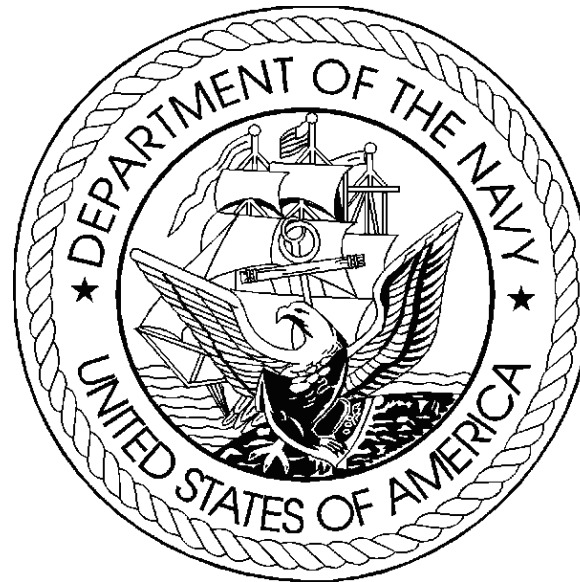


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**Department of Defense  
Fiscal Year (FY) 2015 Budget Estimates**

March 2014



**Navy**

*Justification Book Volume 3*

***Research, Development, Test & Evaluation, Navy***  
**Budget Activity 5**

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## **Department of Defense Appropriations Act, 2015**

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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, \$16,266,335,000, to remain available for obligation until September 30, 2016.

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Department of Defense  
FY 2015 President's Budget  
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(Dollars in Thousands)

21 Feb 2014

Summary Recap of Budget Activities -----	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base
Basic Research	567,496	619,234		619,234	576,339
Applied Research	792,372	859,469		859,469	820,883
Advanced Technology Development	604,615	623,614		623,614	595,014
Advanced Component Development & Prototypes	3,839,612	4,321,104		4,321,104	4,591,812
System Development & Demonstration	4,896,330	4,250,970		4,250,970	5,419,108
Management Support	1,103,563	861,314		861,314	977,151
Operational Systems Development	3,749,489	3,410,624		3,445,050	3,286,028
Total Research, Development, Test & Evaluation	15,553,477	14,946,329		14,980,755	16,266,335
Summary Recap of FYDP Programs -----					
Strategic Forces	133,392	152,999		152,999	145,185
General Purpose Forces	1,197,495	1,320,713		1,320,713	1,351,064
Intelligence and Communications	1,095,183	659,017		659,017	764,066
Research and Development	11,768,699	11,344,579		11,344,579	12,780,652
Central Supply and Maintenance	89,222	83,973		83,973	62,684
Administration and Associated Activities	2,668				
Classified Programs	1,266,818	1,385,048	34,426	1,419,474	1,162,684
Total Research, Development, Test & Evaluation	15,553,477	14,946,329	34,426	14,980,755	16,266,335
Summary Recap of Non-RDT&E Title FYDP Programs -----					
Mobility Forces	40,137	44,993		44,993	
Total Research, Development, Test & Evaluation	40,137	44,993		44,993	

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Summary Recap of Budget Activities -----	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base
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Applied Research	792,372	859,469		859,469	820,883
Advanced Technology Development	604,615	623,614		623,614	595,014
Advanced Component Development & Prototypes	3,839,612	4,321,104		4,321,104	4,591,812
System Development & Demonstration	4,896,330	4,250,970		4,250,970	5,419,108
Management Support	1,103,563	861,314		861,314	977,151
Operational Systems Development	3,749,489	3,410,624		3,445,050	3,286,028
Total Research, Development, Test & Evaluation	15,553,477	14,946,329		14,980,755	16,266,335
Summary Recap of FYDP Programs -----					
Strategic Forces	133,392	152,999		152,999	145,185
General Purpose Forces	1,197,495	1,320,713		1,320,713	1,351,064
Intelligence and Communications	1,095,183	659,017		659,017	764,066
Research and Development	11,768,699	11,344,579		11,344,579	12,780,652
Central Supply and Maintenance	89,222	83,973		83,973	62,684
Administration and Associated Activities	2,668				
Classified Programs	1,266,818	1,385,048	34,426	1,419,474	1,162,684
Total Research, Development, Test & Evaluation	15,553,477	14,946,329	34,426	14,980,755	16,266,335



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Appropriation: 1319N Research, Development, Test &amp; Eval, Navy

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	S e c
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1	0601103N	University Research Initiatives	01	117,855	112,617		112,617	113,908	U
2	0601152N	In-House Laboratory Independent Research	01	16,561	18,230		18,230	18,734	U
3	0601153N	Defense Research Sciences	01	433,080	488,387		488,387	443,697	U
		Basic Research		567,496	619,234		619,234	576,339	
4	0602114N	Power Projection Applied Research	02	92,396	104,513		104,513	95,753	U
5	0602123N	Force Protection Applied Research	02	188,995	170,288		170,288	139,496	U
6	0602131M	Marine Corps Landing Force Technology	02	41,687	47,334		47,334	45,831	U
7	0602235N	Common Picture Applied Research	02	37,643	34,136		34,136	43,541	U
8	0602236N	Warfighter Sustainment Applied Research	02	40,162	49,688		49,688	46,923	U
9	0602271N	Electromagnetic Systems Applied Research	02	73,985	97,690		97,690	107,872	U
10	0602435N	Ocean Warfighting Environment Applied Research	02	54,912	45,685		45,685	45,388	U
11	0602651M	Joint Non-Lethal Weapons Applied Research	02	5,234	6,059		6,059	5,887	U
12	0602747N	Undersea Warfare Applied Research	02	86,091	103,041		103,041	86,880	U
13	0602750N	Future Naval Capabilities Applied Research	02	143,176	169,710		169,710	170,786	U
14	0602782N	Mine and Expeditionary Warfare Applied Research	02	28,091	31,325		31,325	32,526	U
		Applied Research		792,372	859,469		859,469	820,883	
15	0603114N	Power Projection Advanced Technology	03	51,739	48,201		48,201	37,734	U
16	0603123N	Force Protection Advanced Technology	03	16,273	28,286		28,286	25,831	U
17	0603271N	Electromagnetic Systems Advanced Technology	03	60,098	56,179		56,179	64,623	U
18	0603640M	USMC Advanced Technology Demonstration (ATD)	03	117,288	132,336		132,336	128,397	U
19	0603651M	Joint Non-Lethal Weapons Technology Development	03	10,179	11,853		11,853	11,506	U

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Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	S e c
--	-----	----	---	-----	-----	-----	-----	-----	-
20	0603673N	Future Naval Capabilities Advanced Technology Development	03	254,987	252,836		252,836	256,144	U
21	0603729N	Warfighter Protection Advanced Technology	03	39,086	40,460		40,460	4,838	U
22	0603747N	Undersea Warfare Advanced Technology	03	9,164				9,985	U
23	0603758N	Navy Warfighting Experiments and Demonstrations	03	45,801	51,463		51,463	53,956	U
24	0603782N	Mine and Expeditionary Warfare Advanced Technology	03		2,000		2,000	2,000	U
		Advanced Technology Development		604,615	623,614		623,614	595,014	
25	0603207N	Air/Ocean Tactical Applications	04	31,357	39,246		39,246	40,429	U
26	0603216N	Aviation Survivability	04	7,970	5,591		5,591	4,325	U
27	0603237N	Deployable Joint Command and Control	04	3,451	3,262		3,262	2,991	U
28	0603251N	Aircraft Systems	04	21,829	10,074		10,074	12,651	U
29	0603254N	ASW Systems Development	04	7,306	6,964		6,964	7,782	U
30	0603261N	Tactical Airborne Reconnaissance	04	4,812	5,257		5,257	5,275	U
31	0603382N	Advanced Combat Systems Technology	04	1,345	1,563		1,563	1,646	U
32	0603502N	Surface and Shallow Water Mine Countermeasures	04	160,710	160,040		160,040	100,349	U
33	0603506N	Surface Ship Torpedo Defense	04	83,709	85,649		85,649	52,781	U
34	0603512N	Carrier Systems Development	04	97,668	80,899		80,899	5,959	U
35	0603525N	PILOT FISH	04	91,528	108,713		108,713	148,865	U
36	0603527N	RETRACT LARCH	04	75,517	9,316		9,316	25,365	U
37	0603536N	RETRACT JUNIPER	04	82,694	77,108		77,108	80,477	U
38	0603542N	Radiological Control	04	706	762		762	669	U
39	0603553N	Surface ASW	04	3,841	2,349		2,349	1,060	U

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Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	S e c
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40	0603561N	Advanced Submarine System Development	04	500,161	850,062		850,062	70,551	U
41	0603562N	Submarine Tactical Warfare Systems	04	8,505	8,764		8,764	8,044	U
42	0603563N	Ship Concept Advanced Design	04	22,193	17,501		17,501	17,864	U
43	0603564N	Ship Preliminary Design & Feasibility Studies	04	35,737	38,117		38,117	23,716	U
44	0603570N	Advanced Nuclear Power Systems	04	228,861	428,933		428,933	499,961	U
45	0603573N	Advanced Surface Machinery Systems	04	26,642	18,144		18,144	21,026	U
46	0603576N	CHALK EAGLE	04	453,935	518,804		518,804	542,700	U
47	0603581N	Littoral Combat Ship (LCS)	04	374,966	210,217		210,217	88,734	U
48	0603582N	Combat System Integration	04	45,131	4,396		4,396	20,881	U
49	0603595N	Ohio Replacement	04					849,277	U
50	0603596N	LCS Mission Modules	04		161,771		161,771	196,948	U
51	0603597N	Automated Test and Re-Test (ATRT)	04		10,005		10,005	8,115	U
52	0603609N	Conventional Munitions	04	6,717	8,404		8,404	7,603	U
53	0603611M	Marine Corps Assault Vehicles	04	83,182	122,967		122,967	105,749	U
54	0603635M	Marine Corps Ground Combat/Support System	04	8,400	1,489		1,489	1,342	U
55	0603654N	Joint Service Explosive Ordnance Development	04	41,468	34,958		34,958	21,399	U
56	0603658N	Cooperative Engagement	04	50,058	53,572		53,572	43,578	U
57	0603713N	Ocean Engineering Technology Development	04	6,370	7,696		7,696	7,764	U
58	0603721N	Environmental Protection	04	19,194	18,850		18,850	13,200	U
59	0603724N	Navy Energy Program	04	85,577	45,618		45,618	69,415	U
60	0603725N	Facilities Improvement	04	3,116	3,019		3,019	2,588	U

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Line	Program Element No Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	S e c
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61	0603734N	CHALK CORAL	04	41,498	124,451		124,451	176,301	U
62	0603739N	Navy Logistic Productivity	04	3,452	3,847		3,847	3,873	U
63	0603746N	RETRACT MAPLE	04	290,796	308,131		308,131	376,028	U
64	0603748N	LINK PLUMERIA	04	153,811	121,189		121,189	272,096	U
65	0603751N	RETRACT ELM	04	115,681	56,358		56,358	42,233	U
66	0603764N	LINK EVERGREEN	04	61,986	55,378		55,378	46,504	U
67	0603787N	Special Processes	04	43,810	48,842		48,842	25,109	U
68	0603790N	NATO Research and Development	04	8,589	7,502		7,502	9,659	U
69	0603795N	Land Attack Technology	04	14,274				318	U
70	0603851M	Joint Non-Lethal Weapons Testing	04	41,191	49,278		49,278	40,912	U
71	0603860N	Joint Precision Approach and Landing Systems - Dem/Val	04	120,491	156,178		156,178	54,896	U
72	0603889N	Counterdrug RDT&E Projects	04	500					U
73	0603925N	Directed Energy and Electric Weapon Systems	04					58,696	U
74	0604112N	Gerald R. Ford Class Nuclear Aircraft Carrier (CVN 78 - 80)	04					43,613	U
75	0604122N	Remote Minehunting System (RMS)	04					21,110	U
76	0604272N	Tactical Air Directional Infrared Countermeasures (TADIRCM)	04	66,196	33,906		33,906	5,657	U
77	0604279N	ASE Self-Protection Optimization	04	725	169		169	8,033	U
78	0604454N	LX (R)	04					36,859	U
79	0604653N	Joint Counter Radio Controlled IED Electronic Warfare (JCREW)	04	42,421	15,874		15,874	15,227	U
80	0604659N	Precision Strike Weapons Development Program	04	5,166	2,257		2,257		U

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81	0604707N	Space and Electronic Warfare (SEW) Architecture/Engineering Support	04	26,279	31,256		31,256	22,393	U
82	0604786N	Offensive Anti-Surface Warfare Weapon Development	04	77,609	90,985		90,985	202,939	U
83	0605812M	Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Ph	04	35,563	50,362		50,362	11,450	U
84	0303354N	ASW Systems Development - MIP	04	12,077	4,908		4,908	6,495	U
85	0304270N	Electronic Warfare Development - MIP	04	2,841	153		153	332	U
		Advanced Component Development & Prototypes		-----	-----	-----	-----	-----	
				3,839,612	4,321,104		4,321,104	4,591,812	
86	0603208N	Training System Aircraft	05					25,153	U
87	0604212N	Other Helo Development	05	22,899	25,458		25,458	46,154	U
88	0604214N	AV-8B Aircraft - Eng Dev	05	16,128	33,325		33,325	25,372	U
89	0604215N	Standards Development	05	67,801	68,497		68,497	53,712	U
90	0604216N	Multi-Mission Helicopter Upgrade Development	05	6,035	17,565		17,565	11,434	U
91	0604218N	Air/Ocean Equipment Engineering	05	3,658	4,026		4,026	2,164	U
92	0604221N	P-3 Modernization Program	05	3,170	791		791	1,710	U
93	0604230N	Warfare Support System	05	9,983	9,725		9,725	9,094	U
94	0604231N	Tactical Command System	05	65,416	63,438		63,438	70,248	U
95	0604234N	Advanced Hawkeye	05	125,194	107,041		107,041	193,200	U
96	0604245N	H-1 Upgrades	05	27,724	47,123		47,123	44,115	U
97	0604261N	Acoustic Search Sensors	05	32,507	29,195		29,195	23,227	U
98	0604262N	V-22A	05	44,294	43,084		43,084	61,249	U
99	0604264N	Air Crew Systems Development	05	2,437	9,151		9,151	15,014	U

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Line	Program Element No Number	Item -----	Act ---	FY 2013 (Base & OCO) -----	FY 2014 Base Enacted -----	FY 2014 OCO Enacted -----	FY 2014 Total Enacted -----	FY 2015 Base -----	S e c -
100	0604269N	EA-18	05	11,769	11,138		11,138	18,730	U
101	0604270N	Electronic Warfare Development	05	46,851	34,964		34,964	28,742	U
102	0604273N	Executive Helo Development	05	46,203	94,235		94,235	388,086	U
103	0604274N	Next Generation Jammer (NGJ)	05	153,369	157,796		157,796	246,856	U
104	0604280N	Joint Tactical Radio System - Navy (JTRS-Navy)	05	197,819	3,259		3,259	7,106	U
105	0604307N	Surface Combatant Combat System Engineering	05	232,441	206,298		206,298	189,112	U
106	0604311N	LPD-17 Class Systems Integration	05	741	1,214		1,214	376	U
107	0604329N	Small Diameter Bomb (SDB)	05	28,883	24,925		24,925	71,849	U
108	0604366N	Standard Missile Improvements	05	46,966	67,082		67,082	53,198	U
109	0604373N	Airborne MCM	05	60,424	109,354		109,354	38,941	U
110	0604376M	Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) for Aviation	05	9,647	10,080		10,080	7,832	U
111	0604378N	Naval Integrated Fire Control - Counter Air Systems Engineering	05	35,872	21,413		21,413	15,263	U
112	0604404N	Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System	05	99,479	121,673		121,673	403,017	U
113	0604501N	Advanced Above Water Sensors	05	235,176	157,871		157,871	20,409	U
114	0604503N	SSN-688 and Trident Modernization	05	74,091	85,711		85,711	71,565	U
115	0604504N	Air Control	05	5,231	10,754		10,754	29,037	U
116	0604512N	Shipboard Aviation Systems	05	58,179	69,615		69,615	122,083	U
117	0604518N	Combat Information Center Conversion	05	817					U
118	0604522N	Advanced Missile Defense Radar (AMDR) System	05					144,706	U
119	0604558N	New Design SSN	05	81,162	62,446		62,446	72,695	U

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Line	Program Element No Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	S e c
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120	0604562N	Submarine Tactical Warfare System	05	43,555	49,135		49,135	38,985	U
121	0604567N	Ship Contract Design/ Live Fire T&E	05	165,908	187,421		187,421	48,470	U
122	0604574N	Navy Tactical Computer Resources	05	3,552	3,689		3,689	3,935	U
123	0604580N	Virginia Payload Module (VPM)	05		59,120		59,120	132,602	U
124	0604601N	Mine Development	05	6,934	5,041		5,041	19,067	U
125	0604610N	Lightweight Torpedo Development	05	45,907	26,444		26,444	25,280	U
126	0604654N	Joint Service Explosive Ordnance Development	05	7,394	8,897		8,897	8,985	U
127	0604703N	Personnel, Training, Simulation, and Human Factors	05	5,224	4,233		4,233	7,669	U
128	0604727N	Joint Standoff Weapon Systems	05	5,490	442		442	4,400	U
129	0604755N	Ship Self Defense (Detect & Control)	05	78,227	95,604		95,604	56,889	U
130	0604756N	Ship Self Defense (Engage: Hard Kill)	05	52,816	43,303		43,303	96,937	U
131	0604757N	Ship Self Defense (Engage: Soft Kill/EW)	05	125,204	114,799		114,799	134,564	U
132	0604761N	Intelligence Engineering	05		1,984		1,984	200	U
133	0604771N	Medical Development	05	37,426	28,458		28,458	8,287	U
134	0604777N	Navigation/ID System	05	38,949	47,428		47,428	29,504	U
135	0604800M	Joint Strike Fighter (JSF) - EMD	05	639,059	415,727		415,727	513,021	U
136	0604800N	Joint Strike Fighter (JSF) - EMD	05	642,349	440,745		440,745	516,456	U
137	0605013M	Information Technology Development	05	11,540	5,564		5,564	2,887	U
138	0605013N	Information Technology Development	05	64,238	47,807		47,807	66,317	U
139	0605212N	CH-53K RDTE	05	535,552	462,280		462,280	573,187	U
140	0605220N	Ship to Shore Connector (SSC)	05					67,815	U

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--	-----	----	---	-----	-----	-----	-----	-----	-
141	0605450N	Joint Air-to-Ground Missile (JAGM)	05					6,300	U
142	0605500N	Multi-mission Maritime Aircraft (MMA)	05	391,364	272,352		272,352	308,037	U
143	0204202N	DDG-1000	05	120,842	187,904		187,904	202,522	U
144	0304231N	Tactical Command System - MIP	05	1,072	2,140		2,140	1,011	U
145	0304785N	Tactical Cryptologic Systems	05	21,362	9,406		9,406	10,357	U
146	0305124N	Special Applications Program	05		22,800		22,800	23,975	U
		System Development & Demonstration		4,896,330	4,250,970		4,250,970	5,419,108	
147	0604256N	Threat Simulator Development	06	27,843	43,261		43,261	45,272	U
148	0604258N	Target Systems Development	06	53,171	71,872		71,872	79,718	U
149	0604759N	Major T&E Investment	06	32,989	38,033		38,033	123,993	U
150	0605126N	Joint Theater Air and Missile Defense Organization	06	5,829	1,352		1,352	4,960	U
151	0605152N	Studies and Analysis Support - Navy	06	15,996	5,553		5,553	8,296	U
152	0605154N	Center for Naval Analyses	06	41,573	46,655		46,655	45,752	U
153	0605502N	Small Business Innovative Research	06	289,844					U
154	0605804N	Technical Information Services	06	1,230	637		637	876	U
155	0605853N	Management, Technical & International Support	06	44,635	83,494		83,494	72,070	U
156	0605856N	Strategic Technical Support	06	2,935	3,221		3,221	3,237	U
157	0605861N	RDT&E Science and Technology Management	06	64,317	72,725		72,725	73,033	U
158	0605863N	RDT&E Ship and Aircraft Support	06	130,840	141,778		141,778	138,304	U
159	0605864N	Test and Evaluation Support	06	341,126	301,219		301,219	336,286	U
160	0605865N	Operational Test and Evaluation Capability	06	15,109	16,565		16,565	16,658	U

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161	0605866N	Navy Space and Electronic Warfare (SEW) Support	06	6,091	3,264		3,264	2,505	U
162	0605867N	SEW Surveillance/Reconnaissance Support	06	7,453	7,134		7,134	8,325	U
163	0605873M	Marine Corps Program Wide Support	06	17,352	24,054		24,054	17,866	U
164	0305885N	Tactical Cryptologic Activities	06	2,562	497		497		U
165	0909999N	Financing for Cancelled Account Adjustments	06	2,668					U
		Management Support		1,103,563	861,314		861,314	977,151	
167	0604227N	HARPOON Modifications	07		699		699		U
168	0604402N	Unmanned Combat Air Vehicle (UCAV) Advanced Component and Prototype Development	07	128,135	20,961		20,961	35,949	U
169	0604766M	Marine Corps Data Systems	07		35		35	215	U
170	0605525N	Carrier Onboard Delivery (COD) Follow On	07		1,230		1,230	8,873	U
171	0605555N	Strike Weapons Development	07		13,757		13,757		U
172	0101221N	Strategic Sub & Weapons System Support	07	83,771	98,057		98,057	96,943	U
173	0101224N	SSBN Security Technology Program	07	30,861	31,755		31,755	30,057	U
174	0101226N	Submarine Acoustic Warfare Development	07	1,299	1,464		1,464	4,509	U
175	0101402N	Navy Strategic Communications	07	17,461	21,723		21,723	13,676	U
176	0203761N	Rapid Technology Transition (RTT)	07	21,906	8,561		8,561	12,480	U
177	0204136N	F/A-18 Squadrons	07	150,477	112,618		112,618	76,216	U
178	0204152N	E-2 Squadrons	07	7,871	1,971		1,971		U
179	0204163N	Fleet Telecommunications (Tactical)	07	14,304	23,422		23,422	27,281	U
180	0204228N	Surface Support	07	2,999	2,374		2,374	2,878	U

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181	0204229N	Tomahawk and Tomahawk Mission Planning Center (TMPC)	07	10,154	12,407		12,407	32,385	U
182	0204311N	Integrated Surveillance System	07	40,658	41,609		41,609	39,371	U
183	0204413N	Amphibious Tactical Support Units (Displacement Craft)	07	6,091	4,382		4,382	4,609	U
184	0204460M	Ground/Air Task Oriented Radar (G/ATOR)	07	70,217	78,208		78,208	99,106	U
185	0204571N	Consolidated Training Systems Development	07	16,798	39,124		39,124	39,922	U
186	0204574N	Cryptologic Direct Support	07	1,610	2,703		2,703	1,157	U
187	0204575N	Electronic Warfare (EW) Readiness Support	07	17,867	19,563		19,563	22,067	U
188	0205601N	HARM Improvement	07	12,586	13,586		13,586	17,420	U
189	0205604N	Tactical Data Links	07	79,362	169,875		169,875	151,208	U
190	0205620N	Surface ASW Combat System Integration	07	24,465	31,863		31,863	26,366	U
191	0205632N	MK-48 ADCAP	07	35,115	10,080		10,080	25,952	U
192	0205633N	Aviation Improvements	07	71,945	78,608		78,608	106,936	U
193	0205658N	Navy Science Assistance Program	07	3,131					U
194	0205675N	Operational Nuclear Power Systems	07	79,229	116,928		116,928	104,023	U
195	0206313M	Marine Corps Communications Systems	07	162,537	160,773		160,773	77,398	U
196	0206335M	Common Aviation Command and Control System (CAC2S)	07					32,495	U
197	0206623M	Marine Corps Ground Combat/Supporting Arms Systems	07	146,255	116,061		116,061	156,626	U
198	0206624M	Marine Corps Combat Services Support	07	56,390	35,647		35,647	20,999	U
199	0206625M	USMC Intelligence/Electronic Warfare Systems (MIP)	07	21,369	33,394		33,394	14,179	U
200	0207161N	Tactical AIM Missiles	07	18,889	15,453		15,453	47,258	U
201	0207163N	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	2,669	2,613		2,613	10,210	U

