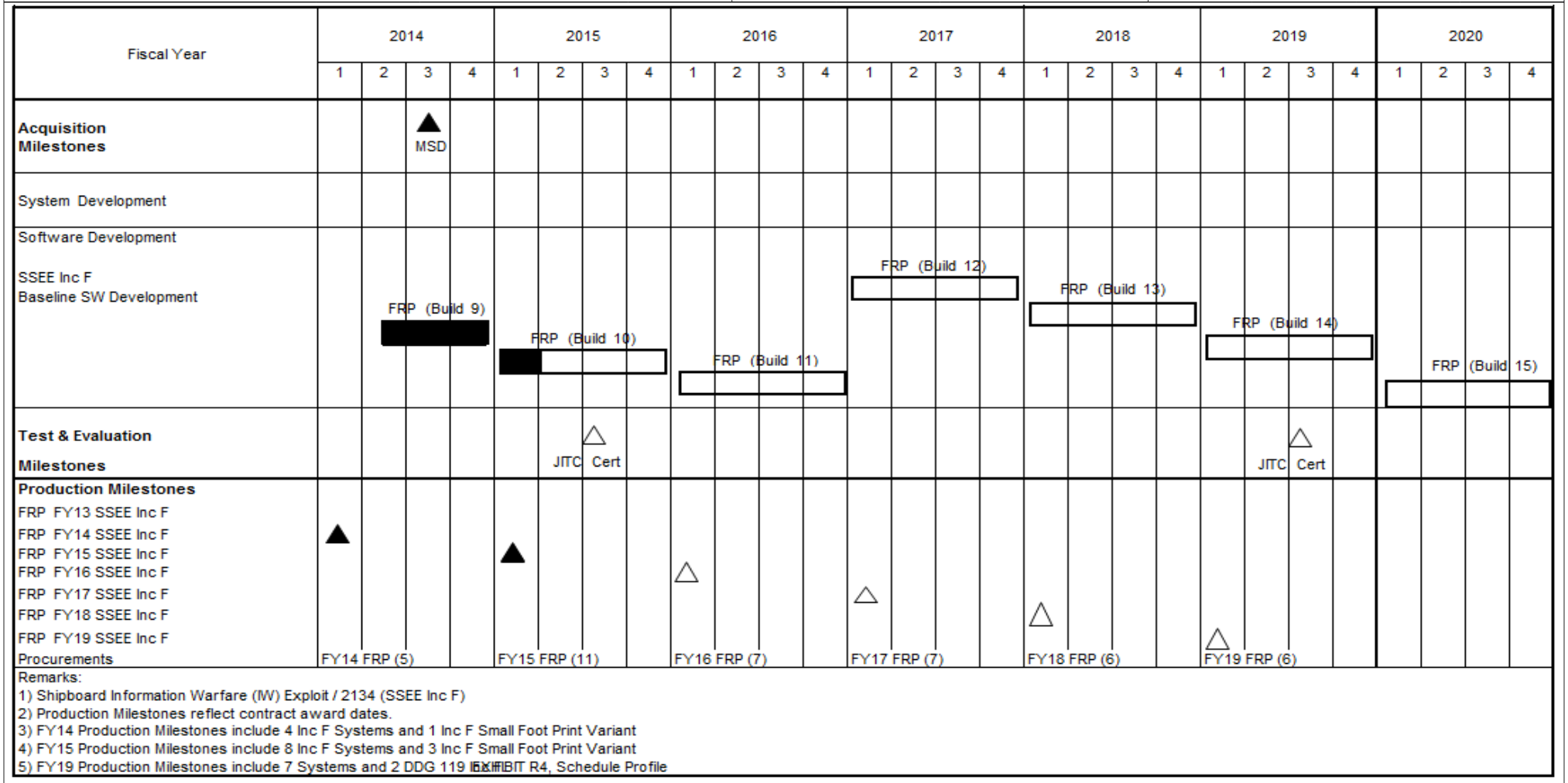
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	SSC LANT : Charleston, SC	1.271	0.206	Nov 2013	0.086	Nov 2014	0.170	Nov 2015	-		0.170	Continuing	Continuing	Continuing
Government Engineering Support	WR	SSC PAC : San Diego, CA	1.664	0.174	Nov 2013	0.072	Nov 2014	0.145	Nov 2015	-		0.145	Continuing	Continuing	Continuing
Program Management Support	Various	Various : Various	16.211	-		-		-		-		-	-	16.211	-
Program Management Support	C/CPFF	Classified Contract : Classified Contract	1.386	0.109	Apr 2014	0.254	Nov 2014	0.478	Nov 2015	-		0.478	Continuing	Continuing	Continuing
Program Management Support	WR	SSC LANT : Charleston, SC	0.568	0.040	Nov 2013	0.094	Nov 2014	0.193	Nov 2015	-		0.193	Continuing	Continuing	Continuing
Travel	WR	SPAWAR : San Diego, CA	2.231	0.015	Nov 2013	0.015	Nov 2014	0.040	Nov 2015	-		0.040	Continuing	Continuing	Continuing
Acquisition Workforce	Various	Various : Various	0.062	-		-		-		-		-	-	0.062	-
Contractor Engineering Support	C/CPFF	SPAWAR : San Diego, CA	0.550	0.155	Nov 2013	0.170	Nov 2014	0.325	Nov 2015	-		0.325	Continuing	Continuing	Continuing
		Subtotal	28.006	0.895		1.086		2.087		-		2.087	-	-	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	258.427	9.406		10.827		17.785		-		17.785	-	-	-