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202	0208058N	Joint High Speed Vessel (JHSV)	07	1,759	986		986		U
206	0303109N	Satellite Communications (SPACE)	07	179,029	66,196		66,196	41,829	U
207	0303138N	Consolidated Afloat Network Enterprise Services (CANES)	07	15,510	24,476		24,476	22,780	U
208	0303140N	Information Systems Security Program	07	27,723	23,514		23,514	23,053	U
209	0303150M	WWMCCS/Global Command and Control System	07	71				296	U
211	0305149N	COBRA JUDY	07	14,460					U
212	0305160N	Navy Meteorological and Ocean Sensors-Space (METOC)	07	738	742		742	359	U
213	0305192N	Military Intelligence Program (MIP) Activities	07	7,962	4,799		4,799	6,166	U
214	0305204N	Tactical Unmanned Aerial Vehicles	07	6,956	8,381		8,381	8,505	U
215	0305207N	Manned Reconnaissance Systems	07	28,099					U
216	0305208M	Distributed Common Ground/Surface Systems	07	26,540	5,527		5,527	11,613	U
217	0305208N	Distributed Common Ground/Surface Systems	07	13,453	17,718		17,718	18,146	U
218	0305220N	RQ-4 UAV	07	612,682	375,235		375,235	498,003	U
219	0305231N	MQ-8 UAV	07	83,827	41,713		41,713	47,294	U
220	0305232M	RQ-11 UAV	07	83				718	U
221	0305233N	RQ-7 UAV	07	791	710		710	851	U
222	0305234N	Small (Level 0) Tactical UAS (STUASL0)	07	9,204	5,013		5,013	4,813	U
223	0305239M	RQ-21A	07	22,924	11,122		11,122	8,192	U
224	0305241N	Multi-Intelligence Sensor Development	07		28,851		28,851	22,559	U
225	0305242M	Unmanned Aerial Systems (UAS) Payloads (MIP)	07					2,000	U
226	0308601N	Modeling and Simulation Support	07	5,217	5,116		5,116	4,719	U

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227	0702207N	Depot Maintenance (Non-IF)	07	20,387	28,042		28,042	21,168	U
228	0708011N	Industrial Preparedness	07	64,411	50,933		50,933	37,169	U
229	0708730N	Maritime Technology (MARITECH)	07	4,424	4,998		4,998	4,347	U
9999	9999999999	Classified Programs		1,266,818	1,385,048	34,426	1,419,474	1,162,684	U
		Operational Systems Development		3,749,489	3,410,624		3,445,050	3,286,028	
				-----	-----	-----	-----	-----	
		Total Research, Development, Test & Eval, Navy		15,553,477	14,946,329		14,980,755	16,266,335	

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0603208N / Training System Aircraft							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	0.000	-	-	25.153	-	25.153	21.884	17.983	18.070	3.083	-	86.173
3367: Training Aircraft Updates	0.000	-	-	25.153	-	25.153	21.884	17.983	18.070	3.083	-	86.173
# The FY 2015 OCO Request will be submitted at a later date.												
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) Increment (Inc) 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 CNATRA (Commander Naval Aviation Training) Strike Pilot and Naval Flight Officer (NFO) training, the T-45TS must develop, test, and integrate the RASP Inc 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 190 aircraft and 18 simulators to meet the January 1st, 2020 FAA ADS-B Out mandate. Specifically, this includes the development, integration, test and certification of an upgrade or replacement of the Global Position System/Inertial Navigation Assembly (GINA), the replacement of the APX-100 Transponder with associated data bus connectivity, antennas, and an updated Mission Display Processor Operational Flight Program (MDP/OFP), simulators and support equipment.												
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. ADS-B Out capability will be developed, tested, and integrated into the T-6 fleet to meet the FAA January 1st, 2020 requirement to fly in NAS.												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		PE 0603208N / Training System Aircraft			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	25.153	-	25.153
Total Adjustments	-	-	25.153	-	25.153
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	26.494	-	26.494
• Rate/Misc Adjustments	-	-	-1.341	-	-1.341
Change Summary Explanation					
Technical: Not applicable.					
Schedule: Not applicable.					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3367: Training Aircraft Updates	-	-	-	25.153	-	25.153	21.884	17.983	18.070	3.083	-	86.173
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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. 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.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: T45 RASP									-	-	5.478	
									Articles: -	-	-	
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 2013 Accomplishments: N/A												
FY 2014 Plans: N/A												
FY 2015 Plans: T-45 Training System: Begin design and integration of Required Avionics Sustainment Program (RASP) Increment (Inc) I into the T-45 by providing manpower to support an ACAT III Program of Record Pre-Milestone B entry in FY15 as well as contract efforts to support the FY15 award of the Engineering Manufacturing Development (EMD) contract for the development and integration of Performance Based Navigation (PBN) capable Global Positioning System (GPS), ADS-B Out transponder, and antennas. Begin												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
the effort to integrate this capability into the simulators, and start software coding efforts at the Systems Support Activity (SSA) at China Lake.												
Title: T6 CNS/ATM										-	-	19.675
Articles:										-	-	-
Description: Funding supports development, integration, test, and certification of the ADS-B Out capability in the T-6 Training System to comply with the January 1, 2020 FAA ADS-B Out mandate.												
FY 2013 Accomplishments: N/A												
FY 2014 Plans: 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 as mandated for FAA compliance.												
Accomplishments/Planned Programs Subtotals										-	-	25.153
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• APN/0569: T45 Series (OSIP 006-16)	-	-	-	-	-	10.600	27.258	40.068	66.272	104.249	248.447	
• APN/0571: JT Primary Acft Trnr Sys (JPATS) (OSIP 007-16)	-	-	-	-	-	5.943	9.530	16.651	24.750	14.864	71.738	
Remarks												
D. Acquisition Strategy												
T-45 Training System: Required Avionics Sustainment Program (RASP) Increment (Inc) I is the first increment of an ACAT III Program of Record to allow the T-45 to operate in the FAA's NextGen through 2035, the expected life of the T-45. The RDT&E effort will consist of a sole source EMD contract effort to be awarded in FY15. Replacement or modification kits for the Weapon Replaceable Assemblies (WRA) associated with the ADS-B Out capability will be either acquired through the iGATM Catalog, Global Air Traffic Management Division's online catalog managed by the 853rd Electronic Systems Group at Hanscom AFB, MA, or contracted through the Lead Systems Integrator. The System Support Activity (SSA) will be developing and testing all software for this capability increase with contracted support.												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0603208N / <i>Training System Aircraft</i>	<b>Project (Number/Name)</b> 3367 / <i>Training Aircraft Updates</i>
<p>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. However, a sole source strategy will be sought for the T-6B air vehicles due to proprietary hardware and software.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>T-45 Training System: Performance of the program will be measured via the Acquisition and SETR Process for an ACAT III program. Milestone B is planned for 3rd Qtr FY 2015 with Milestone C planned for 3rd Qtr FY 2018.</p> <p>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 Qtr FY16 with Milestone C planned for 1st Qtr FY17. Key Performance Parameters will be established with CNATRA and Air Education Training Command (AETC) prior to MS B approval.</p>		

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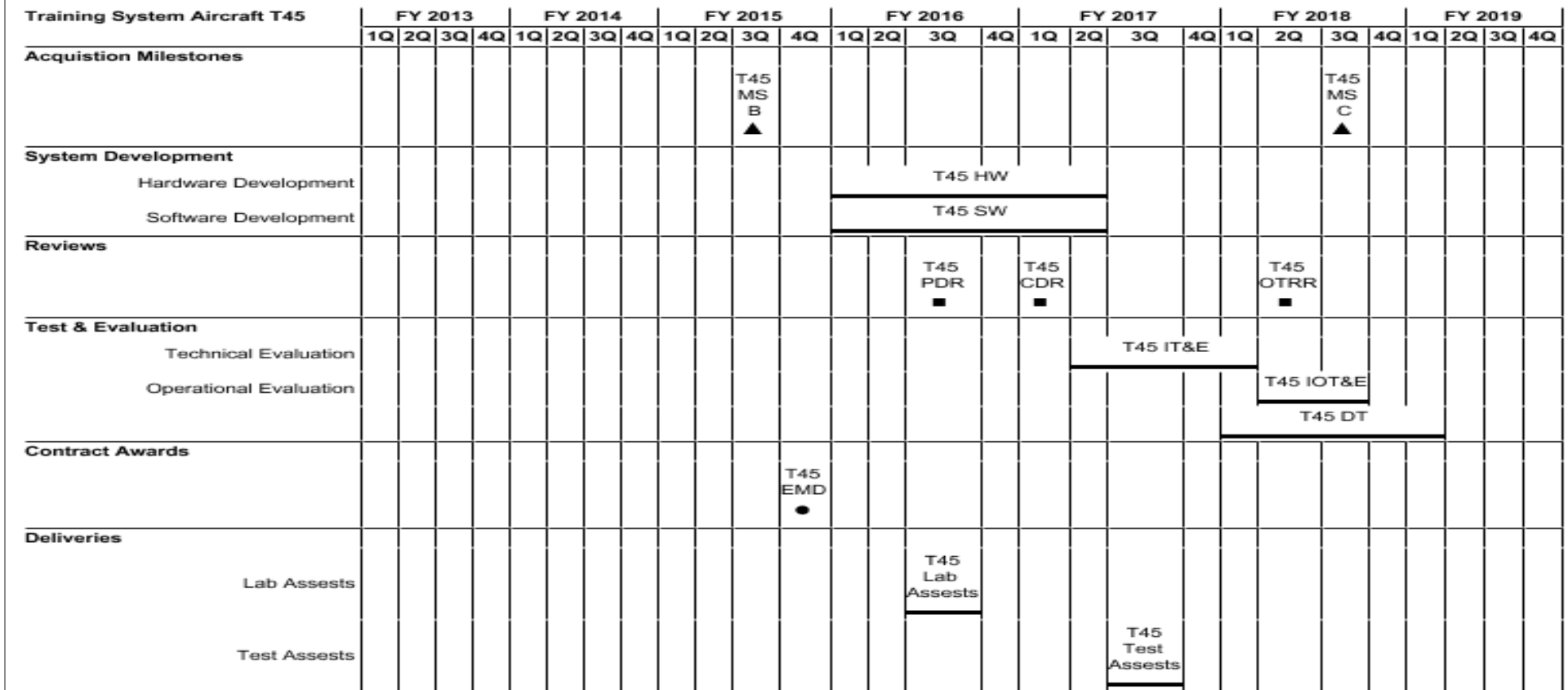
**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**  
1319 / 5

**R-1 Program Element (Number/Name)**  
PE 0603208N / *Training System Aircraft*

**Project (Number/Name)**  
3367 / *Training Aircraft Updates*



2015OSD - 0603208N - 3367

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**

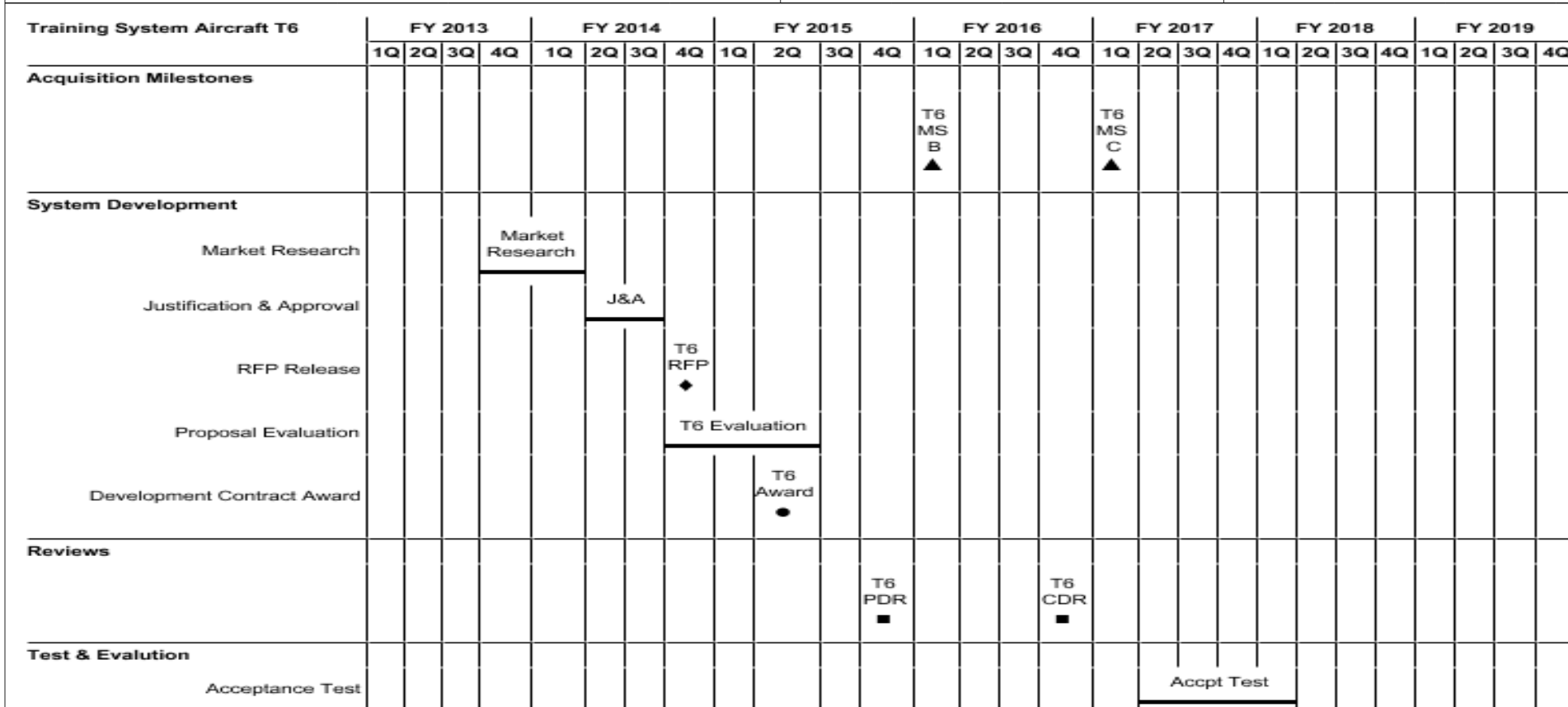
1319 / 5

**R-1 Program Element (Number/Name)**

PE 0603208N / Training System Aircraft

**Project (Number/Name)**

3367 / Training Aircraft Updates



2015OSD - 0603208N - 3367

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604212N / Other Helicopter Development							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	766.262	22.899	25.458	46.154	-	46.154	11.321	5.880	5.795	5.947	Continuing	Continuing
1109: CH/MH-53	44.724	1.699	1.833	2.675	-	2.675	2.682	2.736	2.742	2.799	Continuing	Continuing
2415: H-60 Development	698.993	20.489	21.827	25.885	-	25.885	0.003	-	-	-	-	767.197
2460: VH-3/VH-60	22.545	0.711	1.532	11.539	-	11.539	3.301	1.394	1.403	1.462	Continuing	Continuing
3355: MH-XX Development	0.000	-	0.266	6.055	-	6.055	5.335	1.750	1.650	1.686	Continuing	Continuing
MDAP/MAIS Code: 282												
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
Proj: 3355 MH-XX Development Budget Activity realignment to BA 04 (Advanced Component Development & Prototypes) will take effect with the approval of POM16. This realignment more accurately reflects the current stage of MH-XX development. The verbiage in the Budget Exhibit therefore is written as if this is a BA 04 appropriation.												
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 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 of Anti-Submarine Warfare, Surface Warfare, and Logistics support Helicopters.												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0604212N / Other Helicopter Development			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	33.978	40.558	46.130	-	46.130
Current President's Budget	22.899	25.458	46.154	-	46.154
Total Adjustments	-11.079	-15.100	0.024	-	0.024
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-15.100			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.021	-			
• Program Adjustments	-	-	1.371	-	1.371
• Rate/Misc Adjustments	-	-	-1.347	-	-1.347
• Congressional General Reductions	-2.058	-	-	-	-
Adjustments					
• Congressional Directed Reductions	-9.000	-	-	-	-
Adjustments					
Change Summary Explanation					
Cost: Due to the reductions from P.L. 113-6, the Budget Control Act and FY 2014 Appropriations Act, the Airborne Mine Countermeasures (AMCM) Airborne Mine Neutralization System (AMNS) Operational Assessment (OA) funding has been significantly reduced. Funding is required by both the MH-60S AMCM and sensor development program to execute the AMNS OA. The Forward Firing Weapons (FFW), Fast Attack Craft/Fast Inshore Attack Craft (FAC/FIAC) limited hardware/software enhancement (targeting capability) and overall FFW Operational Testing completion delayed into first quarter of FY 2016 as a result of the Budget Control Act and P.L. 113-6 reductions. The scope of the FFW targeting capability has been significantly reduced due to the FY 2014 Budget Appropriations Act reductions.					
2460 FY2015 budget revised the FY2015 funding allocations within the cost categories to more accurately reflect the efforts directly related to those categories.					
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					

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0604212N / <i>Other Helicopter Development</i>
<p>2415 AMCM: The MH-60S AMCM Initial Operational Capability (IOC) milestone is delaying to align with Littoral Combat Ship (LCS) Mine Countermeasures (MCM) Mission Package IOC to 4Q FY 2015. AMNS OA is delayed due to sensor system integration issues. MH-60S IOT&amp;E is being conducted concurrent with AMNS sensor OA. LCS MCM Initial Operational Test and Evaluation (IOT&amp;E) has been removed from this budget schedule. AMCM Spiral Upgrades were cancelled due to the reductions enacted in P.L 113-6. Required correction of deficiencies remain in schedule with no spiral upgrades.</p> <p>2415 Forward Firing Weapon: As a result of reductions enacted in P.L. 113-6 and the Budget Control Act, integration efforts have been delayed resulting in FAC/ FIAC threat response IOC occurring in FY 2016.</p> <p>2460 VH-3/VH-60: The schedule has been updated to reflect the evaluation of a Wideband Line of Sight System for integration, prototype and test for the VH Communications Suite.</p> <p>3355 MH-XX Development: Not Applicable</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1109: CH/MH-53	44.724	1.699	1.833	2.675	-	2.675	2.682	2.736	2.742	2.799	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 FY2019, 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. 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 2013	FY 2014	FY 2015	
Title: H-53 Avionics  Articles:  FY 2013 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 and determined impact of high Operation and Support cost drivers and addressed alternatives to mitigate identified issues.  FY 2014 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 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.									0.369	0.392	0.554	
									-	-	-	
Title: H-53 Survivability  Articles:									0.298	0.316	0.407	
									-	-		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014			
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 2013	FY 2014	FY 2015
<b>FY 2013 Accomplishments:</b> Performed 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.						
<b>FY 2014 Plans:</b> 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.						
<b>FY 2015 Plans:</b> 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.						
<b>Title:</b> H-53 Propulsion				0.283	0.315	0.675
<b>Articles:</b>				-	-	-
<b>FY 2013 Accomplishments:</b> Provided in-house, field activity, and contractor support of Integrated Product Teams (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.						
<b>FY 2014 Plans:</b> 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.						
<b>FY 2015 Plans:</b> 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.						
<b>Title:</b> Project Management Support				0.498	0.508	0.715
<b>Articles:</b>				-	-	-
<b>FY 2013 Accomplishments:</b>						

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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 2013	FY 2014	FY 2015
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. <b>FY 2014 Plans:</b> 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. <b>FY 2015 Plans:</b> 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.											
<b>Title:</b> H-53 Airframe  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> 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. <b>FY 2014 Plans:</b> 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. <b>FY 2015 Plans:</b> 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									0.251 -	0.302 -	0.324 -
Accomplishments/Planned Programs Subtotals									1.699	1.833	2.675
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN/0528: H-53 Series	34.736	60.581	38.159	-	38.159	33.569	32.246	24.973	25.810	145.611	1,770.975

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy							<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604212N / <i>Other Helicopter Development</i>			<b>Project (Number/Name)</b> 1109 / <i>CH/MH-53</i>		

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
<b>Remarks</b>											

**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, 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.

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

Date: March 2014

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1319 / 5

R-1 Program Element (Number/Name)	Program Element Description	Program Element Type	Program Element Status	Program Element Location	Program Element Contact	Program Element Date	Program Element Notes
1	1.1	1.1.1	1.1.1.1	1.1.1.1.1	1.1.1.1.1.1	1.1.1.1.1.1.1	1.1.1.1.1.1.1.1
2	2.1	2.1.1	2.1.1.1	2.1.1.1.1	2.1.1.1.1.1	2.1.1.1.1.1.1	2.1.1.1.1.1.1.1
3	3.1	3.1.1	3.1.1.1	3.1.1.1.1	3.1.1.1.1.1	3.1.1.1.1.1.1	3.1.1.1.1.1.1.1
4	4.1	4.1.1	4.1.1.1	4.1.1.1.1	4.1.1.1.1.1	4.1.1.1.1.1.1	4.1.1.1.1.1.1.1
5	5.1	5.1.1	5.1.1.1	5.1.1.1.1	5.1.1.1.1.1	5.1.1.1.1.1.1	5.1.1.1.1.1.1.1
6	6.1	6.1.1	6.1.1.1	6.1.1.1.1	6.1.1.1.1.1	6.1.1.1.1.1.1	6.1.1.1.1.1.1.1
7	7.1	7.1.1	7.1.1.1	7.1.1.1.1	7.1.1.1.1.1	7.1.1.1.1.1.1	7.1.1.1.1.1.1.1
8	8.1	8.1.1	8.1.1.1	8.1.1.1.1	8.1.1.1.1.1	8.1.1.1.1.1.1	8.1.1.1.1.1.1.1
9	9.1	9.1.1	9.1.1.1	9.1.1.1.1	9.1.1.1.1.1	9.1.1.1.1.1.1	9.1.1.1.1.1.1.1
10	10.1	10.1.1	10.1.1.1	10.1.1.1.1	10.1.1.1.1.1	10.1.1.1.1.1.1	10.1.1.1.1.1.1.1
11	11.1	11.1.1	11.1.1.1	11.1.1.1.1	11.1.1.1.1.1	11.1.1.1.1.1.1	11.1.1.1.1.1.1.1
12	12.1	12.1.1	12.1.1.1	12.1.1.1.1	12.1.1.1.1.1	12.1.1.1.1.1.1	12.1.1.1.1.1.1.1
13	13.1	13.1.1	13.1.1.1	13.1.1.1.1	13.1.1.1.1.1	13.1.1.1.1.1.1	13.1.1.1.1.1.1.1
14	14.1	14.1.1	14.1.1.1	14.1.1.1.1	14.1.1.1.1.1	14.1.1.1.1.1.1	14.1.1.1.1.1.1.1
15	15.1	15.1.1	15.1.1.1	15.1.1.1.1	15.1.1.1.1.1	15.1.1.1.1.1.1	15.1.1.1.1.1.1.1
16	16.1	16.1.1	16.1.1.1	16.1.1.1.1	16.1.1.1.1.1	16.1.1.1.1.1.1	16.1.1.1.1.1.1.1
17	17.1	17.1.1	17.1.1.1	17.1.1.1.1	17.1.1.1.1.1	17.1.1.1.1.1.1	17.1.1.1.1.1.1.1
18	18.1	18.1.1	18.1.1.1	18.1.1.1.1	18.1.1.1.1.1	18.1.1.1.1.1.1	18.1.1.1.1.1.1.1
19	19.1	19.1.1	19.1.1.1	19.1.1.1.1	19.1.1.1.1.1	19.1.1.1.1.1.1	19.1.1.1.1.1.1.1
20	20.1	20.1.1	20.1.1.1	20.1.1.1.1	20.1.1.1.1.1	20.1.1.1.1.1.1	20.1.1.1.1.1.1.1
21	21.1	21.1.1	21.1.1.1	21.1.1.1.1	21.1.1.1.1.1	21.1.1.1.1.1.1	21.1.1.1.1.1.1.1
22	22.1	22.1.1	22.1.1.1	22.1.1.1.1	22.1.1.1.1.1	22.1.1.1.1.1.1	22.1.1.1.1.1.1.1
23	23.1	23.1.1	23.1.1.1	23.1.1.1.1	23.1.1.1.1.1	23.1.1.1.1.1.1	23.1.1.1.1.1.1.1
24	24.1	24.1.1	24.1.1.1	24.1.1.1.1	24.1.1.1.1.1	24.1.1.1.1.1.1	24.1.1.1.1.1.1.1
25	25.1	25.1.1	25.1.1.1	25.1.1.1.1	25.1.1.1.1.1	25.1.1.1.1.1.1	25.1.1.1.1.1.1.1
26	26.1	26.1.1	26.1.1.1	26.1.1.1.1	26.1.1.1.1.1	26.1.1.1.1.1.1	26.1.1.1.1.1.1.1
27	27.1	27.1.1	27.1.1.1	27.1.1.1.1	27.1.1.1.1.1	27.1.1.1.1.1.1	27.1.1.1.1.1.1.1
28	28.1	28.1.1	28.1.1.1	28.1.1.1.1	28.1.1.1.1.1	28.1.1.1.1.1.1	28.1.1.1.1.1.1.1
29	29.1	29.1.1	29.1.1.1	29.1.1.1.1	29.1.1.1.1.1	29.1.1.1.1.1.1	29.1.1.1.1.1.1.1
30	30.1	30.1.1	30.1.1.1	30.1.1.1.1	30.1.1.1.1.1	30.1.1.1.1.1.1	30.1.1.1.1.1.1.1
31	31.1	31.1.1	31.1.1.1	31.1.1.1.1	31.1.1.1.1.1	31.1.1.1.1.1.1	31.1.1.1.1.1.1.1
32	32.1	32.1.1	32.1.1.1	32.1.1.1.1	32.1.1.1.1.1	32.1.1.1.1.1.1	32.1.1.1.1.1.1.1

PE 0604212N / Other Helicopter

## Development

Project (Number/Name)	Start Date	End Date	Duration (Days)	Project Manager	Status	Notes
101	2023-01-01	2023-01-15	14	John Doe	Completed	Project completed successfully.
102	2023-01-16	2023-02-01	16	Jane Smith	In Progress	Project is currently in progress.
103	2023-02-02	2023-02-15	13	John Doe	Completed	Project completed successfully.
104	2023-02-16	2023-03-01	15	Jane Smith	In Progress	Project is currently in progress.
105	2023-03-02	2023-03-15	13	John Doe	Completed	Project completed successfully.
106	2023-03-16	2023-03-31	15	Jane Smith	In Progress	Project is currently in progress.
107	2023-04-01	2023-04-15	14	John Doe	Completed	Project completed successfully.
108	2023-04-16	2023-05-01	15	Jane Smith	In Progress	Project is currently in progress.
109	2023-05-02	2023-05-15	13	John Doe	Completed	Project completed successfully.
110	2023-05-16	2023-05-31	15	Jane Smith	In Progress	Project is currently in progress.

1109 / CH/MH-53

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2015DON - 0604212N - 1109



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2415: H-60 Development	698.993	20.489	21.827	25.885	-	25.885	0.003	-	-	-	-	767.197
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
The Helicopter Combat Support mission is to provide organic fleet Armed Helo Fast Attack Craft/Fast Inshore Attack Craft (FAC/FIAC) threat response, maintain forward deployed fleet sustainability through rapid airborne delivery of materials and personnel and to support amphibious operations through search and rescue coverage. The primary roles of the aircraft are to 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, being completed 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 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.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
<b>Title:</b> MH-60S Airframe Development and Integration									2.547	4.031	1.550	
									Articles: -	-	-	
<b>Description:</b> 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. Only \$0.3 Million applies to AMCM for FY 2015 for completion of the AMCM sensor/ weapon systems integration.												
<b>FY 2013 Accomplishments:</b> Continued AMCM sensor/weapon system testing. Analyzed, designed, integrated, and supported follow-on FFW/Rockets capability to include training development. Completed FFW 20mm Gun System testing and reporting.												
<b>FY 2014 Plans:</b>												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
Continue AMCM sensor/weapon system testing at a significantly de-scoped level due to PL 113.6, Budget Control Act and FY 2014 Appropriations Act . Analyze, design, integrate, and support follow-on FFW/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.				
Title: MH-60S Avionics Development and Integration		7.347	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. Only \$1.0 Million of FY 2015 applies to AMCM.		-	-	-
FY 2013 Accomplishments: Continued AMCM test efforts; Supported FFW/Rockets integration.				
FY 2014 Plans: Continue 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 have been de-scoped due to PL 113.6, Budget Control Act and FY14 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.				
Title: MH-60S Test, Engineering, Logistics, Management Support		10.595	12.194	13.628
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		-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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 2013	FY 2014	FY 2015
FFW/Rockets and enhanacements. AMCM sensor/weapon system integration testing and support. Only \$3.9M of the FY 2015 applies to AMCM.											
FY 2013 Accomplishments: Continued AMCM test and integration of AMCM 2B sensor/weapon system, continued follow-on FFW/Rockets integration testing and completed 20mm Gun reporting.											
FY 2014 Plans: Support AMCM test and integration of AMCM 2B sensor/weapon system, follow-on FFW Rockets Integration/testing.											
FY 2015 Plans: Complete Forward Firing Weapons (FFW)/Rockets integration/testing for DRL with mixed loads, FFW enhancements and Airborne Mine Countermeasures (AMCM) sensor/weapon system integration.											
Accomplishments/Planned Programs Subtotals									20.489	21.827	25.885
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN1/017900: MH-60S	431.566	395.711	210.209	-	210.209	28.273	-	-	-	-	6,809.315
• APN6/060510: MH-60S SPARES	2.970	0.454	-	-	-	-	-	-	-	-	175.971
• APN5/053000: H-60 MODS	19.079	35.120	48.433	-	48.433	43.354	44.186	36.201	24.998	63.659	462.777
Remarks											
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.											

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604212N / <i>Other Helicopter Development</i>	Project (Number/Name) 2415 / <i>H-60 Development</i>

## E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Dev - Airframe*	SS/CPIF	Sikorsky : Stratford, CT	170.100	0.715	Mar 2013	0.100	May 2014	0.300	Nov 2014	-		0.300	-	171.215	171.215
Primary Hdw Dev - Airframe FFW	SS/CPFF	Sikorsky : Stratford, CT	10.537	1.528	Nov 2012	2.931	Mar 2014	1.250	Nov 2014	-		1.250	-	16.246	14.246
Primary Hdw Dev - Avionics*	SS/CPIF	Lockheed Martin : Owego, NY	215.738	5.386	Dec 2012	1.302	Mar 2014	1.000	Nov 2014	-		1.000	-	223.426	222.426
Primary Hdw Dev - Avionics*FFW	SS/CPIF	Lockheed Martin : Owego, NY	4.100	2.000	Nov 2012	2.300	Mar 2014	2.500	Nov 2014	-		2.500	-	10.900	10.900
Primary Hdw Dev - Avionics*FFW	TBD	TBD : NSWC Crane	0.000	-		2.000	Apr 2014	3.060	Dec 2014	-		3.060	-	5.060	-
Primary Hdw Dev - Avionics*FFW	TBD	Raytheon : TBD	0.000	-		-		2.622	Mar 2015	-		2.622	-	2.622	2.622
Primary Hdw Dev - CSTRS	WR	NSWC : Panama City, FL	22.430	0.304	Dec 2012	0.500	Feb 2014	-		-		-	-	23.234	-
Primary Hdw Dev - CSTRS	MIPR	CECOM : APG, MD	13.029	0.200	Dec 2012	0.500	Mar 2014	-		-		-	-	13.729	-
Primary Hdw Dev - Training	TBD	TBD : TBD	0.000	-		-		1.150	Feb 2015	-		1.150	-	1.150	-
Primary Hdw Dev - Avionics FFW	Various	Various : China Lake, CA	0.000	-		-		0.375	Nov 2014	-		0.375	-	0.375	-
Prior year Product Dev cost no longer funded in the FYDP	Various	Various : Various	51.554	-		-		-		-		-	-	51.554	-
Subtotal			487.488	10.133		9.633		12.257		-		12.257	-	519.511	-
Remarks															
Remarks: * PY SS/CPAF - 2% FY05-FY12 SS/CPIF FY12-FY14 Primary Hdw Dev- Avionics - Lockheed Martin includes Progress Payments aligned to Fixed Price CLIN only.															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ILS - MSS (Non FFRDC)	Various	Various : Various	2.913	0.118	Dec 2012	0.175	Dec 2013	0.150	Dec 2014	-		0.150	-	3.356	-
Integrated Logistics Support	WR	Various : Various	6.459	0.670	Nov 2012	0.650	Dec 2013	0.450	Dec 2014	-		0.450	-	8.229	-
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	8.589	-		-		-		-		-	-	8.589	-
Subtotal			17.961	0.788		0.825		0.600		-		0.600	-	20.174	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Evaluation	WR	NAWCAD : Patuxent River, MD	45.047	2.980	Nov 2012	2.754	Nov 2013	4.000	Dec 2014	-		4.000	-	54.781	-
Dev Test & Evaluation	WR	Various : Various	23.458	2.107	Nov 2012	0.913	Nov 2013	0.200	Nov 2014	-		0.200	-	26.678	-
Operational Test & Evaluation	WR	OPTEVFOR : Norfolk, VA	5.506	0.100	Nov 2012	1.203	Feb 2014	3.725	Dec 2014	-		3.725	-	10.534	-
Prior year T&E cost no longer funded in the FYDP	Various	Various : Various	6.159	-		-		-		-		-	-	6.159	-
Subtotal			80.170	5.187		4.870		7.925		-		7.925	-	98.152	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Eng & Tech Srvs (Non FFRDC)	Various	Various : Various	18.071	1.352	Jan 2013	2.300	Jan 2014	1.581	Nov 2014	-		1.581	-	23.304	-
Government Engineering Support	WR	NAWCAD : Patuxent River, MD	13.770	1.695	Nov 2012	1.538	Nov 2013	1.374	Nov 2014	-		1.374	-	18.377	-
Government Engineering Support	WR	NSWC : Panama City, FL	31.835	0.243	Nov 2012	0.750	Nov 2013	0.500	Nov 2014	-		0.500	-	33.328	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	Various : Various	25.660	-		1.373	Dec 2013	1.118	Nov 2014	-		1.118	-	28.151	-
Program Mgmt Support CSS	WR	Various : Various	5.557	0.680	Jan 2013	0.180	Jan 2014	0.180	Jan 2015	-		0.180	-	6.597	-
Program Mgmt Support	WR	Various : Various	14.371	0.311	Nov 2012	0.290	Nov 2013	0.250	Nov 2014	-		0.250	-	15.222	-
Travel	WR	Various : Various	3.126	0.100	Nov 2012	0.068	Nov 2013	0.100	Oct 2014	-		0.100	-	3.394	-
Prior year Mgmt cost no longer funded in the FYDP	Various	Various : Various	0.984	-		-		-		-		-	-	0.984	-
Subtotal			113.374	4.381		6.499		5.103		-		5.103	-	129.357	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			698.993	20.489		21.827		25.885		-		25.885	-	767.194	-
Remarks															

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604212N / Other Helicopter  
Development

Project (Number/Name)

2415 / H-60 Development

Airborne Mine Countermeasures	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acq Milestones																												
Milestones												IOC ▲																
System Development																												
Hardware/Software Development	Correction of Deficiencies																											
Reviews																												
Test & Evaluation																												
AMNS	DT							QA																				
MH-60S AMCM												IOT&E																
Production Milestones																												
Contract Award																												
AMCM Ancillary kits				●			●																					
Deliveries																												
								FY11																				
												FY12																
													FY13															
															FY14													

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**R-1 Program Element (Number/Name)**  
PE 0604212N / *Other Helicopter Development*

<b>Project (Number/Name)</b> 2415 / H-60 Development	
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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604212N / <i>Other Helicopter Development</i>	<b>Project (Number/Name)</b> 2415 / <i>H-60 Development</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>Airborne Mine Countermeasures</i></b>				
Acq Milestones: Milestones: - Initial Operational Capability-AMCM	4	2015	4	2015
System Development: Hardware/Software Development: AMCM Correction of Deficiencies	1	2013	4	2014
Test & Evaluation: AMNS: - Developmental Testing (DT) (AMNS)	1	2013	3	2013
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-FY13)	4	2013	4	2013
Contract Award: AMCM Ancillary kits: - Contract Award - Production (AMCM Ancillary Kits-FY14)	3	2014	3	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
<b><i>Forward Firing Weapon</i></b>				
Rockets: System Integration: System Integration	1	2013	3	2015
Test and Evaluation: Developmental Testing (DT) (FFW)	2	2014	3	2015
Test and Evaluation: Operational Testing (OT) (FFW)	4	2015	1	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2460: VH-3/VH-60	22.545	0.711	1.532	11.539	-	11.539	3.301	1.394	1.403	1.462	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: VH Executive Helicopter Aircraft Life Management Program  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 2013 Accomplishments: Provided government support and contract award for efforts associated with the Aircraft Life Management Program for the VH Executive Helicopters.  FY 2014 Plans: Provide government support and contract awards for efforts associated with the Aircraft Life Management Program for VH Executive Helicopters. Evaluation of a Wideband Line of Sight (WBLoS) system for prototype and test 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.									0.711	1.532	11.539	
									-	-	-	
Accomplishments/Planned Programs Subtotals									0.711	1.532	11.539	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604212N / <i>Other Helicopter Development</i>				<b>Project (Number/Name)</b> 2460 / <i>VH-3/VH-60</i>			
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
			<u><b>FY 2015</b></u>	<u><b>FY 2015</b></u>	<u><b>FY 2015</b></u>					<u><b>Cost To</b></u>	
<u><b>Line Item</b></u>	<u><b>FY 2013</b></u>	<u><b>FY 2014</b></u>	<u><b>Base</b></u>	<u><b>OCO</b></u>	<u><b>Total</b></u>	<u><b>FY 2016</b></u>	<u><b>FY 2017</b></u>	<u><b>FY 2018</b></u>	<u><b>FY 2019</b></u>	<u><b>Complete</b></u>	<u><b>Total Cost</b></u>
• APN/056600: <i>Executive Helicopters Series</i>	41.610	80.537	71.328	-	71.328	76.878	71.478	63.945	63.167	28.418	1,017.604
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
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.											
<b>E. Performance Metrics</b>											
Completion of VH Executive Helicopter Aircraft Life Management Program efforts.											

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Project (Number/Name)	Start Date	End Date	Duration (Days)	Actual Cost	Budgeted Cost	Variance	Cost Index	Performance Index	Cost Variance	Cost Performance	Cost Variance	Cost Performance
1	1/1/2020	1/31/2020	31	10000	10000	0	1.00	1.00	0	1.00	0	1.00
2	2/1/2020	2/28/2020	28	20000	20000	0	1.00	1.00	0	1.00	0	1.00
3	3/1/2020	3/31/2020	31	30000	30000	0	1.00	1.00	0	1.00	0	1.00
4	4/1/2020	4/30/2020	30	40000	40000	0	1.00	1.00	0	1.00	0	1.00
5	5/1/2020	5/31/2020	31	50000	50000	0	1.00	1.00	0	1.00	0	1.00
6	6/1/2020	6/30/2020	30	60000	60000	0	1.00	1.00	0	1.00	0	1.00
7	7/1/2020	7/31/2020	31	70000	70000	0	1.00	1.00	0	1.00	0	1.00
8	8/1/2020	8/31/2020	31	80000	80000	0	1.00	1.00	0	1.00	0	1.00
9	9/1/2020	9/30/2020	30	90000	90000	0	1.00	1.00	0	1.00	0	1.00
10	10/1/2020	10/31/2020	31	100000	100000	0	1.00	1.00	0	1.00	0	1.00
11	11/1/2020	11/30/2020	30	110000	110000	0	1.00	1.00	0	1.00	0	1.00
12	12/1/2020	12/31/2020	31	120000	120000	0	1.00	1.00	0	1.00	0	1.00
13	1/1/2021	1/31/2021	31	130000	130000	0	1.00	1.00	0	1.00	0	1.00
14	2/1/2021	2/28/2021	28	140000	140000	0	1.00	1.00	0	1.00	0	1.00
15	3/1/2021	3/31/2021	31	150000	150000	0	1.00	1.00	0	1.00	0	1.00
16	4/1/2021	4/30/2021	30	160000	160000	0	1.00	1.00	0	1.00	0	1.00
17	5/1/2021	5/31/2021	31	170000	170000	0	1.00	1.00	0	1.00	0	1.00
18	6/1/2021	6/30/2021	30	180000	180000	0	1.00	1.00	0	1.00	0	1.00
19	7/1/2021	7/31/2021	31	190000	190000	0	1.00	1.00	0	1.00	0	1.00
20	8/1/2021	8/31/2021	31	200000	200000	0	1.00	1.00	0	1.00	0	1.00
21	9/1/2021	9/30/2021	30	210000	210000	0	1.00	1.00	0	1.00	0	1.00
22	10/1/2021	10/31/2021	31	220000	220000	0	1.00	1.00	0	1.00	0	1.00
23	11/1/2021	11/30/2021	30	230000	230000	0	1.00	1.00	0	1.00	0	1.00
24	12/1/2021	12/31/2021	31	240000	240000	0	1.00	1.00	0	1.00	0	1.00
25	1/1/2022	1/31/2022	31	250000	250000	0	1.00	1.00	0	1.00	0	1.00
26	2/1/2022	2/28/2022	28	260000	260000	0	1.00	1.00	0	1.00	0	1.00
27	3/1/2022	3/31/2022	31	270000	270000	0	1.00	1.00	0	1.00	0	1.00
28	4/1/2022	4/30/2022	30	280000	280000	0	1.00	1.00	0	1.00	0	1.00
29	5/1/2022	5/31/2022	31	290000	290000	0	1.00	1.00	0	1.00	0	1.00

PE 0604212N / Other Helicopter Development

2460 / VH-3/VH-60

[illegible]

2015OSD - 0604212N - 2460

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3355: MH-XX Development	-	-	0.266	6.055	-	6.055	5.335	1.750	1.650	1.686	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note New Start in FY 2014												
A. Mission Description and Budget Item Justification The MH-XX project directs Naval Aviation developmental activities in support of the recapitalization of the Navy H-60 series helicopters in the 2028 timeframe. These aircraft will be used extensively to protect Navy 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. Development activities include: capability gap identification, capability requirement definition, design trades and affordability studies. These activities will lead to the development of an Initial Capabilities Document and other pre-system acquisition documentation. This analysis will enable the development of a system which provides best value to 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 2013	FY 2014	FY 2015	
Title: MH-XX Development Engineering Support  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 2013 Accomplishments: N/A  FY 2014 Plans: Provide support for developmental activities which include 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.									-	0.266	6.055	
									-	-	-	
Accomplishments/Planned Programs Subtotals									-	0.266	6.055	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604212N / Other Helicopter Development	Project (Number/Name) 3355 / MH-XX Development
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> Activities will be predominantly government. The results of these activities will establish the acquisition strategy for the remainder of the program.		
<b>E. Performance Metrics</b> Completion of Capability Requirements and Milestone Documentation.		

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Navy</b>																								<b>Date:</b> March 2014							
<b>Appropriation/Budget Activity</b> 1319 / 5												<b>R-1 Program Element (Number/Name)</b> PE 0604212N / Other Helicopter Development								<b>Project (Number/Name)</b> 3355 / MH-XX Development											
<b>MH-XX Development</b>				<b>FY 2013</b>				<b>FY 2014</b>				<b>FY 2015</b>				<b>FY 2016</b>				<b>FY 2017</b>				<b>FY 2018</b>				<b>FY 2019</b>			
	<b>1Q</b>	<b>2Q</b>	<b>3Q</b>	<b>4Q</b>	<b>1Q</b>	<b>2Q</b>	<b>3Q</b>	<b>4Q</b>	<b>1Q</b>	<b>2Q</b>	<b>3Q</b>	<b>4Q</b>	<b>1Q</b>	<b>2Q</b>	<b>3Q</b>	<b>4Q</b>	<b>1Q</b>	<b>2Q</b>	<b>3Q</b>	<b>4Q</b>	<b>1Q</b>	<b>2Q</b>	<b>3Q</b>	<b>4Q</b>	<b>1Q</b>	<b>2Q</b>	<b>3Q</b>	<b>4Q</b>			
<b>Acquisition Milestones</b>																															
Planning																															



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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604214N / AV-8B Aircraft - Engine Dev							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	287.345	16.128	33.325	25.372	-	25.372	48.325	22.693	17.358	17.701	Continuing	Continuing
0652: AV-8B	287.345	16.128	33.325	25.372	-	25.372	48.325	22.693	17.358	17.701	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## 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 DON 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 POM objectives. 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 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 Program. A H6.2 update, accomplished by the Common Avionics Program, provides AV-8B a self-contained Global Positioning System (GPS) navigation capability that is required to access preferred airspaces. AV-8B funding supports peculiar flight test requirements. The Link 16 integration effort, which will require an 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 2030 is critical to the MAGTF's ability to generate aviation combat power throughout the transition to F-35B. J-series, K-series, TTNT, 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. 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 obsolescence analyses and mitigation development, explorations for aging equipment, reliability improvement analyses and design developments. FY15 continues development efforts and associated obsolescence and readiness requirements for ELMP, RMP and Operational Flight Program updates.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0604214N / AV-8B Aircraft - Engine Dev
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	32.789	35.825	15.000	-	15.000
Current President's Budget	16.128	33.325	25.372	-	25.372
Total Adjustments	-16.661	-2.500	10.372	-	10.372
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.738	-			
• Program Adjustments	-	-	5.462	-	5.462
• Rate/Misc Adjustments	0.001	-	4.910	-	4.910
• Congressional General Reductions Adjustments	-0.670	-	-	-	-
• Congressional Directed Reductions Adjustments	-15.254	-	-	-	-

**Change Summary Explanation**

Cost: FY13 reduction reflects sequestration, Congressional general reductions and reduction for excess Flight Control Computer funding.

Technical: All H6.1 and H6.1.1 OFP capabilities have been consolidated into a single Fleet release of H6.1 on H6.1.1 schedule.

Schedule:

Acquisition Milestones for H6.1.1 have been removed due to consolidating all H6.1 and H6.1.1 capabilities into a single release of H6.1, H6.1DT/IT, H6.1 software delivery.

H6.1: IOC date has moved to 2Q FY15; development completion date has moved to 2Q 2014; DT/IT completion date has moved to 1Q FY15; software delivery date has moved to 2Q FY15.