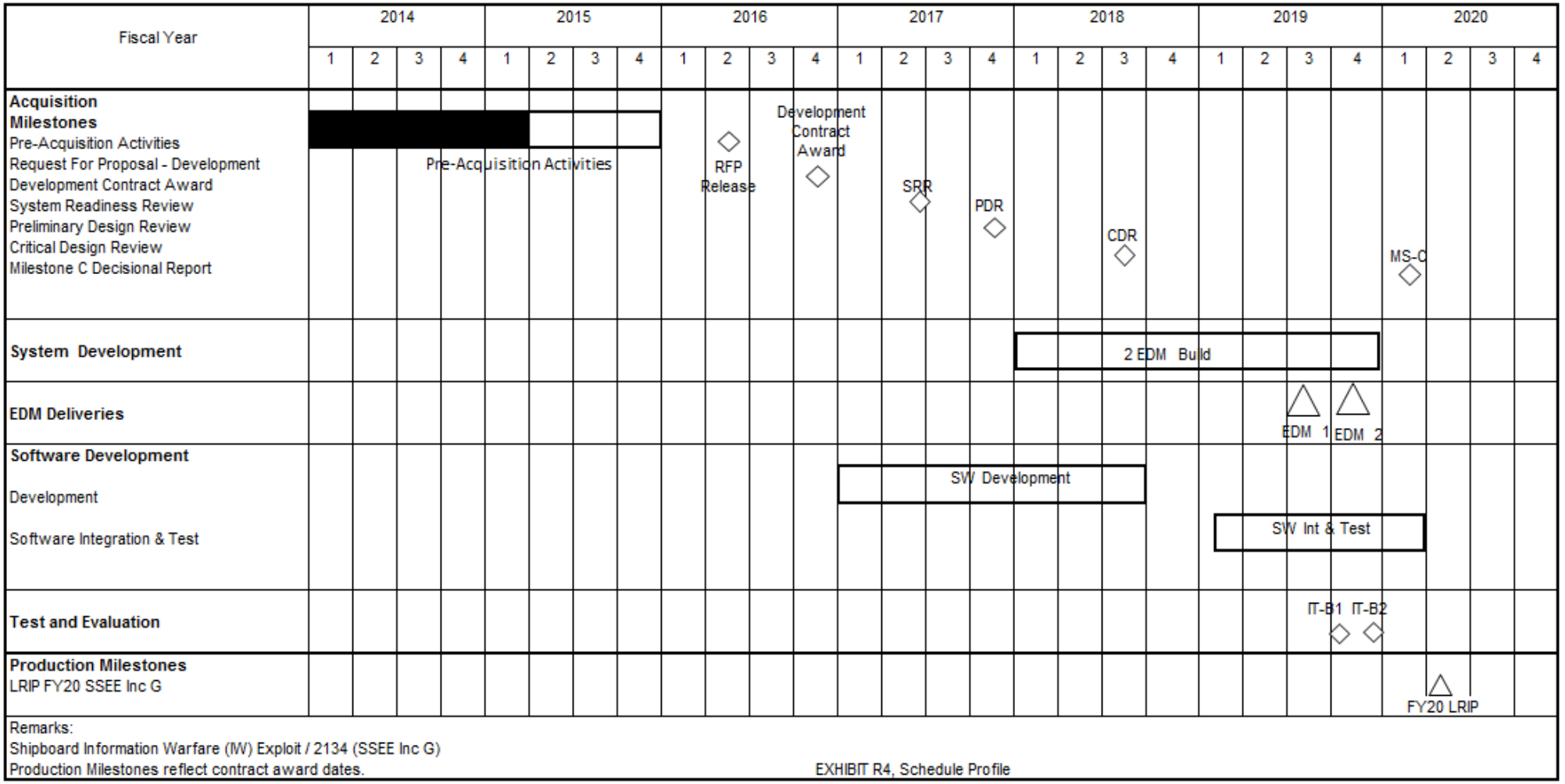
Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0304785N / *Tactical Cryptologic Systems*	**Project (Number/Name)** 2134. / *Shipboard IW Exploit*