H6.2: IOC date has moved to 4Q FY17; development completion date has moved to 4Q FY16; DT/IT completion date has moved to 3Q FY17; and software delivery date has moved to 4Q FY17.

Radar Display Computer (RDC) IOC has moved to 4Q FY15 due to negotiated contract delivery schedule.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0604214N / AV-8B Aircraft - Engine Dev	
<p>RMP flight test (RMP FT) completion has moved to 4Q FY16 due to availability of test aircraft for fatigue life expended data acquisition. The extended flight test time period accounts for FY15 test of RMP brake temperature monitoring system and GR-9 component compatibility flight test.</p> <p>Low Pressure Compressor (LPC-1) Qual Test deferred to 4Q FY14 due to material availability and additional requirements to complete test.</p> <p>Low Pressure Compressor (LPC-1) Qual Test Report has moved to 4Q FY14 due to test completion delay.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0652: AV-8B	287.345	16.128	33.325	25.372	-	25.372	48.325	22.693	17.358	17.701	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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 Programs (OFPs) and Avionics 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 GPS navigation capabilities. HX OFP will integrate Link 16 capability. Other specific efforts include Airborne Variable Message Format Terminal. 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, obsolescence, and readiness issues.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Development of RMP Engineering Change Proposals	7.757	24.841	14.265
<b>Articles:</b>	-	-	-
<b>Description:</b> Develop obsolescence solutions to improve safety, structural integrity, and systems reliability of the AV-8B aircraft.			
<b>FY 2013 Accomplishments:</b> Development efforts began for the obsolescence mitigation for Readiness Management Plan (RMP). Efforts were initiated for the Environmental Control System (ECS) Cold Air Unit redesign to correct a catastrophic failure mode and the Fatigue Tracking Users Program for analysis of aircraft fatigue life expended (FLE) to achieve full service life. Funds supported emergent and ongoing efforts for system analyses, identification, and diagnosis of problems and the development and testing of engineering solutions in the areas of flight and crew safety, structural integrity, obsolescence, and systems reliability, and other material and equipment conditions affecting AV-8B systems readiness. Additionally, the program conducted studies concerning improvements and analysis of issues including obsolescence and structural fatigue as well as conducting component obsolescence analyses including alternatives explorations and development for obsolete aging equipment, to include aircrew and environmental systems, flight controls and other safety deficiency solutions.			
<b>FY 2014 Plans:</b>			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
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.					
<b>FY 2015 Plans:</b> 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 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.					
<b>Title:</b> F402-RR-408 Engine Safety and Reliability Enhancements			6.058	6.916	6.649
<b>Articles:</b>			-	-	-
<b>Description:</b> Improve Safety and Reliability of the F402-RR-408 Engine for the AV-8B Harrier.					
<b>FY 2013 Accomplishments:</b> The Component Improvement Program (CIP) conducted 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. The Enhanced Variable Inlet Control Systems and several Gas Turbine Starter evaluations and improvements were accomplished. Continued redesign and obsolescence mitigation efforts through redesign and procurement of Test Cell Facilities and Support Equipment.					
<b>FY 2014 Plans:</b> The 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.					
<b>FY 2015 Plans:</b> 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.					
<b>Title:</b> Operational Flight Program (OFP) and Avionics Weapons Systems Development and Integration			2.313	1.568	4.458
<b>Articles:</b>			-	-	-
<b>Description:</b> Develop Airborne Variable Message Format Terminal (AVT), formerly Strikelink/A. Aircraft OFP updates, mission planning updates, Litening Pod software updates, support aircraft avionics development efforts, and Link 16 integration efforts.					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>									<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>FY 2013 Accomplishments:</b> Completion of AVT testing, future capability expansion studies and analyses, peculiar flight test requirements, and aircraft Operational Flight Program (OFP)/Litening Pod software updates and developmental test as part of the H6.1 block upgrade.											
<b>FY 2014 Plans:</b> 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.											
<b>FY 2015 Plans:</b> 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 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.											
Accomplishments/Planned Programs Subtotals									16.128	33.325	25.372
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN/0514: AV-8B Series Modification	74.933	96.881	65.472	-	65.472	41.295	38.059	35.248	36.005	Continuing	Continuing
Remarks											
<b>D. Acquisition Strategy</b>											
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 (Common Avionics) and following systems. 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 by the Common Avionics Program and provides a Global Positioning System Navigation capability for AV-8B. Link 16 integration will require an H.X Operational Flight Program subsequent to H6.2 and will provide the AV-8B with Link 16 capability.											

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604214N / AV-8B Aircraft - Engine Dev	Project (Number/Name) 0652 / AV-8B

E. Performance Metrics

Achieve Engine Life Management Program Rolls-Royce Component Improvement Program contract award and SAFRON (formerly Goodrich) contract award 1Q FY15.

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PE 0604214N: *AV-8B Aircraft - Engine Dev*  
Navy

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R-1 Program Element (Number/Name)	Program Element Description	Program Element Status	Program Element Comments

Project (Number/Name)	Start Date	End Date	Duration (Days)	Team Lead	Status	Progress (%)	Budget (USD)	Actual Cost (USD)	Variance (USD)	Risk Level	Notes
101	2023-01-01	2023-03-15	74	John Doe	Completed	100	15000	14800	200	Low	Project completed ahead of schedule.
102	2023-02-01	2023-04-30	89	Jane Smith	In Progress	75	20000	21000	-1000	Medium	Minor budget overrun due to additional requirements.
103	2023-03-01	2023-05-15	75	Mike Johnson	On Hold	20	18000	18000	0	High	Project paused due to resource allocation issues.
104	2023-04-01	2023-06-30	90	Sarah Lee	Planned	0	22000	22000	0	Medium	Project planning phase initiated.
105	2023-05-01	2023-07-15	75	David Kim	Completed	100	12000	12500	-500	Low	Project completed with slight budget variance.
106	2023-06-01	2023-08-31	91	Emily White	In Progress	60	19000	19500	-500	Medium	Project progressing well within budget.
107	2023-07-01	2023-09-15	77	Chris Brown	On Hold	10	16000	16000	0	High	Project paused due to technical challenges.
108	2023-08-01	2023-10-31	91	Alex Green	Planned	0	21000	21000	0	Medium	Project planning phase initiated.
109	2023-09-01	2023-11-15	75	Mia Black	Completed	100	14000	14200	-200	Low	Project completed with minor budget variance.
110	2023-10-01	2023-12-31	91	Noah Grey	In Progress	50	17000	17500	-500	Medium	Project progressing well within budget.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>					<b>R-1 Program Element (Number/Name)</b> PE 0604215N / <i>Standards Development</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	957.126	67.800	68.497	53.712	-	53.712	59.023	66.075	64.922	62.468	Continuing	Continuing
0572: <i>JT Service/NV Std Avionics CP/SB</i>	795.651	55.935	53.842	42.266	-	42.266	44.551	51.210	50.814	48.069	Continuing	Continuing
1857: <i>Calibration Standards</i>	9.036	1.698	1.835	1.582	-	1.582	1.661	1.701	1.725	1.764	Continuing	Continuing
2311: <i>Stores Planning and Weaponneering Module</i>	137.852	9.346	12.256	9.305	-	9.305	12.231	12.492	11.700	11.939	Continuing	Continuing
2312: <i>Common Helicopters</i>	14.587	0.821	0.564	0.559	-	0.559	0.580	0.672	0.683	0.696	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

**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 requirement prior to full-rate production decision.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604215N / <i>Standards Development</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	84.988	99.891	69.670	-	69.670
Current President's Budget	67.800	68.497	53.712	-	53.712
Total Adjustments	-17.188	-31.394	-15.958	-	-15.958
• Congressional General Reductions	-	-0.033			
• Congressional Directed Reductions	-	-31.361			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.109	-			
• Program Adjustments	-	-	-11.299	-	-11.299
• Rate/Misc Adjustments	-	-	-4.659	-	-4.659
• Congressional General Reductions Adjustments	-5.079	-	-	-	-
• Congressional Directed Reductions Adjustments	-10.000	-	-	-	-

**Change Summary Explanation**

Technical: Not applicable.

Schedule:

0572:

Communication Navigation Surveillance/Air Traffic Management - Develop Mode S Diversity requirements for developmental platforms ended 4Q/13. Evaluation of Automatic Dependent Surveillance-Broadcast (ADS-B (Out)) technologies/develop solutions to support platform integrations delayed after 1Q/14 due to FY14 Congressional Reductions. Will resume 1Q/16 to incorporate ISSUE# 51203 efforts to evaluate updates to Federal Aviation Administration ADS-B (Out) mandate. CH-53K and E-2D ADS-B (Out) test and evaluation efforts added 1Q/16 to 4Q/18.

Tactical Communications - Crypto Algorithm Assess/Dev line extended through 4Q/14 to address National Security Agency (NSA) specification change and addition of Tactical Secure Voice 2. Added a new line for 1Q/17 to 2Q/19 labeled "Crypto Engine Design". This addresses a solution change to develop/embed a Fixed Point Gate Array based crypto engine in the Gen5 radio meeting NSA requirements. Under the software (S/W) release milestones, removed the release numbers. The numbers previously reflected the base radio release last digit of the part number. The numbers are not appropriate since they are changed when a nomenclature change occurs. It is best to just indicate the release event and eliminate the confusion if the number was included. Joint Interoperability Test

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<p>Command and NSA certifications were added/adjusted to reflect test and evaluation events. Production Milestone S/W release events were adjusted to reflect a refined schedule.</p> <p>Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS) - Milestone B schedule delayed 3Q/13 to 3Q/14 due to Platform Integration contract award date (they are combining TAWS II platform integration with Communication Navigation Surveillance/Air Traffic Management software development efforts (Required Navigation Performance Area Navigation and Automatic Dependent Surveillance-Broadcast (Out)) and to align with the completion of technical evaluation for combined Lockheed Martin Services, Inc. integration contract. H-1 GPWS S/W Development extended to 4Q/13 due to need for second deficiency correction build for GPWS S/W. H-1 GPWS Development Test extended to 1Q/15 due to need to test the second deficiency correction build for GPWS S/W and meet H-1 Software Configuration Set 7.0 platform Operational Flight Plan delays. H-60 Terrain Awareness Warning System II (TAWS II) software development extended to 4Q/15 to align with platform System Configuration 17 schedule milestones. H-60 TAWS II Development Test adjusted to align with platform System Configuration 17 schedule milestones was 3Q/15 to 3Q/16 now 2Q/16 to 2Q/17.</p> <p>Military Flight Operations Quality Assurance - Phase 2 Fielding Decision moved from 2Q/16 to 4Q/15 and Phase 2 squadron deliveries of MH-60R/S, CH-53E and AH-1Z/UH-1Y moved from 3Q/16 to 4Q/15 due to lessons learned during Phase 1 testing resulting in a shift of Phase 2 test and evaluation efforts.</p> <p>Collaborative Warfare - Changed Title of Flex 13 to TRIDENT WARRIOR 13 in FY13. Changed title Next Gate 1 Resource Requirement Review Board (R3B) to Tactical Networking Requirements R3B and adjusted 4Q/13 to 2Q/14 due to re-scope of effort to include broader requirements solicited from analysis such as the Joint Tactical Networking Concept of Employment and fleet needs such as Integrated Priority Lists and Urgent Operational Needs. Added TRIDENT WARRIOR 15 to schedule to demonstrate the military utility of a netted sensors Family of Systems as an evolution of TRIDENT WARRIOR 13. It will use Common Operating Environments to run collaborative multi-intelligence correlation software across platforms and domains to enhance targeting capabilities. Added Naval Aviation Tactical Networking Requirements in order to align with requirements strategy.</p> <p>Mid Air Collision Avoidance Capability - FY14 Congressional Reduction resulted in the following schedule changes: Analysis of Alternatives complete in 1Q/15, Materiel Development Decision/Acquisition Strategy Review from 3Q/14 to 2Q/15, Capability Development Document complete from 1Q/14 to 1Q/16, removal of Pre-Engineering, Manufacturing and Development phase, Milestone B from 3Q/14 to 2Q/16, Milestone C from 1Q/18 to 1Q/19, Specification Review Board, System Readiness Review, and System Functional Review from 2Q/14 to 2Q/15, Preliminary Design Review from 4Q/14 to 3Q/15, Critical Design Review from 1Q/15 to 2Q/16, Software Design and Development from 4Q/14 to 3Q/15, Platform Integration and Test Support from 1Q/15 to 3Q/15, MH-60R/S integration from 1Q/15 to 1Q/16, UH-1Y/AH-1Z integration from 4Q/15 to 3Q/16, added F/A-18 integration in 3Q/18, MH-60R/S test and evaluation from 1Q/16 to 1Q/17, UH-1Y/AH-1Z test and evaluation from 1Q/17 to 1Q/18, and added F/A-18 in 3Q/19.</p> <p>2311: Acquisition Milestone Changes:</p> <p>Due to funding reductions in FY13, the Weaponengineering and Stores Planning (WASP) product development, testing, and Initial Operational Capability (IOC) schedules for V3.2, and all versions thereafter, have been delayed.</p>		

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<p>V3.2 Milestones were adjusted accordingly: Software Requirements Review (SRR) from 4QFY13 to 2QFY14, Preliminary Design Review (PDR) from 1QFY14 to 3QFY14, Critical Design Review (CDR) from 1QFY14 to 3QFY14, Test Readiness Review (TRR) from 3QFY14 to 1QFY15, Technical Information Review Board (TIRB) from 1QFY15 to 2QFY15, Functional Qualification Test (FQT) from 1QFY15 to 2QFY15, Test &amp; Evaluation (T&amp;E) from 3QFY14 to 1QFY15, and Initial Operational Capability (IOC) from 3QFY15 to to 1QFY16.</p> <p>V3.3 Milestones were adjusted accordingly: SRR from 1QFY15 to 3QFY15, PDR from 2QFY15 to 4QFY15, CDR from 2QFY15 to 4QFY15, TRR from 4QFY15 to 2QFY16, TIRB from 2QFY16 to 4QFY16, FQT from 2QFY16 to 4QFY16, T&amp;E from 4QFY15 to 2QFY16, and IOC from 3QFY16 to 2QFY17.</p> <p>V4.0 Milestones were adjusted accordingly: SRR from 2QFY16 to 1QFY17, PDR from 3QFY16 to 2QFY17, CDR from 3QFY16 to 2QFY17, TRR from 1QFY17 to 3QFY17, TIRB from 3QFY17 to 1QFY18, FQT from 3QFY17 to 1QFY18, T&amp;E from 1QFY17 to 3QFY17, and IOC from 4QFY17 to 3QFY18.</p> <p>V4.1 Milestones were adjusted accordingly: SRR from 3QFY17 to 2QFY18, PDR from 4QFY17 to 3QFY18, CDR from 4QFY17 to 3QFY18, TRR from 2QFY18 to 1QFY19, TIRB from 4QFY18 to 3QFY19, FQT from 4QFY18 to 3QFY19, T&amp;E from 2QFY18 to 1QFY19, and IOC from 1QFY19 to 1QFY20.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0572: JT Service/NV Std Avionics CP/SB	795.651	55.935	53.842	42.266	-	42.266	44.551	51.210	50.814	48.069	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	21.000	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note FY14 Advanced Digital Data Set (ADDS) RDT&E Articles (21) for F/A-18.												
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 Future Airborne Capability Environment (FACE). 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 2013	FY 2014	FY 2015	
Title: Joint Service Review Committee for Avionics Standardization (JSRC-AS)  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 2013 Accomplishments: Provided leadership and strategic vision as Naval Aviation's representatives to the JSRC-AS. Participated in joint working groups and promote efforts that makes good technical and economic sense to more than one service.  FY 2014 Plans:									2.172	1.000	1.000	
									-	-	-	

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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 2013	FY 2014	FY 2015
Provide leadership and strategic vision as Naval Aviation's represenatives to the Joint Service Review Committee for Avionics Standardization (JSRC-AS). Participate in joint working groups and promote efforts that make good technical and economic sense to more than one service.				
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.				
Title: Communication Navigation Surveillance/Air Traffic Management (CNS/ATM)		10.977	3.928	0.503
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 S, 8.33 kHz, Reduced Vertical Separation Minimums (RVSM), Required Navigation Performance Area Navigation (RNP/RNAV), and Automatic Dependent Surveillance-Broadcast (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 2013 Accomplishments: Developed Mode S diversity requirements and develop solutions for developmental platforms. Evaluated ADS-B (Out) technologies and develop solutions to support platform integrations. Assisted with insertion of CNS/ATM technologies on and certification of developmental platforms.				
FY 2014 Plans: Research Mode S diversity requirements and design solutions for developmental platforms. Evaluate ADS-B (Out) technologies and develop solutions to support platform integrations. Assist with insertion of CNS/ATM technologies on and certification of developmental platforms. Develop CNS/ATM Common Components to support Required Navigation Performance Area Navigation developmental platform requirements. Where practical, new technologies will be 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.				
Title: Tactical Communications (TACCOM)		3.292	1.634	3.548

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p><b>Articles:</b></p> <p><b>Description:</b> 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, Variable Message Format (VMF), Beyond Line-of-Sight, Satellite Communication (SATCOM), High Frequency, civil interoperability, and Joint Precision Approach Landing System data link into the ARC-210 system. Support for networking requirements development and prototyping, Integrated Waveform (IW), Intelligence Broadcast System, Tactical Networks, Datalinks, and Link 16.</p> <p><b>FY 2013 Accomplishments:</b> Continued SATCOM and Variable Message Format (VMF) P3I Software (S/W) development. Continued IW and continued release of S/W version 4.</p> <p><b>FY 2014 Plans:</b> Continue Tactical Secure Voice, SATCOM and Variable Message Format (VMF) P3I S/W development. Complete IW and complete release of S/W version 4.</p> <p><b>FY 2015 Plans:</b> Begin development of the RT-1939A and RT-1990A. Begin development of Digital Interoperability capability. Continue development of Air to Ground Interoperability, IW and Variable Message Format/Combat Net Radio.</p>			-	-	-
<p><b>Title:</b> Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS)</p> <p><b>Articles:</b></p> <p><b>Description:</b> This program will conduct research, studies, development, integration, demonstration, test and evaluation efforts to meet naval aviation GPWS/TAWS requirements. Perform GPWS/TAWS platform integration studies and activities to determine technical and cost effective solutions across naval aviation. Develop GPWS/TAWS algorithm tailored to platform performance and missions. Develop simulation models for use at Manned Flight Simulator (MFS) as required for platform tailoring, including procurement of test article hardware for MFS. Evaluate aircraft simulation models for suitability in GPWS/TAWS development effort. Develop GPWS/TAWS algorithms utilizing MFS 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.</p> <p><b>FY 2013 Accomplishments:</b></p>			4.757 -	13.280 -	11.007 -

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Completed H-1 GPWS software development for Software Configuration Set (SCS) 7.0. Conducted H-1 GPWS Developmental Testing (DT) in platform SCS 7.0. Continued TAWS with obstacles acquisition documentation. Completed TAWS with obstacles requirements definition and initiated TAWS with obstacles software development for H-60.					
<b>FY 2014 Plans:</b> Completed DT of H-1 GPWS in platform SCS 7.0. Achieve MS-B for H-60 TAWS with obstacles. Continue TAWS with obstacles software development for H-60.					
<b>FY 2015 Plans:</b> Complete TAWS II with obstacles software development and platform integration for H-60. Complete DT of H-1 GPWS.					
<b>Title:</b> Military Flight Operations Quality Assurance (MFOQA)			13.934	17.852	9.203
<b>Articles:</b>			-	-	-
<b>Description:</b> 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. Develop and evaluate aircraft recorder systems and requirements to meet current and future MFOQA requirements. Prepare and conduct MFOQA acquisition events such as Systems Readiness Review, Preliminary Design Review, Critical Design Review, Developmental Testing, Milestone C (MS C) and follow-on Decision Reviews in support of initial Fixed Wing (Phase 1) and Rotary Wing (Phase 2) platforms.					
<b>FY 2013 Accomplishments:</b> Completed Phase 1 Systems Integration; Completed Phase 1 Integrated Test and Initiated Phase 2 Requirements Definition.					
<b>FY 2014 Plans:</b> Complete Phase 1 VX-23 Developmental Test; Achieve MS C and initiate fielding to F/A-18C-F and EA-18G. Initiate Agile software development for Phase 2 (MH-60R/S, M/CH-53, AH-1Z, and UH-1Y).					
<b>FY 2015 Plans:</b> Complete Phase 2 Agile software development, software integration and test. Complete deployment decision review and initiate deployment to rotary wing squadrons.					
<b>Title:</b> Collaborative Warfare (CW)			0.500	0.148	0.175
<b>Articles:</b>			-	-	-
<b>Description:</b> 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-					



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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>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.</p> <p><b>FY 2013 Accomplishments:</b> Completed first increment of JTN CONEMP analysis to identify Navy and Air Force interoperability gaps for the Counter Air and Offensive Anti-Surface Warfare (OASuW) mission areas. This analysis directly informed Navy and Air Force Service. Chief Decisions in the 2014 Air Force-Navy Warfighter Talks as well as contributed to other critical analytical efforts such as the joint Aerial layer network (JALN) Analysis of Alternatives (AoA), Offensive Anti-Surface Warfare (OASuW) AoA, and the NEXT CBA/ICD. Effort focused on Integrated Air and Missile Defense (IAMD) Counter Air. Used draft Naval Effects Cross-domain Targeting (NEXT) Capabilities Based Assessment (CBA), Initial Capabilities Document (ICD), and Analysis of Alternatives (AoA) scope/guidance to inform and OASuW Targeting and Weapons Control AoA to go to a Gate 1. NEXT still planned to go to Gate 1 for ICD and AoA approval unless OASuW AoA supersedes. Executed the TRIDENT WARRIOR 13 netted sensors Family of Systems (FoS) experiment. This experiment demonstrated the military utility of a Tactical Targeting Network Technology (TTNT) and Network Centric Collaborative Targeting (NCCT)-enabled multi-INT correlation architecture and reduced technical risks associated with developing and fielding the relevant technologies. Initiated the comprehensive Naval Aviation Tactical Networking Strategy, which consists of 3 mission aligned working groups: IAMD, OASuW, and Electronic Warfare. This effort is intended to start defining tactical networking Integrated Capabilities Packages (ICPs) for OPNAV Resource Requirements Review Board (R3B) approval in POM.</p> <p><b>FY 2014 Plans:</b> Complete the second iteration of the JTN CONEMP and brief results to the Air Force - Navy Warfighter Talks. Complete preparations for the TRIDENT WARRIOR 15 netted sensors FoS experiment. Support potential integration of Naval Aviation relevant tactical networking technologies in the TRIDENT WARRIOR 14 experiment.</p> <p><b>FY 2015 Plans:</b> 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.</p>					
<b>Title:</b> Avionics Component Improvement Program (AvCIP)			1.665	2.500	4.972

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p><b>Articles:</b></p> <p><b>Description:</b> 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.</p> <p><b>FY 2013 Accomplishments:</b> Addressed current fleet problem avionics systems (top readiness degraders, cost drivers, obsolescence-driven sustainability, capability loss, fleet head-hurters).</p> <p><b>FY 2014 Plans:</b> Address current fleet problem avionics systems (top readiness degraders, cost drivers, obsolescence-driven sustainability, capability loss, fleet head-hurters).</p> <p><b>FY 2015 Plans:</b> Address current fleet problem avionics systems (top readiness degraders, cost drivers, obsolescence-driven sustainability, capability loss, fleet head-hurters).</p>			-	-	-
<p><b>Title:</b> Advanced Digital Data Set (ADDS)</p> <p><b>Articles:</b></p> <p><b>Description:</b> 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. ADDS will increase mission effectiveness by providing situational awareness, reduce crew workload, and enhanced capability for navigation, and mission planning.</p>			18.638 -	13.500 21.000	- -