Remarks:
1) Shipboard Information Warfare (IW) Exploit / 2134 (SSEE Inc F)
2) Production Milestones reflect contract award dates.
3) FY14 Production Milestones include 4 Inc F Systems and 1 Inc F Small Foot Print Variant
4) FY15 Production Milestones include 8 Inc F Systems and 3 Inc F Small Foot Print Variant
5) FY19 Production Milestones include 7 Systems and 2 DDG 119 Ex

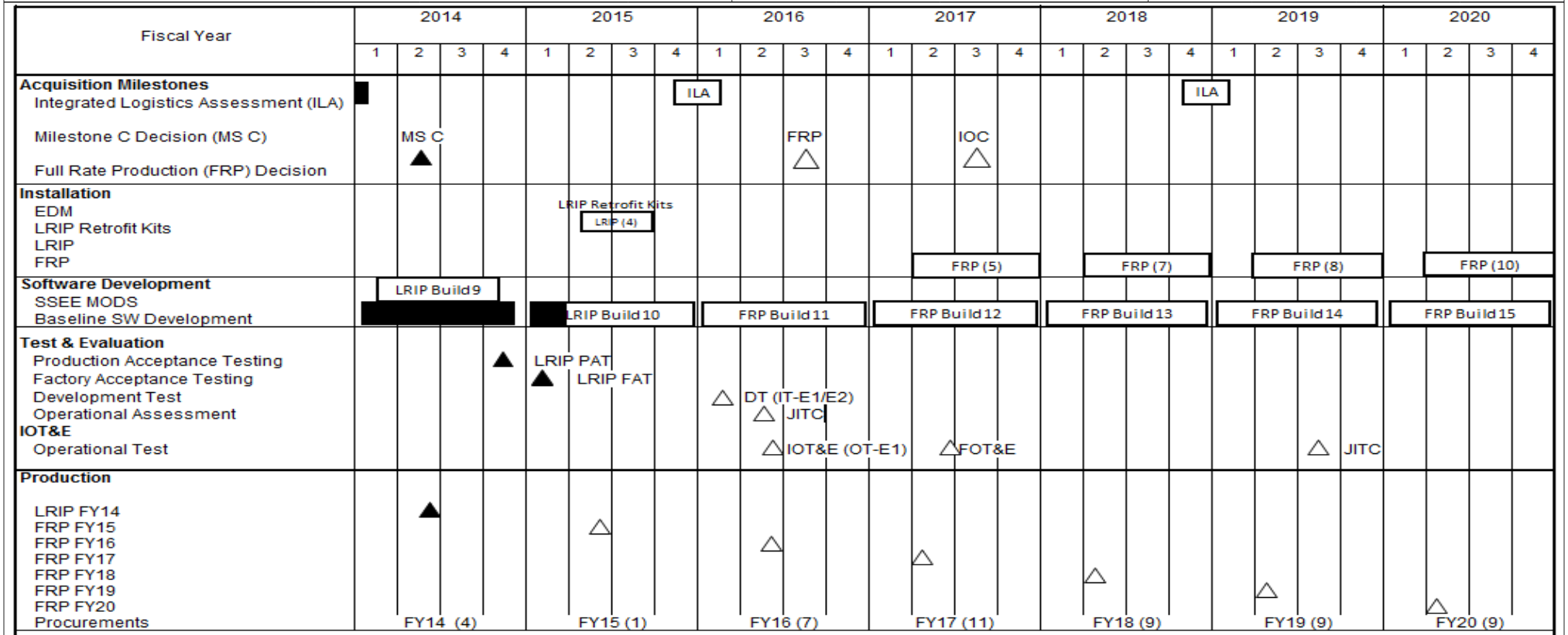
Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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Remarks:
Shipboard Information Warfare (IW) Exploit / 2134 (SSEE Inc G)
Production Milestones reflect contract award dates.

EXHIBIT R4, Schedule Profile

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Navy		Date: February 2015
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Remarks:
1) Shipboard Information Warfare (IW) Exploit / 2134 (SSEE Mods)
2) Production Milestones reflect contract award dates
3) FY14 Production Milestones include 2 Full Systems and 2 LBTF Configuration Systems
4) FY16 Production Milestones include 6 Systems, 1 Maintenance Training Systems
5) FY17 Production Milestones include 9 Systems and 2 Operator Training System
6) FY18 Production Milestones include 8 Systems and 1 Operator Training System
7) SSEE MODS Software development integrated and tested in junction with SSEE INC F Software builds.

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
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Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SSEE Inc F				
Inc F - Software Development	2	2014	4	2019
Inc F - Material Support Date (MSD)	3	2014	3	2014
Inc F - Joint Integration Test Command (JITC) Certification	3	2015	3	2015
Inc F - JITC Certification FY15	3	2019	3	2019
Inc F - JITC Certification FY19	1	2019	1	2019
Inc F - FY14 FRP Production Milestone	1	2014	1	2014
Inc F - FY15 FRP Production Milestone	1	2015	1	2015
Inc F - FY16 FRP Production Milestone	1	2016	1	2016
Inc F - FY17 FRP Production Milestone	1	2017	1	2017
Inc F - FY18 FRP Production Milestone	1	2018	1	2018
Inc F - FY19 FRP Production Milestone	1	2019	1	2019
SSEE Modifications				
SSEE Modifications - ILA #2	4	2015	1	2016
SSEE Modifications - ILA #3	4	2018	1	2019
SSEE Modifications - Fielding Decision (MSC)	2	2014	2	2014
SSEE Modifications - Fielding Decision (FRP)	3	2016	3	2016
SSEE Modifications - Initial Operating Capability (IOC)	3	2017	3	2017
SSEE Modifications - LRIP Retrofit Kits Installation	2	2015	3	2015
SSEE Modifications - LRIP Full Systems Installation	1	2015	4	2015
SSEE Modifications - FRP Installation (5)	2	2017	4	2017
SSEE Modifications - FRP Installation (7)	2	2018	4	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0304785N / *Tactical Cryptologic Systems*	**Project (Number/Name)** 2134. / *Shipboard IW Exploit*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
SSEE Modifications - FRP Installation (8)	2	2018	4	2018
SSEE Modifications - FRP Installation (10)	2	2020	4	2020
SSEE Modifications - Software Development (LRIP Build 9)	1	2014	4	2015
SSEE Modifications - Software Development (LRIP Build 10)	1	2015	4	2015
SSEE Modifications - Software Development (FRP Build 11)	1	2017	4	2017
SSEE Modifications - Software Development (FRP Build 12)	1	2014	1	2018
SSEE Modifications - Software Development (FRP Build 13)	1	2018	1	2018
SSEE Modifications - Software Development (FRP Build 14)	1	2019	4	2019
SSEE Modifications - Software Development (FRP Build 15)	1	2020	4	2020
SSEE Modifications - Production Acceptance Testing (LRIP)	4	2014	4	2014
SSEE Modifications - Factory Acceptance Testing (LRIP)	1	2015	1	2015