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<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604215N / <i>Standards Development</i>		<b>Project (Number/Name)</b> 0572 / <i>JT Service/NV Std Avionics CP/SB</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p>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.</p> <p><b>FY 2013 Accomplishments:</b> Awarded developmental contract(s). Conducted Systems Requirements Review (SRR) and Preliminary Design Review (PDR). Initiated National Security Agency certification with the vendor to develop Type 1 Encryption. Begun JMPS, AME, and aircraft integration.</p> <p><b>FY 2014 Plans:</b> 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.</p> <p><b>FY 2015 Plans:</b> N/A</p>					
<p><b>Title:</b> Mid Air Collision Avoidance Capability (MCAC)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> This program will conduct research, studies, and development, integration, demonstration, test and evaluation efforts to meet Naval Aviation MCAC requirements. Perform MCAC platform integration studies and activities to determine technical and cost effective solutions across Naval Aviation. Develop MCAC algorithm tailored to platform performance and missions. Develop simulation models for use at Manned Flight Simulator (MFS) as required for platform tailoring, including procurement of test article hardware for MFS. Evaluate aircraft simulation models for suitability in MCAC development effort. Develop MCAC algorithms utilizing MFS as real-time hardware and pilot in the loop tool. Develop and evaluate algorithm interfaces necessary for integration of the algorithm within platform host computers and/or Original Manufacture Equipment Military Transponders.</p> <p><b>FY 2013 Accomplishments:</b></p>			-	-	9.558
			-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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 2013	FY 2014	FY 2015
N/A					
FY 2014 Plans: N/A					
FY 2015 Plans: Initiate and complete Analysis of Alternatives. Conduct Materiel Development Decision/Acquisition Strategy Review. Conduct Specification Review Board and System Readiness Review/System Functional Review. Begin engineering changes required in military transponder. Initiate engineering, manufacturing, and development efforts.					
Title: Future Airborne Capability Environment (FACE)			-	-	2.300
Articles:			-	-	-
Description: The Future Airborne Capability Environment (FACE) program provides avionics standards development for a common software operating environment to establish testable open architecture requirements in accordance with DoD Directive 5000.1, N6/N7 Naval Open Architecture Requirements Letter 9010, Ser N6N7/5U916276, and SECNAVINST 5000.2E. The FACE Technical Standard is developed through Navy, Army, Air Force, Industry and Academia collaboration via The Open Group FACE Consortium, in accordance with Public Law 104-113. The FACE program provides the Subject Matter Experts to define and architect a set of Open Architecture Standards, design guidance, development and integration tools, acquisition strategy, contracting guidance and cost estimations. The results will enable Department of Defense (DoD) weapons systems to reuse software, deliver warfighting capabilities that are scalable and portable, at a faster rate, ensuring interoperability while reducing significant redundant development costs and increasing competition. The FACE program will enable the government to own system integration as a Lead Systems Integrator and software data rights for reuse across the DoD.					
FY 2013 Accomplishments: N/A					
FY 2014 Plans: 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.					
Accomplishments/Planned Programs Subtotals			55.935	53.842	42.266

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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				
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN/05770: Common Avionics	92.461	119.873	157.531	-	157.531	250.014	228.967	203.906	182.360	394.918	3,859.490
Remarks											
* AvCIP program was reduced by FY14 Congressional Mark of \$2.5M											
D. Acquisition Strategy											
<p>Communication Navigation Surveillance/Air Traffic Management (CNS/ATM) program is a system of systems. The program will encompass the integration of various systems that are currently post-Milestone C. Systems 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 ROI's 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 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. Future Airborne Capability Environment (FACE) will provide acquisition strategy guidance and support to platforms implementing the FACE Technical Standard to address open architecture requirements.</p>											
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											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604215N / <i>Standards Development</i>	<b>Project (Number/Name)</b> 0572 / <i>JT Service/NV Std Avionics CP/SB</i>
<p>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.</p> <p>CNS/ATM - Successfully complete platform integration, test, and certifications.</p> <p>Tactical Communications (TACCOM) - Achieve Joint Interoperability Test Command and National Security Agency certifications on system developmental efforts to meet operational requirements.</p> <p>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.</p> <p>Military Flight Operations Quality Assurance (MFOQA) - Successfully complete Milestone C and Initial Operational Capability on schedule; successfully complete Phase 2 development and fleet introduction.</p> <p>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.</p> <p>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.</p> <p>Advanced Digital Data Set (ADDS) - Achieve program acquisition milestones on cost and schedule meeting platform requirements.</p> <p>Mid Air Collision Avoidance Capability (MCAC) - Achieve program acquisition milestones on cost and schedule meeting platform requirements.</p> <p>Future Airborne Capability Environment (FACE) - Provide leadership in support of the Navy's interest to the 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 prototype and demonstrate FACE conformant applications and FACE compatible operating environments.</p>		

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TACTICAL COMMUNICATIONS (TACCOM)	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019										
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q							
Acquisition Milestones																																			
Systems Development																																			
	Crypto Algorithm Assess/Dev												IW SATCOM S/W Development Phase 2																						
	SATCOM and VMF P3I S/W Assess/Dev																																		
														JPALS S/W Integration																					
														Crypto Engine Design																					
Test and Evaluation								JITC/NSA Cert ▼					JITC ▼			JITC ▼									JITC/NSA Cert ▼										
Production Milestones				S/W Rel ▼					TSV SW ▼				VMF SW ▼				JPALS SW ▼								IW2 SW ▼										
Deliveries																																			



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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																Date: March 2014													
Appropriation/Budget Activity										R-1 Program Element (Number/Name)										Project (Number/Name)									
1319 / 5										PE 0604215N / Standards Development										0572 / JT Service/NV Std Avionics CP/SB									
F/A-18										1 SQDN Phase 1																			
H-60R/S																				1 SQDN Phase 2									
CH-53E																				1 SQDN Phase 2									
AH-1Z, UH-1Y																				1 SQDN Phase 2									
Production Milestones																													
Production Fielding										Phase 1 Fielding																			
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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy Date: March 2014

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604215N / <i>Standards Development</i>	<b>Project (Number/Name)</b> 0572 / <i>JT Service/NV Std Avionics CP/SB</i>
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COLLABORATIVE WARFARE (CW)					FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019							
					1Q	2Q	3Q	4Q	1Q	2Q		3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q							
Acquisition Milestones																																				
JCIDS Activities					NEXT ICD																															
Netted Sensors CONOPS, Standards and Architectures/Requirements Development					CONOPS, Standards and Architectures/Requirements Development																															
Naval Aviation Tactical Networking Requirements									Naval Aviation Tactical Networking Requirements																											
Netted Sensors Demonstrations					Trident Warrior 13				Trident Warrior 15																											
Capabilities-Based Assessment									Tactical Networking Requirements R3B ▼																											
Systems Development																																				
Test and Evaluation																																				
Production Milestones																																				
Deliveries																																				

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**Exhibit R-4, RDT&E Schedule Profile:** PB 2015 Navy

**Date:** March 2014

**Appropriation/Budget Activity**

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**R-1 Program Element (Number/Name)**

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**Project (Number/Name)**

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ADVANCED DIGITAL DATA SET (ADDS)	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>Acquisition Milestones</b>																												
<b>Systems Development</b>																												
Contract				Phase III/LRIP Award - CH-53K ●																								
NSA Information Assurance				NSA Information Assurance																								
JMPS Integration				JMPS Integration - F/A-18																								
AME Integration				AME Integration - F/A-18																								
Aircraft Integration/Logistics Support				Aircraft Integration/Logistics Support - F/A-18																								
Design Reviews / Certifications		SRR F/A-18 ■	PDR F/A-18 ■			CDR - F/A-18 ■		TRR - F/A-18 ■																				
<b>Test and Evaluation</b>																												
<b>Production Milestones</b>																												

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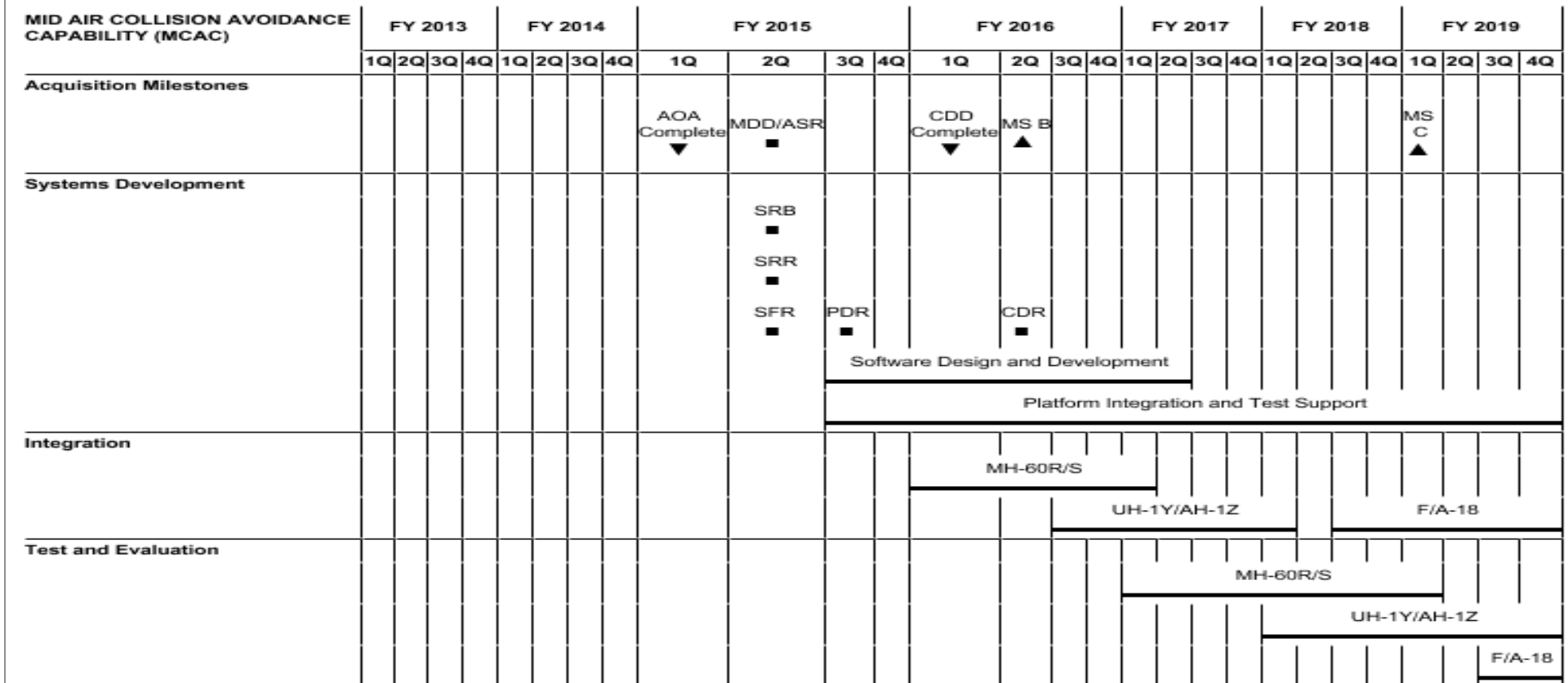
**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

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**R-1 Program Element (Number/Name)**  
PE 0604215N / *Standards Development*

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																							Date: March 2014					
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								
AVIONICS COMPONENT IMPROVEMENT PROGRAM (AvCIP)	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
Funding Allocation	▼				▼				▼				▼				▼				▼				▼			
Proposal Collection																												
Proposal Evaluation		▼				▼				▼				▼				▼				▼				▼		
Proposal Prioritization and Selection			▼				▼				▼				▼				▼					▼				
Contract Establishment & Execution Plan																												
Systems Development																												
Test and Evaluation																												
Production Milestones																												
Deliveries																												
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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604215N / <i>Standards Development</i>				Project (Number/Name) 1857 / <i>Calibration Standards</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1857: <i>Calibration Standards</i>	9.036	1.698	1.835	1.582	-	1.582	1.661	1.701	1.725	1.764	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Calibration Standards	1.698	1.835	1.582
<b>Articles:</b>	-	-	-
<b>FY 2013 Accomplishments:</b>			
(\$.706) Continue to develop calibration standards (hardware) In support of physical mechanical and Chemical and Biological Detection Systems.			
(\$.270) Continue development of physical and mechanical standards in support of Fleet Shipboard Enhancements.			
(\$.722) Continue development of standards in support of electro optical night vision systems and boresight calibration.			
<b>FY 2014 Plans:</b>			
(\$.632) Transition calibration standards in support of electro optical standards (hardware) in support of safety of flight operations.			



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604215N / <i>Standards Development</i>	<b>Project (Number/Name)</b> 1857 / <i>Calibration Standards</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
(\$.872) 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.  <b>FY 2015 Plans:</b> (\$907K) Continue development calibration standards in support of electro optical standards (hardware) in support of safety of flight operations.  (\$428.8K) Continue development of calibration standards (hardware) in support of Physical Mechanical standards in support of Shipboard Flight Operations and NAVAIR Oxygen systems.  (\$246.2K) Continue development of analytical metrology (processes) in support of automated interval and uncertainty analysis.			
<b>Accomplishments/Planned Programs Subtotals</b>		1.698	1.835
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
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 Chembio Defense, Microwave/Millimeter wave, Physical Mechanical, Electro-Optical, Analytical Metrology and Electrical/Electronic systems. 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.			
<b>E. Performance Metrics</b>			
The U.S. Navy Metrology RDT&E Program will transition 4 current projects within the next 12 months in technology area of Electro Optical, Physical Mechanical, Nuclear, Biological and Chemical, and Analytical metrology in new calibration hardware and processes. Will continue the research and development of 5 projects in progress in the technology areas of Physical Mechanical, Electro Optical, Nuclear, Biological and Chemical, and Analytical metrology for the 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.			

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**  
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**R-1 Program Element (Number/Name)**  
PE 0604215N / *Standards Development*

**Project (Number/Name)**  
1857 / Calibration Standards

**Exhibit R4 RDT&E Schedule Profile: PB 2015 Navy**

Appropriation/Budget Activity  
1319/05

R-1 Program Element (Number/ Name)  
1857/*Calibration Standards*

Project (Number/Name)  
PE 0604215N/*Standards Development*

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**PE 0604215N: Standards Development**

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604215N / <i>Standards Development</i>				Project (Number/Name) <i>2311 / Stores Planning and Weaponneering Module</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2311: <i>Stores Planning and Weaponneering Module</i>	137.852	9.346	12.256	9.305	-	9.305	12.231	12.492	11.700	11.939	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**A. Mission Description and Budget Item Justification**

Project 2311, Stores Planning and Weaponneering Module: The Naval Aircraft Weaponneering Components project, now referred to as the Weaponneering 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; and EA-18G. 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 weaponneering 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)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Product Development	4.263	6.473	3.905
<b>Articles:</b>	-	-	-
<b>Description:</b> 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 assurance, documentation, metrics and software risk management for WASP. Acquire, integrate and modify numerous Government Furnished Information (GFI) software			

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Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604215N / Standards Development	Project (Number/Name) 2311 / Stores Planning and Weaponneering Module		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
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 2013 Accomplishments: Continued development of V3.0 and delivered for Mission Planning Environment (MPE) integration. Began development of V3.1. Contract Line Item Number (CLIN) exercised to begin development for database update (V3.0A). Provided \$0.3M of funding to NAWCWD, JSSA for WARP product development.				
FY 2014 Plans: Release V3.0 to the Fleet. Continue development and release of V3.1. Develop and release multiple database updates. Begin development of V3.2.				
FY 2015 Plans: Continue V3.2 development, begin development of V3.3, and release multiple database updates.				
Title: Test and Evaluation (T&E)		2.516	2.552	2.109
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 2013 Accomplishments: Completed test and evaluation for WASP V3.0. Began test and evaluation of WASP V3.1.				
FY 2014 Plans: Complete test and evaluation of WASP V3.1 and multiple database updates. Analyze test requirements for V3.2.				
FY 2015 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy							Date: March 2014				
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604215N / Standards Development			Project (Number/Name) 2311 / Stores Planning and Weaponneering Module				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2013	FY 2014	FY 2015		
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.											
Title: Program Management/Systems Engineering							2.567	3.231	3.291		
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, Weaponneering 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 2013 Accomplishments: Continued project management and systems engineering support to the WASP for future releases of WASP to the fleet.											
FY 2014 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 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.											
Accomplishments/Planned Programs Subtotals							9.346	12.256	9.305		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTE/3858: Air Force Mission Planning	69.377	62.605	86.628	-	86.628	86.700	78.456	79.010	-	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
Weaponneering 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											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604215N / <i>Standards Development</i>	<b>Project (Number/Name)</b> 2311 / <i>Stores Planning and Weaponeering Module</i>
<p>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.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>Average time to plan a flight: Threshold value is &lt; 1 hour average time to plan a flight that includes full aircraft loadout and weapons delivery safe escape planning. Objective value is &lt; 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.</p> <p>Interoperability: Threshold value is 100% stand alone value. Objective value is 100% stand alone value.</p>		

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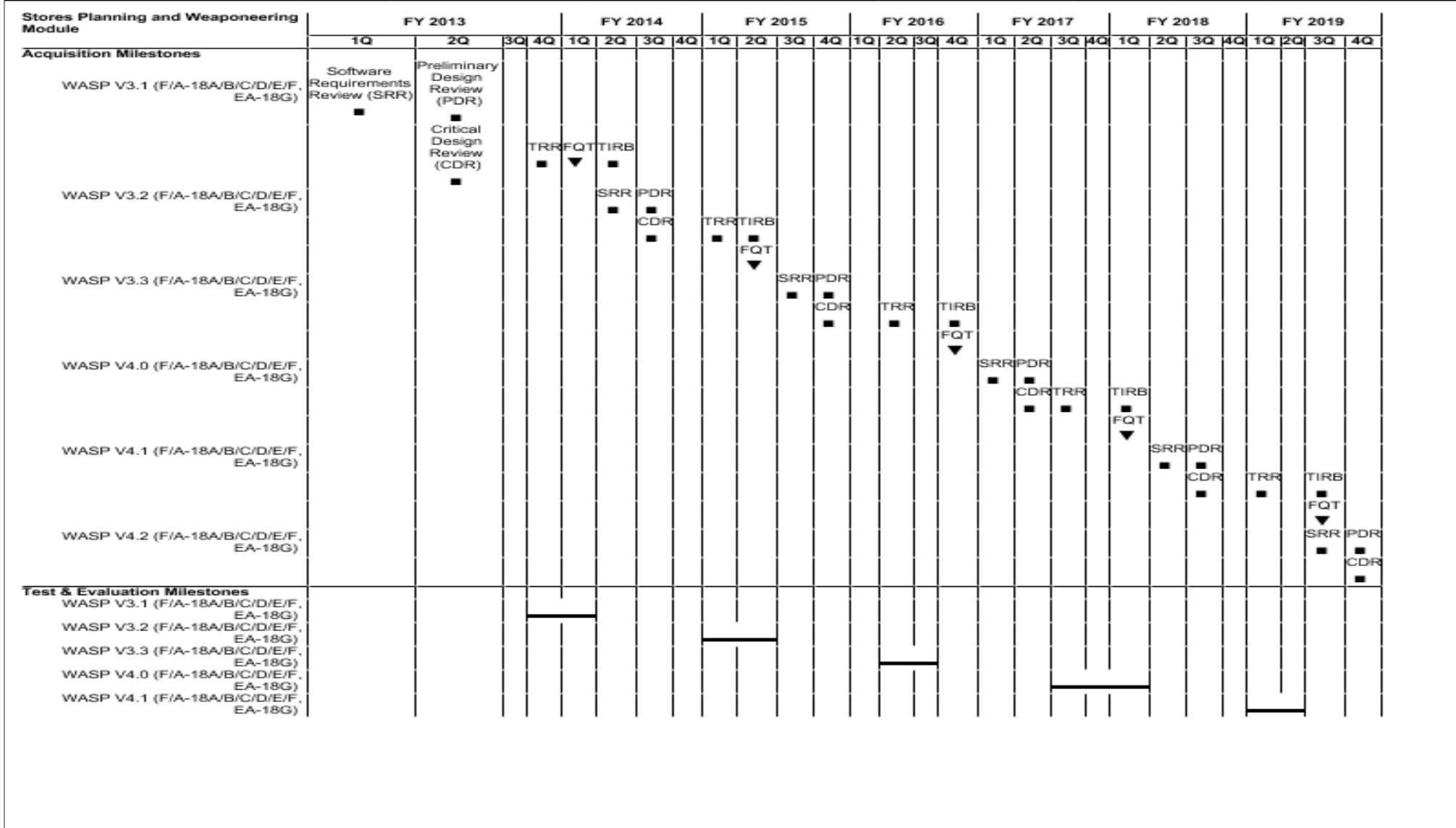
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0604215N / Standards Development

Project (Number/Name)  
2311 / Stores Planning and Weaponneering Module



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PE 0604215N: *Standards Development*  
Navy

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Project (Number/Name)	Start Date	End Date	Status	Manager	Budget (USD)	Actual Cost (USD)	Variance (USD)	Progress (%)	Risk Level	Notes
101/Alpha	2023-01-15	2023-03-31	Completed	J. Doe	120000	118000	2000	100	Low	Minor budget variance.
102/Beta	2023-02-01	2023-05-15	In Progress	A. Smith	250000	260000	-10000	75	Medium	Costs slightly over budget.
103/Gamma	2023-03-10	2023-06-30	On Hold	M. Chen	80000	80000	0	20	High	Project paused due to resource allocation.
104/Delta	2023-04-01	2023-07-31	Planned	S. Kim	150000	150000	0	0	Medium	Initial planning phase.
105/Epsilon	2023-05-01	2023-08-31	On Hold	L. Garcia	90000	90000	0	10	Low	Waiting for client requirements.
106/Zeta	2023-06-01	2023-09-30	Planned	K. Lee	110000	110000	0	0	Medium	Preparation of resources.
107/Eta	2023-07-01	2023-10-31	Planned	H. Patel	130000	130000	0	0	Medium	Initial scoping and planning.
108/Theta	2023-08-01	2023-11-30	Planned	D. Brown	100000	100000	0	0	Low	Project initiation phase.
109/Iota	2023-09-01	2023-12-31	Planned	C. Wilson	140000	140000	0	0	Medium	Early stage planning.
110/Kappa	2023-10-01	2024-01-31	Planned	B. Taylor	160000	160000	0	0	Medium	Project start-up phase.

2311 / Stores Planning and Weaponneering  
Module

WASP V3.0 (F/A-18A/B/C/D/E/F) IOC  
WASP V3.1 (F/A-18A/B/C/D/E/F  
EA-18G) IOC  
WASP V3.2 (F/A-18A/B/C/D/E/F,  
EA-18G) IOC  
WASP V3.3 (F/A-18A/B/C/D/E/F,  
EA-18G) IOC  
WASP V4.0 (F/A-18A/B/C/D/E/F,  
EA-18G) IOC  
Ongoing Database Updates

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2312: Common Helicopters	14.587	0.821	0.564	0.559	-	0.559	0.580	0.672	0.683	0.696	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: Common Helicopters  Articles:  Description: Continue development of Common Helicopter functionality and integration with JMPS Version 1.2.4, 1.3.5, 1.4 and Portable Flight Planning Station (PFPS) Version 3.3.1 and 64 bit. Common Components include Common Mission Data Loader (CMDL), Weapon Employment Zone Overlays Tool (WEZOT) and Point Selection Tool (PST).  FY 2013 Accomplishments: Completed CMDL and WEZOT compatibility with Windows 7, FW 1.2, 1.3 and 1.4.  FY 2014 Plans: Develop 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. Develop 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.									0.821	0.564	0.559	
									-	-	-	
									Accomplishments/Planned Programs Subtotals			0.821

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy								<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604215N / <i>Standards Development</i>				<b>Project (Number/Name)</b> 2312 / <i>Common Helicopters</i>			

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE/3858,5302,5380: <i>Air Force Mission Planning Systems</i>	69.377	62.605	86.628	-	86.628	86.700	78.456	79.010	-	Continuing	Continuing
• 0604231N/2213: <i>Mission Planning</i>	23.104	20.059	36.097	-	36.097	25.704	24.289	22.129	22.570	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.

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604215N / *Standards Development*

Project (Number/Name)

2312 / *Common Helicopters*

Common Helicopters	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
System Development																												
	Software Development																											
	CMDL 3.0																											
	WEZOT 1.0																											
	PST 1.0																											

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy Date: March 2014

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / Multi-Mssn Helicopter Upgrade Dev
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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	1,518.556	6.035	17.565	11.434	-	11.434	22.908	4.374	4.513	2.770	Continuing	Continuing
1707: MH-60R Development	1,518.556	6.035	17.565	11.434	-	11.434	22.908	4.374	4.513	2.770	Continuing	Continuing

**MDAP/MAIS Code:** 191

# The FY 2015 OCO Request will be submitted at a later date.

## 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 (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.

FY 2015 budget request funds Advanced Precision Kill Weapon System (APKWS) and Helicopter Infrared Suppression System (HIRSS) development, government engineering, logistics, and testing.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	6.866	17.565	10.831	-	10.831
Current President's Budget	6.035	17.565	11.434	-	11.434
Total Adjustments	-0.831	-	0.603	-	0.603
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.656	-			
• Program Adjustments	-	-	1.000	-	1.000
• Rate/Misc Adjustments	-	-	-0.397	-	-0.397
• Congressional General Reductions Adjustments	-0.175	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0604216N / Multi-Mssn Helicopter Upgrade Dev	
<p><b>Change Summary Explanation</b></p> <p>Schedule: An Automatic Radar Periscope Detection and Discrimination (ARPDD) Operational Test (OT) period was conducted from August to October 2012. Multiple data points were recorded with no major deficiencies identified. Testing was determined to be incomplete due to the inability of the target to replicate the test specification requirements. A second OT period was conducted in 4th quarter FY 2013. Analysis has been completed and ARPDD achieved Initial Operational Capability (IOC) in January 2014.</p> <p>Technical: The gearbox corrosion upgrade was cancelled due to higher than anticipated costs. Gearbox corrosion is being addressed by a joint effort with the Army (Navy funded with Aircraft Procurement, Navy).</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1707: MH-60R Development	1,518.556	6.035	17.565	11.434	-	11.434	22.908	4.374	4.513	2.770	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 (IFF), Multi-Spectral Targeting System/Forward Looking Infrared Radar, Automatic Radar Periscope Detection and Discrimination (ARPDD), 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 IR threats addresses the strategic goal of long-term sustainment of the force. MH-60R aircraft currently have no system for engine exhaust suppression. Instrument Landing System (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 (JPALS). Additionally, Very high frequency Omnidirectional Radio range (VOR) navigation capability included with the Instrument Landing System (ILS) system provides instrument navigation after disestablishment of Tactical Air Command and Navigation (TACAN) system in the Continental United States.												
FY15 budget request funds APKWS and HIRSS development, government engineering, logistics, and testing.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Avionics H/W and S/W Development									0.783	12.500	7.694	
									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 Program Management Board Support and subvendor support. Avionics hardware and software development and integration to include: P3I and ARPDD. APKWS and HIRSS address the Fast Attack Craft/Fast In-shore Attack Craft (FAC/FIAC) threat.												
FY 2013 Accomplishments: Completed Automatic Radar Periscope Detection and Discrimination (ARPDD) system design and development.												
FY 2014 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014			
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 2013	FY 2014	FY 2015
Commence Advanced Precision Kill Weapon System (APKWS) development to address Fast Attack Craft/Fast In-shore Attack Craft (FAC/FIAC) threat.						
FY 2015 Plans: Continue APKWS development and commence Helicopter Infrared Suppression System (HIRSS) development to address FAC/ FIAC threat.						
Title: Engineering and Logistics				1.245	1.605	2.237
Articles:				-	-	-
FY 2013 Accomplishments: Provided engineering specialists, Integrated Logistics Support, Government Furnished Equipment, Support Equipment, Program Management, Contract Support Services, and travel to support IFF Mode 5 Interrogator development and ARPDD testing.						
FY 2014 Plans: Continue to provide engineering specialists, Integrated Logistics Support, Government Furnished Equipment, Support Equipment, Program Management, Contract Support Services, and travel to support mission avionics P3I. Commence 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.						
Title: Test and Evaluation				4.007	3.460	1.503
Articles:				-	-	-
FY 2013 Accomplishments: Provided ARPDD MH-60R Mission Avionics testing and Identification, Friend or Foe Mode 5 Interrogator testing and evaluation efforts.						
FY 2014 Plans: Continue to provide MH-60R Mission testing. Commence Advanced Precision Kill Weapon System test and evaluation efforts.						
FY 2015 Plans: Continue APKWS test and evaluation efforts.						
Accomplishments/Planned Programs Subtotals				6.035	17.565	11.434



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014	
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			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN-1 BLI:018200: MH-60R	742.471	779.653	1,040.568	-	1,040.568	250.031	-	-	-	-	10,533.976
• APN-6 BLI:060510: MH-60R spares	2.648	0.540	-	-	-	0.673	-	-	-	-	300.317
• APN-5 BLI:053000: SH60 Series	42.903	60.901	46.563	-	46.563	89.796	61.362	83.538	115.979	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
Advanced Precision Kill Weapon System (APKWS) and Helicopter Infrared Suppression System (HIRSS) will be developed using cost plus incentive fee type contracts.											
E. Performance Metrics											
Successfully achieve IOC for the Automatic Radar Periscope Detection and Discrimination (ARPDD) upgrade to the MH-60R Multi-Mode Radar. Successfully support developmental and operation test activities to qualify aircraft modifications/upgrades.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Dev, Avionics (LMSI)	SS/CPFF	Lockheed Martin : Owego, NY	873.083	0.783	Apr 2013	-		-		-		-	-	873.866	873.866
Primary Hdw/SW Dev, Advanced Precision Kill Weapon System (APKWS)	SS/CPIF	Lockheed Martin : Owego, NY	0.000	-		5.700	Jun 2014	-		-		-	-	5.700	5.700
Primary Hdw Dev. APKWS	SS/CPIF	Sikorsky : Stratford, CT	0.000	-		6.800	Jun 2014	3.540	Jun 2015	-		3.540	-	10.340	10.340
Primary Hdw Dev, APKWS	WR	NSWC Crane : Crane, IN	0.000	-		-		3.684	Jun 2015	-		3.684	-	3.684	-
Primary Hdw/SW Dev, Helicopter Infrared Suppression System (HIRSS)	SS/CPIF	Sikorsky : Stratford, CT	0.000	-		-		0.470	Jan 2015	-		0.470	7.490	7.960	7.960
VORILS	SS/CPFF	Lockheed Martin : Owego, NY	0.000	-		-		-		-		-	4.500	4.500	4.500
Prior year Product Dev Cost no longe funded in the FYDP	Various	Various : Various	280.389	-		-		-		-		-	-	280.389	-
Subtotal			1,153.472	0.783		12.500		7.694		-		7.694	11.990	1,186.439	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NAWC AD : Patuxent River, MD	9.407	0.218	Nov 2012	0.809	Nov 2013	2.175	Nov 2014	-		2.175	Continuing	Continuing	Continuing
Government Eng Spt	WR	NAWC WD : China Lake	0.000	0.752	Nov 2012	0.100	Nov 2013	-		-		-	-	0.852	-
Government Eng Spt	Various	Various : Various	0.000	0.195	Nov 2012	0.650	Nov 2013	-		-		-	0.390	1.235	-
Prior year support cost no longer funded in the FYDP	Various	Various : Various	146.088	-		-		-		-		-	-	146.088	-
Subtotal			155.495	1.165		1.559		2.175		-		2.175	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks FY 2013 increase from PB 2014 in NAWC WD China Lake to support additional Automatic Radar Periscope Detection and Discrimination (ARPDD) testing. Increase in FY 2015 costs to support Helicopter Infrared Suppression System (HIRSS) development and Advanced Precision Kill Weapon System (APKWS) development and testing to address Fast Attack Craft/Fast In-shore Attack Craft (FAC/FIAC) threat.															
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWC AD : Patuxent River, MD	145.685	3.073	Nov 2012	2.263	Nov 2013	1.028	Nov 2014	-		1.028	8.256	160.305	-
Operation Test & Evaluation	WR	COMOPTEVFOR : Norfolk, VA	13.200	0.934	Nov 2012	1.197	Nov 2013	0.475	Nov 2014	-		0.475	6.483	22.289	-
Prior year T&E costs no longer funded in the FYDP	Various	various : various	11.688	-		-		-		-		-	-	11.688	-
Subtotal			170.573	4.007		3.460		1.503		-		1.503	14.739	194.282	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	NAWC AD : Patuxent River, MD	4.760	0.080	Nov 2012	0.046	Nov 2013	0.062	Nov 2014	-		0.062	0.233	5.181	-
Prior year Mgmt Serv cost no longer funded in the FYDP	Various	Various : Various	34.256	-		-		-		-		-	-	34.256	-
Subtotal			39.016	0.080		0.046		0.062		-		0.062	0.233	39.437	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			1,518.556	6.035		17.565		11.434		-		11.434	-	-	

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Navy							<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5			<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mssn Helicopter Upgrade Dev</i>			<b>Project (Number/Name)</b> 1707 / <i>MH-60R Development</i>				
	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Remarks</b>										



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604216N / <i>Multi-Mssn Helicopter Upgrade Dev</i>	<b>Project (Number/Name)</b> 1707 / <i>MH-60R Development</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>PE 0604216N: Multi-Mission Helicopter Upgrade Development</i></b>				
Acquisition Milestones: Milestones: ARPDD IOC	2	2014	2	2014
Acquisition Milestones: Milestones: APKWS EOC	2	2015	2	2015
Systems Development: Advanced Precision Kill Weapon System (APKWS): APKWS integration development	2	2014	4	2016
Systems Development: Automatic Radar Periscope Detection and Discrimination (ARPDD): ARPDD OT	1	2013	4	2013
Systems Development: Helicopter Infrared Suppression System (HIRSS): HIRSS development	2	2015	4	2019
Production Milestones: Instrument Landing System (ILS): ILS development	2	2016	3	2017
Production Milestones: ARPDD System Development & Demonstration (SDD) Contract: ARPDD SDD contract	1	2013	1	2013
Production Milestones: Deliveries: ARPDD Production Incorporation	2	2013	2	2013
Test and Evaluation: Test & Evaluation: APKWS DT	2	2014	2	2016
Test and Evaluation: Test & Evaluation: APKWS OT	2	2016	4	2016
Test and Evaluation: Test & Evaluation: HIRSS DT	3	2017	2	2018
Test and Evaluation: Test & Evaluation: HIRSS OT	3	2018	1	2019
Test and Evaluation: Test & Evaluation: ILS DT	3	2016	2	2017
Test and Evaluation: Test & Evaluation: ILS OT	4	2016	3	2017

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					<b>R-1 Program Element (Number/Name)</b> PE 0604218N / Air/Ocean Equipment Engineering							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	71.640	3.658	4.026	2.164	-	2.164	2.526	2.054	2.538	3.210	Continuing	Continuing
2345: Fleet METOC Equipment	52.597	2.380	2.611	1.224	-	1.224	1.332	0.848	1.310	1.950	Continuing	Continuing
2346: METOC Sensor Engineering	19.043	1.278	1.415	0.940	-	0.940	1.194	1.206	1.228	1.260	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## 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 thrust area 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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	4.060	4.026	4.393	-	4.393
Current President's Budget	3.658	4.026	2.164	-	2.164
Total Adjustments	-0.402	-	-2.229	-	-2.229
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.062	-			
• Program Adjustments	-	-	-0.170	-	-0.170
• Rate/Misc Adjustments	-0.001	-	-2.059	-	-2.059
• Congressional General Reductions Adjustments	-0.339	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0604218N / Air/Ocean Equipment Engineering	
<p><b>Change Summary Explanation</b></p> <p>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.</p>		



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2345: Fleet METOC Equipment	52.597	2.380	2.611	1.224	-	1.224	1.332	0.848	1.310	1.950	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2015 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.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)									1.950	2.077	0.839	
									Articles: -	-	-	
FY 2013 Accomplishments:												
Continued advanced software tools development for Meteorological & Oceanography (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. Continued development of an end-to-end methodology to collect, fuse, and												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604218N / <i>Air/Ocean Equipment Engineering</i>	<b>Project (Number/Name)</b> 2345 / <i>Fleet METOC Equipment</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
integrate these data into Navy and DoD networks and command & control nodes. Continued development of support infrastructure for advanced global & regional Meteorological & Oceanography (METOC) prediction systems.			
<b>FY 2014 Plans:</b> Continue 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 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. Develop Through-the-sensor (TTS) technologies and alternative sampling strategies for oceanographic characterization.			
<b>FY 2015 Plans:</b> 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. Continue to develop, demonstrate and assess TTS technologies and alternative sampling strategies for environmental characterization.			
<b>Title:</b> Littoral Battlespace Sensors - Unmanned Undersea Vehicle (LBS-UUV)		0.168	0.232
<b>Articles:</b>		-	-
<b>FY 2013 Accomplishments:</b> Conducted Littoral Battlespace Sensors ocean Glider (LBS-G) and Littoral Battlespace Sensors Autonomous Undersea Vehicles (LBS-AUV) engineering design studies as required. Developed system upgrades via Engineering Change Proposals (ECPs), and corrected any identified software and/or hardware deficiencies as required. Focused areas include enhanced autonomy, Glider Operations Center (GOC) automation, communications improvements, battery redesign and others as required. These are all multi-year efforts.			
<b>FY 2014 Plans:</b> 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 enhanced autonomy, GOC automation, communications improvements, battery redesign and others as appropriate.			
<b>FY 2015 Plans:</b> Conduct Littoral Battlespace Sensors ocean Glider (LBS-G) and Littoral Battlespace Sensors Autonomous Undersea Vehicles (LBS-AUV) engineering design studies as required. Develop system upgrades via Engineering Change Proposals (ECPs), and			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604218N / <i>Air/Ocean Equipment Engineering</i>				Project (Number/Name) 2345 / <i>Fleet METOC Equipment</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015
correct any identified software and/or hardware deficiencies as required. Complete communications enhancements. Continue efforts on enhanced autonomy, Glider Operations Center (GOC) automation, battery redesign and others as required.											
<i>Title:</i> Environmental Satellite Receiver Processor (ESRP) <div><i>Articles:</i></div>									0.262 -	0.302 -	0.240 -
<i>FY 2013 Accomplishments:</i> Developed and tested annual hardware and software upgrades to integrate new METOC Satellite Sensors available in the Geostationary Operational Environmental Satellite (GOES) system and the Polar Orbiting Environmental Satellite (POES) system. Continued integration of ESRP systems in support of Joint Polar-orbiting Satellite System (JPSS). Overall program efforts included investigation of emerging technologies through study, development and associated testing for feasibility of program insertion.											
<i>FY 2014 Plans:</i> 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. Overall program efforts include investigation of emerging technologies through study, development and associated testing for feasibility of program insertion.											
<i>FY 2015 Plans:</i> 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.											
Accomplishments/Planned Programs Subtotals									2.380	2.611	1.224
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/4226: <i>Meteorological Equipment</i>	17.790	19.118	12.575	-	12.575	14.947	15.834	16.512	16.549	Continuing	Continuing
• RDTEN/0603207N/2341: <i>METOC Data Acquisition</i>	5.793	6.336	2.518	-	2.518	4.387	4.430	5.084	5.230	Continuing	Continuing
• RDTEN/0603207N/2342: <i>METOC Data Assimilation and MOD</i>	10.242	10.250	4.937	-	4.937	8.154	8.352	8.709	9.669	Continuing	Continuing
• RDTEN/0604218N/2346: <i>METOC Sensor Engineering</i>	1.279	1.415	0.940	-	0.940	1.194	1.206	1.228	1.260	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014	
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>C. Other Program Funding Summary (\$ in Millions)</b>											
			<u>FY 2015</u>	<u>FY 2015</u>	<u>FY 2015</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Complete</u>	<u>Total Cost</u>
<u>Remarks</u>											
<b>D. Acquisition Strategy</b>											
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.											
<b>E. Performance Metrics</b>											
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.											

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																Date: March 2014												
Appropriation/Budget Activity 1319 / 5										R-1 Program Element (Number/Name) PE 0604218N / Air/Ocean Equipment Engineering										Project (Number/Name) 2345 / Fleet METOC Equipment								
Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
FMC Asset Allocation																												
FMC Network Integration (DoN & DoD)																												
FMC Develop Global & Regional Support Infrastructure																												
FMC Through-the-Sensor (TTS) Ocean Characterization Techniques																												
2015OSD - 0604218N - 2345																												

2015OSD - 0604218N - 2345

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2346: METOC Sensor Engineering	19.043	1.278	1.415	0.940	-	0.940	1.194	1.206	1.228	1.260	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

## 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 2015 request provides for the continued development of advanced sensor system support hardware and software technologies for sensor deployment, data processing and performance metrics to optimize sensor performance and assess the viability of sensors and subsystems on unmanned and manned aircraft systems and autonomous undersea platforms for collection of automated METOC data and information.

## B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC)	1.278	1.415	0.940
<b>Articles:</b>	-	-	-
<b>FY 2013 Accomplishments:</b>			
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 METOC data. Continued to develop infrastructure to acquire, process and distribute METOC data and products.			
<b>FY 2014 Plans:</b>			
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			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy								<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604218N / <i>Air/Ocean Equipment Engineering</i>				<b>Project (Number/Name)</b> 2346 / <i>METOC Sensor Engineering</i>			

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
support technologies and techniques for sensor deployment, data processing and analysis to include performance metrics to optimize sensor performance. Assess 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. Continue to develop infrastructure to acquire, process and distribute METOC data and products.			
<b>FY 2015 Plans:</b> 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 processing and analysis to include performance metrics to optimize sensor performance. Continue to develop infrastructure to acquire, process and distribute METOC data and products.			
<b>Accomplishments/Planned Programs Subtotals</b>	1.278	1.415	0.940

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTEN/0603207N/2341: <i>METOC DATA ACQUISITION</i>	5.793	6.336	2.518	-	2.518	4.387	4.430	5.084	5.230	Continuing	Continuing
• RDTEN/0603207N/2342: <i>METOC DATA ASSIMILATION AND MOD</i>	10.242	10.250	4.937	-	4.937	8.154	8.352	8.709	9.669	Continuing	Continuing
• RDTEN/0604218N/2345: <i>FLEET METOC EQUIPMENT</i>	2.380	2.611	1.224	-	1.224	1.332	0.848	1.310	1.950	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b> 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.											
<b>E. Performance Metrics</b> 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. 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.											

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604218N / Air/Ocean Equipment Engineering

Project (Number/Name)

2346 / METOC Sensor Engineering

Meteorology and Oceanographic (METOC) Future Mission Capabilities (FMC)	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Develop & Demonstrate METOC Automated Sensors																												
Advanced METOC Sensor Deployment, Data Processing, & Performance Metrics																												
AUV Sensor Deployment Efforts																												
Assess Viability of METOC Sensors & Subsystems on Aircraft Systems and Undersea Platforms																												
Develop Infrastructure to Acquire, Process, and Distribute METOC Data																												

2015OSD - 0604218N - 2346



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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>					<b>R-1 Program Element (Number/Name)</b> PE 0604221N / <i>P-3 Modernization Program</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	49.804	3.170	0.791	1.710	-	1.710	1.772	1.876	1.897	1.933	Continuing	Continuing
1152: <i>P-3 Sensor Integration</i>	34.041	1.238	-	-	-	-	-	-	-	-	-	35.279
3016: <i>Fatigue Life Mgmt Program</i>	15.763	1.932	0.791	1.710	-	1.710	1.772	1.876	1.897	1.933	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## **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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0604221N / P-3 Modernization Program			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	3.451	1.791	1.810	-	1.810
Current President's Budget	3.170	0.791	1.710	-	1.710
Total Adjustments	-0.281	-1.000	-0.100	-	-0.100
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.019	-			
• Rate/Misc Adjustments	-	-	-0.100	-	-0.100
• Congressional General Reductions Adjustments	-0.262	-	-	-	-
Change Summary Explanation					
Technical: Not applicable.					
Schedule: Not applicable.					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604221N / P-3 Modernization Program				Project (Number/Name) 1152 / P-3 Sensor Integration			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1152: P-3 Sensor Integration	34.041	1.238	-	-	-	-	-	-	-	-	-	35.279
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 (IEER) and Multistatic Acoustic Coherent (MAC) 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 AIP 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.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: P-3 integration of ASW and ASuW sensors / weapon systems									1.238	-	-	
									Articles: -	-	-	
FY 2013 Accomplishments: Continued Sensor Integration effort to integrate and test newly evolving Anti-Submarine Warfare and ASuW technologies such as IEER and Multistatic Acoustic Coherent family of Multi-Static active systems, Air Acoustic Rapid Cots Insertion, Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements.												
FY 2014 Plans: N/A												
FY 2015 Plans: N/A												
Accomplishments/Planned Programs Subtotals									1.238	-	-	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604221N / <i>P-3 Modernization Program</i>	<b>Project (Number/Name)</b> 1152 / <i>P-3 Sensor Integration</i>	

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN/0538: <i>P-3 Series</i>	114.475	36.788	2.823	-	2.823	7.121	4.032	3.100	3.206	-	4,921.898

**Remarks**

**D. Acquisition Strategy**

The Air Deployable Active Receiver/Improved Extended Echo Ranging Operational Requirements Document (ORD) (Ser# 297(1)-05-97)) for 1152 was approved on 29 December 1997. The P-3 Anti-Surface Warfare Improvement Program ORD (Ser#355-88-94) for 2417 was approved on 30 March 1994. The Acquisition Plan (AIR-93-08A Rev 2) was approved on 30 March 1998. The Acquisition Strategy Review (AIR-ASR-26A Rev 3) was approved 29 Nov 1999 which includes Over the Horizon Wideband system.

**E. Performance Metrics**

Successfully complete Developmental Test.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3016: Fatigue Life Mgmt Program	15.763	1.932	0.791	1.710	-	1.710	1.772	1.876	1.897	1.933	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015
Title: P-3/EP-3 Fatigue Life Management  Articles:  FY 2013 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. Research, test and apply new Fatigue Inspection techniques to the P-3/EP-3 Fleet.  FY 2014 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 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.										1.932	0.791	1.710
										-	-	-
Accomplishments/Planned Programs Subtotals										1.932	0.791	1.710
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• APN/0538: P-3 Series	114.475	36.788	2.823	-	2.823	7.121	4.032	3.100	3.206	-	4,921.898	
Remarks												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604221N / <i>P-3 Modernization Program</i>	Project (Number/Name) 3016 / <i>Fatigue Life Mgmt Program</i>
<b>D. Acquisition Strategy</b> 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.		
<b>E. Performance Metrics</b> Successful application of system engineering processes.		