SSEE Modifications - Development Testing (IT-E1/E2)	1	2016	1	2016
SSEE Modifications - Joint Integration Test Command (JITC) Certification FY16	2	2016	2	2016
SSEE Modifications - Operational Testing (OT-E1)	2	2016	2	2016
SSEE Modifications - Operational Testing (FOT&E)	2	2017	3	2017
SSEE Modifications - Joint Integration Test Command (JITC) Certification FY19	3	2019	3	2019
SSEE Modifications - FY14 LRIP Production Milestone	2	2014	2	2014
SSEE Modifications - FY15 FRP Production Milestone	2	2015	2	2015
SSEE Modifications - FY16 FRP Production Milestone	2	2016	2	2016
SSEE Modifications - FY17 FRP Production Milestone	2	2017	2	2017
SSEE Modifications - FY18 FRP Production Milestone	2	2018	2	2018
SSEE Modifications - FY19 FRP Production Milestone	2	2019	2	2019
SSEE Modifications - FY20 FRP Production Milestone	2	2020	2	2020
SSEE Inc G				
Inc G Pre-Acquisition Activities	1	2014	4	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Navy		Date: February 2015
Appropriation/Budget Activity 1319 / 5	**R-1 Program Element (Number/Name)** PE 0304785N / *Tactical Cryptologic Systems*	**Project (Number/Name)** 2134. / *Shipboard IW Exploit*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Inc G - Request for Proposal Release	2	2016	2	2016
Inc G - Milestone B	2	2016	2	2016
Inc G - Development Contract Award	4	2016	4	2016
Inc G - System Readiness Review	2	2017	3	2017
Inc G - Preliminary Design Review	4	2017	4	2017
Inc G - Critical Design Review	3	2018	3	2018
Inc G - EDM Build	1	2018	4	2019
Inc G - Software Development	1	2017	3	2018
Inc G - Software Integration & Test	1	2019	1	2020
Inc G - EDM Deliveries	3	2019	4	2019
Inc G - MS C Decision	1	2020	1	2020
Inc G - Development Testing (IT-B1)	2	2019	4	2019
Inc G - Development Testing (IT-B2)	4	2019	4	2019
Inc G - FY20 LRIP Production Milestone	2	2020	2	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Navy											Date: February 2015	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0305124N *I Special Applications Program*							
COST ($ in Millions)	**Prior Years**	**FY 2014**	**FY 2015**	**FY 2016 Base**	**FY 2016 OCO**	**FY 2016 Total**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	9.794	23.975	35.905	-	35.905	36.537	26.576	27.617	28.675	Continuing	Continuing
3103: *Intelligence Engineering*	0.000	9.794	23.975	35.905	-	35.905	36.537	26.576	27.617	28.675	Continuing	Continuing

A. Mission Description and Budget Item Justification

Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	22.800	23.975	47.451	-	47.451
Current President's Budget	9.794	23.975	35.905	-	35.905
Total Adjustments	-13.006	-	-11.546	-	-11.546
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-13.006	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-11.546	-	-11.546

Change Summary Explanation

Technical: Details held at higher classification.
Schedule: Details held at higher classification.

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