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Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Navy

Date: March 2014

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

Fatigue Life Mgmt Program	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>Acquisition Milestones</b>																												
Milestones																												
<b>Systems Development</b>																												
Hardware Development																												
Software Development																												
Reviews																												
<b>Test &amp; Evaluation</b>																												
Technical Evaluation	Inventory Fatigue Life Management/Sustainment																											
Operational Evaluation																												
<b>Production Milestones</b>																												
Contract Awards																												
<b>Deliveries</b>																												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604230N / Warfare Support System							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	36.404	9.983	9.725	9.094	-	9.094	9.351	9.592	9.715	9.930	Continuing	Continuing
3326: NIWO Rapid Capabilities Development for CIC	5.126	4.895	4.016	4.994	-	4.994	5.136	5.277	5.338	5.461	Continuing	Continuing
4011: Naval Coastal Warfare Surv and C4I Sys	30.783	4.226	3.737	3.340	-	3.340	3.432	3.512	3.559	3.632	Continuing	Continuing
9C86: Combatant Craft Replacement	0.495	0.862	1.972	0.760	-	0.760	0.783	0.803	0.818	0.837	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## A. Mission Description and Budget Item Justification

The Coastal Riverine Force (CRF), formerly Maritime Expeditionary Security Force (MESF), Riverine, and Naval Coastal Warfare (NCW), consists of two Groups and ten Squadrons; nine regular and one special (Guam). Each squadron is organized by Boat Detachments, Security Detachments and Command and Control (C2) divisions. The C2 Division is comprised of Sensor Detachments (SENSDET) operating the Radar Sonar Surveillance Center (RSSC) and Communications Detachments (COMMSDET) operating the Mobile Ashore Support Terminal (MAST IIIs), each separately funded. The Radar Sonar Surveillance Center (RSSC) is the only land-based and rapidly deployable mobile Navy system with the ability to conduct surface and subsurface surveillance in coastal and littoral areas. The system provides detailed contact information via various C4I systems to the tactical area commander based on radar, visual, thermal, electronic, and underwater acoustic sensor information. Missions supported with the MIUW-RSSCs are: OCONUS and INCONUS Force Protection, protecting port areas, high value assets, and surveilling the near shore areas. The MAST III is the C4ISR hub for the NCW Commander. MAST IIIs deploy to support Force Protection/Force Security Officer for Commander, Amphibious Group in its Harbor Defense and Coastal Sea Control missions.

As stated in the Maritime Expeditionary Security Force (MESF) CONOPS dated 11 April 2007: The MESF organization will be established through realignment of the CRF organizations (CRF Squadrons, Mobile Inshore Undersea Warfare Units, Inshore Boat Units, Mobile Security Squadrons, Mobile Security Detachments, Embarked Security Detachments, and Embarked Security Teams) into the CRF structure. Further realignment will result in the integration of intelligence, VBSS, and additional waterborne and security detachments to support new mission capability and provide additional NCC / JFMCC capacity. In addition to enhancing readiness of the current force, CRF will deploy adaptive force packages (AFPs) tailored for the specific missions to achieve greater efficiency and combat readiness than the current CRF force. By establishing a professional warfare community and dedicated Maritime Expeditionary Security Force capable of meeting the full range of security requirements, CRF closes a critical gap essential to full mission readiness for MSO. CRF provides a structure that establishes a single integrated maritime security force with one standard for training, certification, employment, and tactics, techniques, and procedures (TTP). This funding supports the future direction of the CRF as it is being determined externally by world events and internally by the progress of DoD initiatives modernize forces and capabilities.. CRF force will be agile, tailorable, and scalable and will use applied technology to quickly detect, deter or interdict potential threats to DoN assets in the littoral environment. Next generation surface and subsurface surveillance systems, as well as enhanced C4I capabilities, are required to meet these operational objectives. 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.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0604230N / <i>Warfare Support System</i>
<p>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 multi-spectral 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.</p> <p>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.</p> <p>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.</p> <p>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 Overseas 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.</p> <p>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</p>		

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604230N / <i>Warfare Support System</i>
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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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	13.071	11.725	10.611	-	10.611
Current President's Budget	9.983	9.725	9.094	-	9.094
Total Adjustments	-3.088	-2.000	-1.517	-	-1.517
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.069	-			
• Rate/Misc Adjustments	-	-	-1.517	-	-1.517
• Congressional General Reductions Adjustments	-1.019	-	-	-	-
• Congressional Directed Reductions Adjustments	-2.000	-	-	-	-

**Change Summary Explanation**

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3326: NIWO Rapid Capabilities Development for CIC	5.126	4.895	4.016	4.994	-	4.994	5.136	5.277	5.338	5.461	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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)**

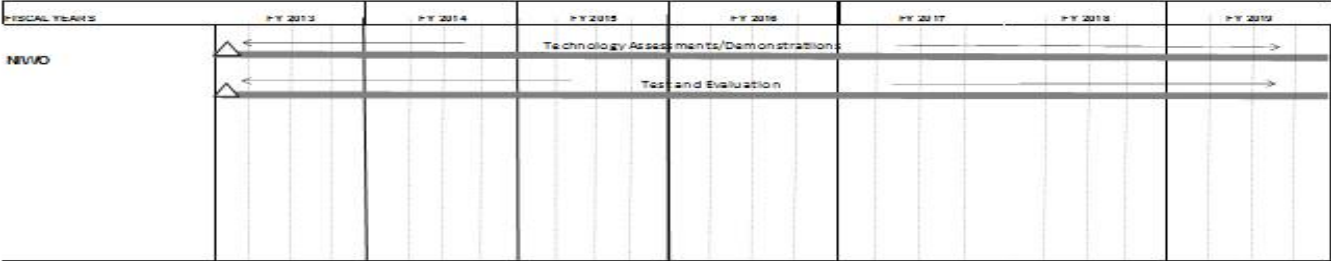
<b>Title:</b> Navy Irregular Warfare		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
		4.895	4.016	4.994
<b>Articles:</b>		-	-	-
<b>FY 2013 Accomplishments:</b>				
Identify, assess, integrate and test available close-in expeditionary ISR and littoral precision strike technologies in support of the CIC mission supporting the warfighter. Additional efforts to validate and demonstrate identified ISR and littoral precision strike technologies. Other technologies assessed/demonstrated in support of Confronting Expeditionary Warfare Challenges as available.				
<b>FY 2014 Plans:</b>				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604230N / <i>Warfare Support System</i>	<b>Project (Number/Name)</b> 3326 / <i>NIWO Rapid Capabilities Development for CIC</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
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.			
<b>FY 2015 Plans:</b> 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.			
<b>Accomplishments/Planned Programs Subtotals</b>		4.895	4.016
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b> Identify, integrate, test then demonstrate capabilities to meet the warfighter needs.			
<b>E. Performance Metrics</b> To successfully conduct technology reviews to confront expeditionary warfare challenges and successfully identify and validate identified technologies.			

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
4011: Naval Coastal Warfare Surv and C4I Sys	30.783	4.226	3.737	3.340	-	3.340	3.432	3.512	3.559	3.632	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**A. Mission Description and Budget Item Justification**

The Navy Expeditionary project supports the Navy Expeditionary Combat Command (NECC) mission to provide a single integrated force 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 Command, Control, Communications, Computers (C4) current and future technological requirements for Tactical Operations Center, vehicles, craft, personnel capabilities and SATCOM availability. Next generation air, surface and subsurface surveillance systems, as well as enhanced C4I capabilities, are required to meet operational objectives. For each NECC operation, units 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. 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 will be driven by requirements to increase agility, mobility and network security posture. Small, Medium and/or Large Scale Communication Systems (LSCS) are the Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) 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) and Deployable Expeditionary Network-Medium (DEXNet-M) supporting Radar Sonar Surveillance Center (RSSC) will be converging to a common baseline, the NECC Enterprise Tactical Command and Control (NETC2).

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

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> CRF (Formerly MESF) Modernization	2.963	2.893	-
<b>Articles:</b>	-	-	-
<b>FY 2013 Accomplishments:</b> Coastal Riverine Forces (CRF) Modernization - Provided management support and development of new C4ISR capabilities for Naval Coastal Warfare forces. Developed engineering changes to upgrade C4I equipment in the areas of both tactical			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
and operation Command/Control (C2). Development included such efforts as the Joint Expeditionary Command, Control, Communications (JEC3) work and Riverine Command Boat (RCB) C4I integration.				
FY 2014 Plans: MESF Upgrades - Provide management support and develop new C4ISR capabilities for Naval Coastal Warfare forces including NETC2.				
FY 2015 Plans: Beginning in FY15 funding for CRF Modernization was moved to NECC C4ISR Modernization				
Title: Identity Dominance System		1.263	0.844	0.721
Articles:		-	-	-
FY 2013 Accomplishments: Finished operational testing of production representative IDS to ensure operational viability. Updated the system to resolve any critical or substantive issues identified during operational testing. Began fielding initial operational capability and progress towards a full rate production decision.				
FY 2014 Plans: Objectives include resolving critical issues identified during operational use and implementing required capabilities not implemented in initial fielding.				
FY 2015 Plans: Objectives include resolving critical issues identified during operational use and implementing required capabilities not implemented in initial fielding.				
Title: NECC C4ISR Modernization		-	-	2.619
Articles:		-	-	-
FY 2013 Accomplishments: N/A				
FY 2014 Plans: N/A				
FY 2015 Plans: Continue development of NETC2 capability sets to replace legacy Mobile Ashore Support Terminal (MAST), Deployable Expeditionary Network, Light (DEXNET-L), Deployable Expeditionary Network, Medium (DEXNET-M) in CRF inventory. Efforts will include development of capabilities based on emergent the requirements and operational feedback, to include reach back				



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
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 NECC C4ISR Modernization												
Accomplishments/Planned Programs Subtotals										4.226	3.737	3.340
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN/8120: Maritime Expeditionary Security Force	4.338	-	9.638	-	9.638	10.037	9.342	9.514	9.705	-	76.474	
• OPN/8128: Physical Security Equipment	3.180	2.585	3.000	-	3.000	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. For Large Scale Communication Systems (LSCS), the 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 the Adaptive Force Package levels. Efforts include development of capabilities based on emergent the 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.												
E. Performance Metrics												
The Navy Expeditionary program continues to identify, evaluate and test a minimum of 3-5 new technologies or configurations per year based on emergent requirements for potential insertion into the Technical Refresh Plan, to be demonstrated at Fleet Demonstrations.												



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
9C86: Combatant Craft Replacement	0.495	0.862	1.972	0.760	-	0.760	0.783	0.803	0.818	0.837	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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)												
Title: Combatant Craft Replacement									FY 2013	FY 2014	FY 2015	
									0.862	1.972	0.760	
Articles:									-	-	-	
FY 2013 Accomplishments:												
NECC recently merged the Riverine and MESF Forces into a single Command, the Coastal Riverine Force. With this merger was a consolidation of boat requirements but with an increase in boat capability. This increase in boat capability is being studied to consolidate existing requirements of the MESF 34-ft PB, RPB and RAB into a single requirement and identify material solutions. Additionally, advanced weapon capabilities to include Stabilized Small Arms Mount (SSAM), MK 38 Mod 2 Gun Weapon System, non-lethal weapon systems, and precision engagement weapon systems are being introduced to the NECC fleet of boats which requires integration feasibility studies, integration development, and system testing.												
FY 2014 Plans:												
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												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604230N / <i>Warfare Support System</i>	<b>Project (Number/Name)</b> 9C86 / <i>Combatant Craft Replacement</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p>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).</p> <p><b><i>FY 2015 Plans:</i></b> 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. Develop MK VI Patrol Boat acquisition technical data package to include specification, logistic planning documentation and program planning documentation development. Continue to support MK VI PB Fleet Introduction Team boat and boat system familiarization support and training efforts.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>		0.862	1.972
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
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.			
<b>E. Performance Metrics</b>			
Successfully demonstrate system and prototype functionality to support approved Initial Capabilities Document (ICD).			

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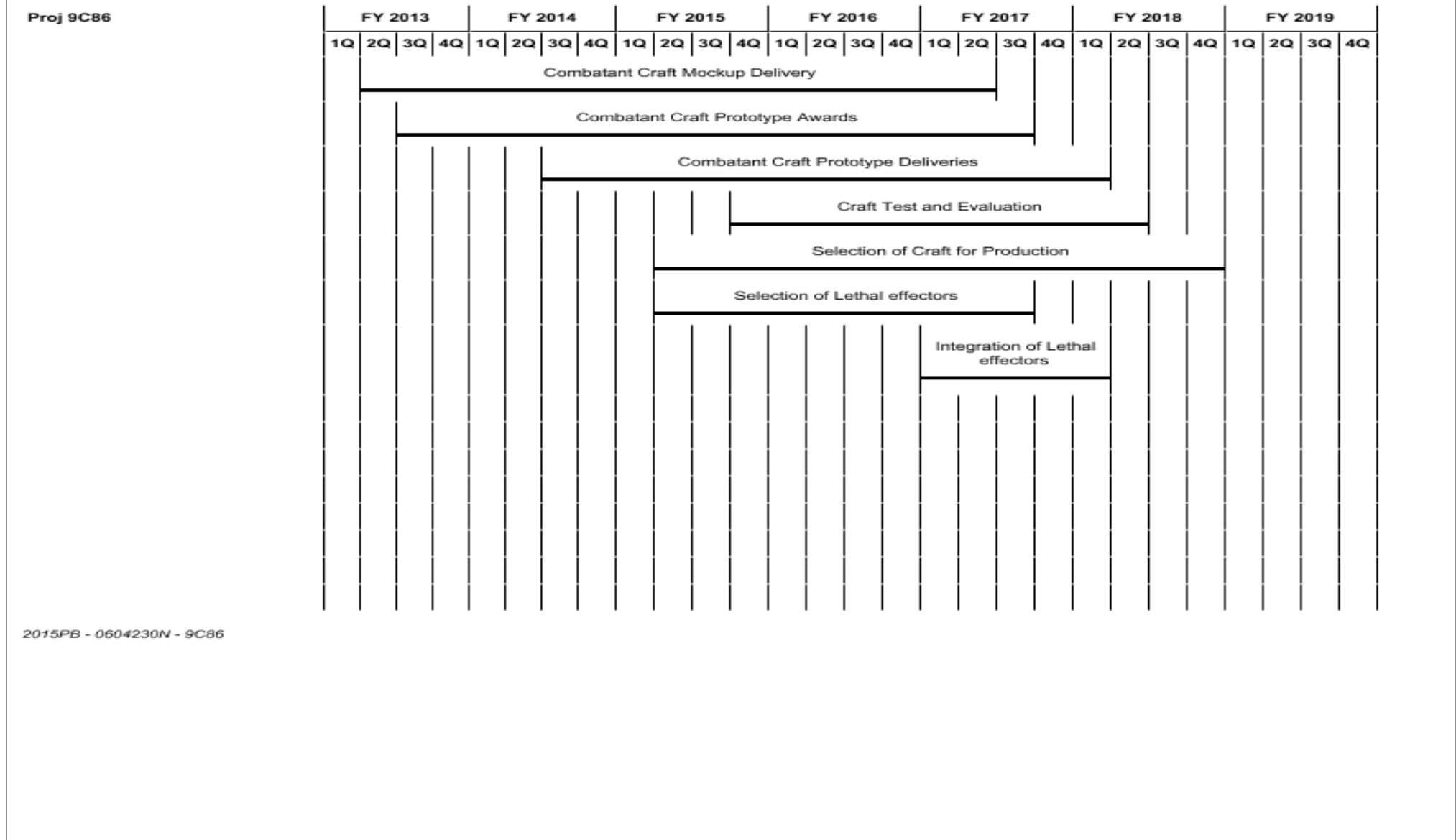
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0604230N / Warfare Support System

Project (Number/Name)  
9C86 / Combatant Craft Replacement



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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604231N / Tactical Command System							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	826.875	65.416	63.438	70.248	-	70.248	56.819	56.732	56.178	57.507	Continuing	Continuing
0486.: Tactical Support Center	110.795	4.698	5.027	4.254	-	4.254	5.356	5.485	5.656	5.797	Continuing	Continuing
0709: GCCS-M Maritime Applications	194.634	5.141	-	-	-	-	-	-	-	-	-	199.775
2213: Mission Planning	251.060	23.104	20.059	36.097	-	36.097	25.704	24.289	22.129	22.570	Continuing	Continuing
2307: Shipboard LAN/WAN	0.300	0.029	-	-	-	-	-	-	-	-	-	0.329
3032: NTCSS (Naval Tactical Command Spt Sys)	39.069	13.784	16.600	11.250	-	11.250	4.220	1.285	-	-	-	86.208
3320: TRIDENT Warrior	3.619	3.169	2.340	2.260	-	2.260	2.247	2.289	2.316	2.365	Continuing	Continuing
3323: Maritime Tactical Command & Control (MTC2)	0.003	6.916	12.443	11.955	-	11.955	16.121	20.318	22.821	23.421	Continuing	Continuing
3324: Navy Air Operations Command and Control (NAOC2)	2.073	4.463	4.045	1.831	-	1.831	0.961	0.982	1.012	1.037	Continuing	Continuing
9123: FORCEnet	225.322	4.112	2.924	2.601	-	2.601	2.210	2.084	2.244	2.317	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

**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.

Global Command and Control System - Maritime (GCCS-M): GCCS-M is the Maritime implementation of the Global Command and Control System (GCCS) Family of Systems (FoS). It supports decision making at all echelons of command with a single, integrated, scalable C4I system that fuses, correlates, filters, maintains and

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0604231N / <i>Tactical Command System</i>
<p>displays location and attribute information on friendly, hostile and neutral land, sea and air forces, integrated with available intelligence and environmental information. It operates in near real-time and constantly updates unit positions and other situational awareness data. GCCS-M also records data in appropriate databases and maintains a history of changes to those records. System users can then use the data to construct relevant tactical pictures using maps, charts, topography overlays, oceanographic overlays, meteorological overlays, imagery, and all-source intelligence information coordinated into a Common Operational Picture that can be shared locally and with other sites. Navy commanders review and evaluate the general tactical situation, plan actions and operations, direct forces, synchronize tactical movements, and integrate force maneuver with firepower. The system operates in a variety of environments and supports joint, coalition, and allied forces. GCCS-M is implemented Afloat and at Ashore fixed command centers.</p> <p>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 capabilities, 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 of the aforementioned T/M/S are required to transition to Microsoft Windows 7 before Microsoft XP support ends April 2014 by using Framework (FW) Version 1.3.5. An extension of Windows XP is planned to allow all naval aircraft to be supported during the transition. Future JMPS platforms include: MQ-4C (Triton) and H-53K. The next JMPS architecture version will support net-centric goals by providing route "publish and subscribe" capabilities, transition to 64 bit and emerging technology and Information Assurance (IA) requirements. Funding profile includes 64 bit development which requires a complete software restructure to address memory limitations and system errors resulting in JMPS computer crashes. Failure to move to 64 bit will result in an inability to support future advanced platform mission planning needs based on processing space and capability.</p> <p>Shipboard Local Area Network (LAN)/Wide Area Network (WAN) : Integrated Shipboard Network System (ISNS): ISNS provides Navy ships with reliable, high-speed SECRET and UNCLASSIFIED LANs, providing the network infrastructure (switches and drops to the PC), Basic Network Information Distribution Services and access to the Defense Information Systems Network WAN, Secure and Nonsecure Internet Protocol Router Network (SIPRNET and NIPRNET) which are used by other hosted applications or systems such as Naval Tactical Command Support System, Global Command and Control System - Maritime, Defense Messaging System, Navy Standard Integrated Personnel System, Naval Mission Planning System, Theater Battle Management Core Systems, and Tactical Tomahawk Weapons Control System. It enables real-time information exchange within the ship and between afloat units, Component Commanders, and Fleet Commanders, and is a key factor in the implementation of the Navy's portion of Joint Vision 2020.</p> <p>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.</p>		



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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0604231N / Tactical Command System	
<p>Maritime Tactical Command and Control (MTC2): MTC2 provides Navy with the ability to deliver maritime domain-unique tactical Command and Control (C2) capabilities from Maritime Operations Centers (MOC) down to the lowest tactical unit of operations and align to the Navy Tactical Cloud (NTC). MTC2 supports alignment and provides interoperability of Navy C2 with the Department of Defense (DoD) joint C2 (jC2) way-forward. The program also aligns to the jC2 data and service exposure and consumption goals, architectures, and Net-Centric Enterprise Service efforts. These resources support the evolutionary acquisition, materiel solution analysis, technology development, engineering and software development of these capabilities. 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. GFM-DI is the enterprise solution for force structure representation and MTC2 will be the data source for the Navy's force structure representation.</p> <p>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 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.</p> <p>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.</p> <p>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.</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0604231N / Tactical Command System			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	71.645	68.463	72.004	-	72.004
Current President's Budget	65.416	63.438	70.248	-	70.248
Total Adjustments	-6.229	-5.025	-1.756	-	-1.756
• Congressional General Reductions	-	-0.025			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.954	-			
• Program Adjustments	-	-	5.110	-	5.110
• Rate/Misc Adjustments	0.002	-	-6.866	-	-6.866
• Congressional General Reductions Adjustments	-5.277	-	-	-	-
Change Summary Explanation					
Technical: Not applicable.					
Schedule:					
TACTICAL SUPPORT CENTER (Project 0486):					
N/A					
Global Command and Control System - Maritime (GCCS-M) (Project 0709):					
Engineering milestones added to schedule to include Operational Test Readiness Review (OTRR). Due to the avail schedule of the targeted Operational Test (OT) platform shifting to the right, the following events were affected: Group Level - Operational Test Readiness Review shifted to Q3 2014, Group Level - Operational Test shifted to Q3 2014, and Group Level - Fielding Decision Review shifted to Q1 2015.					
Naval Tactical Command Support System (NTCSS) (Project 3032):					
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 rebaselined as required to align efforts towards the Navy Tactical Cloud (NTC) Prototype in FY16.					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604231N / <i>Tactical Command System</i>				Project (Number/Name) 0486. / <i>Tactical Support Center</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0486.: <i>Tactical Support Center</i>	110.795	4.698	5.027	4.254	-	4.254	5.356	5.485	5.656	5.797	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

## **A. Mission Description and Budget Item Justification**

The Tactical/Mobile program provides evolutionary systems and equipment upgrades to support Maritime Component Commanders (Expeditionary Ashore) and 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), the Mobile Tactical Operations Centers (MTOCs), and the Joint Mobile Ashore Support Terminals (JMASTs). 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 Multi-mission Maritime Aircraft (MMA) Increment 2, Increment 3, and the MQ-4C Triton Unmanned Aerial System.

The Joint Mobile Ashore Support Terminal (JMAST) supports the Fleet Commanders, Naval Component Commanders, and other military commanders from forward deployed bases or operational sites ashore that are not equipped with C4I facilities. It provides the Navy Component, and other military commanders with flexible, mobile, organic response, to command, control and communicate with assigned forces via voice, video, and data media forms, during all aspects of military operations, including joint, combined, and coalition operations.

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

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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 MMA (Multi-mission Maritime Aircraft), AIP, BAM UAS as well as other Command and Control (C2) and fighter aircraft are primary objectives.					
FY15: Funding supports final core TacMobile systems development and testing to achieve interoperability with P-8A Posiedon 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 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. The DARK FUSION JCTD will provide intelligence analysts, joint warfighters, Combatant Commanders (COCOM) and other interagency senior decision makers significant maritime domain awareness (MDA) improvement, aimed at increased awareness of certain vessels and "dark" targets (e.g., smaller vessels, "fast movers/go fasts", semi-submersibles, non-emitting vessels, etc.) not being detected by current means, using newly developed and under-utilized data sources. These vessels may not be emitting their normal complement of maritime signals (e.g., not participating in the electro-magnetic spectrum).					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
Title: Net Ready			0.638	0.638	0.638
Articles:			-	-	-
FY 2013 Accomplishments:					
Communications: Continued study of alternatives for identified Joint Tactical Radio System (JTRS) and/or other software definable radio options for incorporation into TacMobile (TM) communications architecture -- (TR 2.1.1). Continued study for Range of Warfare Command and Control (ROWC2) reach-back Internet Protocol (IP) connectivity options for communications continuity -- (TR 2.1.1). Commenced Maritime Patrol and Reconnaissance Force (MPRF)/Air Anti-Submarine Warfare (ASW) Community of Interest (COI) data model development (an expansion of the ASW COI data model) -- (TR 2.1.1). Conducted Services Oriented Architecture (SOA) instantiation on TacMobile prototype system for refinement of design implementation -- (TR 2.1.1). Designed initial SOA testing, initiated coordination to conduct testing with Maritime Operational Laboratory Environment (MOLE) lab and other netted labs -- (TR 2.1.1). Commenced update of Concept of Operations (CONOPS)/ Concept of Employment (CONEMP)/ Concept of Use (CONUSE) with capabilities for Multiple Security Enclaves (MSE) including higher than secret operations -- (TR 2.1.1 / Inc 3).					
FY 2014 Plans:					
Continue Services oriented Architecture (SOA) design refinement -- (TR 2.1.1). Continue Family of Systems collaboration on Maritime Patrol and Reconnaissance Force (MPRF)/Air Anti-Submarine Warfare (ASW) Community of Interest (COI) data model -- (TR 2.1.1). Commence Tactical Operations Center (TOC)/Mobile Tactical Operations Center (MTOC) Content Management Extensible Markup Language (XML) Data Dictionary and XML Schema development in support of the MPRF/Air ASW COI data model -- (Inc 3). Finalize Automated Digital Network System (ADNS) and Full Motion Video (FMV) designs and commence					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604231N / <i>Tactical Command System</i>		<b>Project (Number/Name)</b> 0486. / <i>Tactical Support Center</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
test and implementation -- (TR 2.1.1). Continue Increment 3 Department of Defense Architecture Framework (DoDAF) product development. Commence TacMobile (TM) Data Strategy, Information Support Plan (ISP), and Capabilities Production Document (CPD) for Increment 3. Commence Wideband Beyond Line of Sight (BLOS) Satellite Communications (SATCOM) requirements analysis -- (Inc 3). Begin identifying requirements to evolve legacy point to point exchanges of information to utilize Services Oriented Architecture (SOA) 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).					
<b>FY 2015 Plans:</b> Continue Services Oriented Architecture (SOA) design implementation and test -- (TR 2.1.1). Commence initial Tactical Operations Center (TOC) Operational Control (OPCON) Prototype SOA (TOPS) fielding in TR 2.1.1. Continue Automated Digital Network System (ADNS) and Full Motion Video (FMV) implementations -- (TR 2.1.1). Continue Family of Systems 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 (TOC)/Mobile Tactical Operations Center (MTOC) Content Management XML Data Dictionary -- (Inc 3). Mature TacMobile (TM) Data Strategy, Information Support Plan (ISP), and Capabilities Production Document (CPD) for Increment 3, supporting P-8A Poseidon Inc 3 - (Inc 3). Finalize TOC/MTOC Operational view and System view Department of Defense Architecture Framework (DoDAF) products, and integrate to the MPRF/Air ASW COI Family of Systems DoDAF products -- (Inc 3).					
<b>Title:</b> Tactical Mobile Acoustic Support System (TACMASS)			0.736	0.736	0.736
<b>Articles:</b>			-	-	-
<b>FY 2013 Accomplishments:</b> Conducted development testing of selected enhanced broadband processing capabilities - (TR 2.1.1). Began integration and developmental testing of Acoustic Intercept System updated screeners - (TR 2.1.1). Continued development and integration of analysis capabilities to support evolving data standards and media interfaces for Maritime Patrol Aircraft Intelligence/Surveillance/Reconnaissance (ISR) and Anti-Submarine Warfare (ASW) sensor systems - (TR 2.1.1). Continued integration and begin developmental testing of Improved and Advanced Multi-Static Acoustic Analysis capabilities required to support fielding of P-8A Poseidon Increment 2 - (TR 2.1.1). Continued integration and began developmental testing of High Altitude ASW (HAASW) capabilities -- (TR 2.1.1). Established Analysis of Alternatives for expeditionary post flight analysis capability. Began requirements analysis for Advance Airborne Systems (AAS) -- (Inc 3).					
<b>FY 2014 Plans:</b> Continue Multistatic Active Coherent (MAC), High Altitude ASW (HAASW), High Altitude Anti Submarine Warfare (ASW) Weapons Capability (HAAWC), and Automatic Identification System (AIS) integration system testing to support fielding of P-8A Poseidon Increment 2 -- (TR 2.1.1). Down select alternative on expeditionary post flight analysis capability -- (TR 2.1.1). Commence design					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
support of P-8A Poseidon Increment 2 Engineering Change Proposal (ECP) 3 -- (TR 2.1.1 / Inc 3). Continue 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 and ECP 2 -- (TR 2.1.1) and further requirements analysis and design of P-8A Poseidon Increment 2 ECP 3 -- (TR 2.1.1 / Inc 3). Continue requirement analysis and commence design of TacMobile system in support of P-8A Poseidon Increment 3 -- (Inc 3).				
Title: Aircraft Interfaces  FY 2013 Accomplishments: Media: Continued to evaluate interfaces required to support MQ-4C Triton Unmanned Aerial System (UAS) to ensure platform Warfighting wholeness. Continued to evaluate and assess network-centric interfaces -- (TR 2.1.1). Began development of those interfaces required to support P-8A Poseidon Increment 2 -- (TR 2.1.1). Began requirements analysis for Advanced Airborne Sensor (AAS) -- (Inc 3). Began analysis of integration requirements for P-8A Increment 3 -- (Inc 3).  FY 2014 Plans: Media: Continue development of those interfaces required to support P-8A Poseidon Increment 2 Engineering Change Proposal (ECP) 1 and ECP 2 -- (TR 2.1.1). Commence P8 Poseidon Increment 2 ECP 3 requirements support -- (TR2.1.1). Continue production support in the form of requirements analysis and design work on TacMobile (TM) 1-1 Engineering Development Model (EDM) for Advanced Airborne Sensor (AAS) -- (Inc 3). Continue analysis of integration requirements for P-8A Poseidon Increment 3 trading off impacts from Applications Based Architecture (ABA) architecture -- (Inc 3). Support P8 Poseidon Increment 3 System Requirements Review (SRR) 2 and Technical Requirements Analysis (TRA) -- (Inc 3). Support interface design for Net Enabled Weapon and T-Sized Stores -- (Inc 3). Continue study of alternatives for P-8A Poseidon Fly Away Kits (FAK), for media grooming and split deployment support -- (Inc 3).  FY 2015 Plans: Commence test and production of P8 Poseidon Increment 2 ECP 1 and ECP 2 required TM support -- (TR 2.1.1). Support all P-8A Poseidon Increment 2 Operational Evaluations (OPEVALs)-- (TR 2.1.1) Continue refining Advanced Airborne Systems (AAS) and TacMobile (TM) stack integration -- (TR 2.1.1). Support P8 Poseidon Increment 3 preliminary Design Review (PDR) 1 -- (Inc 3).		Articles: 0.583 -	0.583 -	0.583 -
Title: Tactical Data Links  FY 2013 Accomplishments:		Articles: 0.158 -	0.160 -	0.160 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Continued assessment in preparation for prioritization and down select Analysis of Alternatives (AoA) options for development of TacMobile Tactical Data Link (TADIL) transition roadmap -- (Inc 3).					
<b>FY 2014 Plans:</b> Study LINK-11 sundown plan, impacts on TacMobile, and potential adoption of LINK-22 /NATO Improved Link Eleven (NILE) -- (Inc 3). Assess implementation of LINK-16 Concurrent Multi-Netting (CMN), adoption of Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS), and adoption of Tactical Targeting Network Technology (TTNT) -- (Inc 3).					
<b>FY 2015 Plans:</b> Commence design for selected Tactical Targeting Network Technology (TTNT) and Multifunctional Information Distribution System Joint Tactical Radio System (MIDS JTRS) Courses of Action (COA) -- (TR 2.1.1) Commence requirements analysis on Common Data Link Upgrade, Broadcast Intelligence Analysis, Joint Range Extension, Third Party Targeting -- (Inc 3).					
<b>Title:</b> Enterprise Solutions			0.581	0.580	0.580
<b>Articles:</b>			-	-	-
<b>FY 2013 Accomplishments:</b> Began integration and developmental testing of tactical mobile networking infrastructure to comply with net ready, Defense Information Systems Agency (DISA) and Navy Net-Centric Operating standards that support evolutionary transition to a Consolidated Afloat Network Enterprise Services (CANES) compatible Services Oriented Architecture (SOA) with Multiple Security level Enclaves (MSE, formerly called Multi-level Enclaves (MLE)) accessibility -- (TR 2.1.1 / Inc 3). Began developmental testing of data at rest storage, data content management, and security requirements for P-8A Poseidon Increment 2 -- (TR 2.1.1). Assessed available options for incorporation of appropriate Distributed Common Ground System Navy (DCGS-N) capabilities -- (Inc 3).					
<b>FY 2014 Plans:</b> Develop requirements for assessed option preference of appropriate Distributed Common Ground System Navy (DCGS-N) capabilities -- (Inc 3). Continue development of mature Multiple Security level Enclaves (MSE, formerly called Multi-level Enclaves (MLE)) design -- (Inc 3). Conduct Analysis of Alternatives on Mass Storage requirements for TacMobile including P-8A Poseidon Increment 3 and Advanced Airborne Sensor (AAS) -- (Inc 3). Maturing design of data content management and security requirements for P-8A Poseidon Increment 2 -- (TR 2.1.1). Continuing to assess DCGS-N capabilities -- (Inc 3). Commence Applications Based Architecture (ABA) requirements analysis, Just a Bunch of Disks (JBOD) replacement (Removable Media Consolidation) -- (Inc 3).					
<b>FY 2015 Plans:</b> Continue with Applications Based Architecture (ABA) requirements analysis, and commence ABA design for TacMobile (TM) systems -- (Inc 3). Continue with Just a Bunch of Disks (JBOD) replacement requirement analysis, and commence JBOD design for TM systems - (Inc 3). Continue development of Multiple Security level Enclaves (MSE) and design of Distributed Common					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Ground System Navy (DCGS-N) TM implementation -- (Inc 3). Commence development of next generation Mass Storage requirement -- (Inc 3).					
<b>Title:</b> Command and Control (C2)			0.402	0.402	0.402
<b>Articles:</b>			-	-	-
<b>FY 2013 Accomplishments:</b> Identified Global Command and Control System - Maritime (GCCS-M ) 4.1 Group Level as GCCS-M 4.0.3 replacement option to provide Intelligence Preparation of the Battle Space capabilities, access to Signal Intelligence (SIGINT), Electronic Warfare (EW), and General Military Intelligence database products, and Common Operational Picture (COP) management, display, and processing capabilities that meet information assurance standards and maintains interoperability -- (TR 2.1.1). Continued integration of follow on Command and Control (C2) prototype -- (TR 2.1.1). Began developmental test and integration of a correlator, to support Maritime Patrol and Reconnaissance Force (MPRF) Commander Task Force (CTF) C2 requirements and C2 track data correlation and fusion tool options -- (TR 2.1.1 / Inc 3).					
<b>FY 2014 Plans:</b> Implement Tactical Operations Center (TOC) Operational Control (OPCON) Prototype Services Oriented Architecture (SOA) (TOPS) Situational Awareness (SA) into TacMobile (TM) SOA -- (TR 2.1.1). Begin requirements analysis and design for Advanced Airborne Sensor (AAS) as part of TacMobile Multiple Security level Enclaves (MSE, formerly called Multi-level Enclaves (MLE)) system development -- (TR 2.1.1). Complete Global Command and Control System - Maritime (GCCS-M) replacement option design analysis Maritime Tactical Command and Control (MTC2) in TM architecture -- (Inc 3).					
<b>FY 2015 Plans:</b> Continue Tactical Operations Center (TOC) Operational Control (OPCON) Prototype Services Oriented Architecture (SOA) (TOPS) implementations thru phase 5 -- (TR 2.1.1). Continue requirements analysis and commence development of Advanced Airborne Sensor (AAS) system as part of TacMobile (TM) Multiple Security level Enclaves (MSE0 -- (Inc 3). Implement Complete Global Command and Control System - Maritime (GCCS-M) Group Level (GCCS-M GL) 4.1 and continue to assess next generation Maritime Tactical Command and Control (MTC2) -- (Inc 3).					
<b>Title:</b> Maritime Patrol and Reconnaissance Force (MPRF) Interoperability/TacMobile Footprint Reduction			1.600	1.928	1.155
<b>Articles:</b>			-	-	-
<b>FY 2013 Accomplishments:</b> Began developmental testing and evaluation of P-8A Poseidon Increment 2 and MQ-4C Triton Unmanned Aerial System (UAS) mission planning interoperability upgrades -- (TR 2.1.1). Began TacMobile Architecture Simplification (TAS) developmental testing and integration of modular and hardware independent solutions to reduce mobile system architecture footprint on prototype system -- (TR 2.1.1). Continued 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					



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy								Date: March 2014			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604231N / <i>Tactical Command System</i>				Project (Number/Name) 0486. / <i>Tactical Support Center</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2013	FY 2014	FY 2015	
<p>logistics costs -- (TR 2.1.1). Conducted Analysis of Alternatives of automated TacMobile system functionality to reduce operator workload, to offset increasing MPRF Intelligence Surveillance and Reconnaissance (ISR) Mission/Function/Task growth -- (TR 2.1.1). Continued design to achieve reduction and consolidation of Maritime Patrol and Reconnaissance Aircraft (MPRA) media interface devices and to optimize data transfer rates -- (TR 2.1.1). Developed initial functionality that will support Multiple Security Enclaves (MSE) in an expeditionary operating environment -- (Inc 3).</p> <p><b>FY 2014 Plans:</b> Conduct full system integration of P-8A Poseidon Aircraft Increment 2 Mission Planning interoperability upgrades -- (TR 2.1.1). Continue full system testing and integration of modular and hardware independent solutions to reduce mobile system architecture footprint -- (TR 2.1.1). Complete developmental Testing 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). Down select Analysis of Alternatives of automated TacMobile (TM) system functionality to reduce operator workload, to offset increasing Maritime Patrol and Reconnaissance Force (MPRF) Intelligence Surveillance and Reconnaissance (ISR) Mission/Function/Task growth and develop an engineering design model -- (TR 2.1.1). Complete implementing all hardware design optimizations which reduce and consolidate TM footprint and any Maritime patrol and Reconnaissance Aircraft (MPRA) media changes -- (TR 2.1.1). Utilize technology that best optimizes data transfer rates -- (Inc 3). Continue with development of Multiple Security level Enclaves (MSE, formerly called Multi-level Enclaves (MLE)) -- (Inc 3).</p> <p><b>FY 2015 Plans:</b> Commence design model development of automated TacMobile system functionality to reduce operator workload, to offset increasing Maritime Patrol and Reconnaissance Force (MPRF) Intelligence Surveillance and Reconnaissance (ISR) Mission/Function/Task -- (TR 2.1.1). Utilize technology that continues best optimizes data transfer rates -- (Inc 3). Continue with development of Multiple Security level Enclaves (MSE) -- (Inc 3).</p>											
Accomplishments/Planned Programs Subtotals								4.698	5.027	4.254	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/2246: <i>MPRF Mission Support</i>	16.965	18.130	14.390	-	14.390	13.867	14.287	14.561	14.887	Continuing	Continuing
• OPN/2906: <i>TacMobile</i>	14.435	18.189	16.766	-	16.766	14.489	14.926	15.214	15.550	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.											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604231N / <i>Tactical Command System</i>	<b>Project (Number/Name)</b> 0486. / <i>Tactical Support Center</i>
<p>It incorporates Anti Submarine Warfare (ASW) acoustical analysis improvements and new P-3 aircraft ASW interfaces. Increment 2.1 supports migration to follow on Global Command and Control System - Maritime (GCCS-M ) version 4.0.3 and introduction of the P-8A Multi-mission Maritime Aircraft (MMA) Increment 1. Tech Refresh 2.1.1 will support technical engineer changes associated with the introduction of P-8A Multi-mission Maritime Aircraft (MMA) Increment 2, MQ-4C Triton Unmanned Aerial System (UAS), and migration to GCCS-M 4.1 Group Level. Increment 3 will incorporate support for other Maritime Patrol and Reconnaissance Force (MPRF) Family of Systems (FOS) Aircraft and Systems.</p> <p>The Dark Fusion Joint Capabilities Technical Demonstration (JCTD) acquisitions will be executed by the JCTD Technical Manager (TM). The TM is the Naval Research Laboratory (NRL).</p> <p><b>E. Performance Metrics</b></p> <p>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 Multi-mission Maritime Aircraft (MMA) Increment 2, and the MQ-4C Triton Unmanned 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 capabilities into higher than SECRET enclaves. The quantification of the increase in IER's will be dependent upon final requirements which are still being defined.</p> <p>Critical Operating Issues (COIs) and Measures of Performance (MOPs) are outlined in the Dark Fusion JCTD Implementation Directive. The JCTD will be conducting User Juries (UJs) for SME and analyst feedback.</p>		

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604231N / Tactical Command System

Project (Number/Name)

0486. / Tactical Support Center

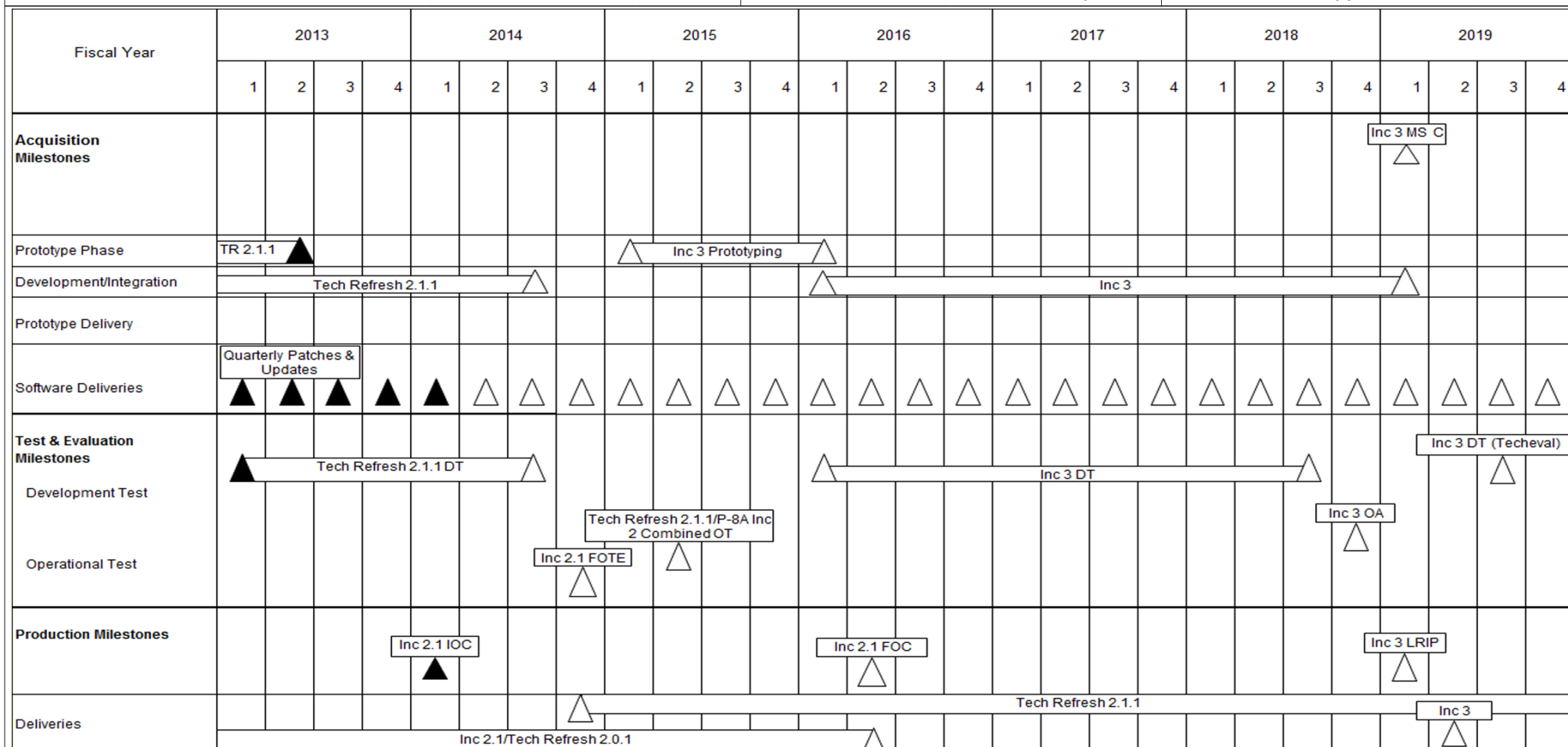


Exhibit R-4, Schedule Profile

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604231N / Tactical Command System				Project (Number/Name) 0709 / GCCS-M Maritime Applications			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0709: GCCS-M Maritime Applications	194.634	5.141	-	-	-	-	-	-	-	-	-	199.775
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
GCCS-M is the Maritime implementation of the Global Command and Control System (GCCS) Family of Systems (FoS). It supports decision making at all echelons of command with a single, integrated, scalable C4I system that fuses, correlates, filters, maintains and displays location and attribute information on friendly, hostile and neutral land, sea and air forces, integrated with available intelligence and environmental information. It operates in near real-time and constantly updates unit positions and other situational awareness data. GCCS-M also records data in appropriate databases and maintains a history of changes to those records. System users can then use the data to construct relevant tactical pictures using maps, charts, topography overlays, oceanographic overlays, meteorological overlays, imagery, and all-source intelligence information coordinated into a Common Operational Picture that can be shared locally and with other sites. Navy commanders review and evaluate the general tactical situation, plan actions and operations, direct forces, synchronize tactical movements, and integrate force maneuver with firepower. The system operates in a variety of environments and supports joint, coalition, and allied forces. GCCS-M is implemented Afloat and at Ashore fixed command centers.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
Title: GCCS-M Increment 2  Articles:  FY 2013 Accomplishments: Completed development, integration, and testing of GCCS-M Increment 2 for Group Level ships. Completed transition of GCCS-M Increment 2 on Force, Group and Unit Level ships to the Common Computing Environment (CCE)/Consolidated Afloat Networks Enterprise Services (CANES) environment. Completed assimilation of requirements for developing new interfaces with PEO IWS Combat Systems (AEGIS) and systems for other Services, Agencies, and traditional and non-traditional partners. Investigated and adopt Service Oriented Environment (SOE) to further the continued development of maritime tactical command and control capabilities.  FY 2014 Plans: N/A  FY 2015 Plans: N/A										3.374	-	-
										-	-	-
Title: Global Force Management - Data Initiative (GFM-DI)										1.767	-	-
Articles:										-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy								<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604231N / <i>Tactical Command System</i>				<b>Project (Number/Name)</b> 0709 / <i>GCCS-M Maritime Applications</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>								<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
<b><i>FY 2013 Accomplishments:</i></b> Performed systems engineering and architecture efforts to analyze GFM-DI requirements and begin architecture development in order to support Naval integration and extension of enterprise force structure data.											
<b><i>FY 2014 Plans:</i></b> N/A											
<b><i>FY 2015 Plans:</i></b> N/A											
<b>Accomplishments/Planned Programs Subtotals</b>								5.141	-	-	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• OPN/2618: <i>Navy Command and Control System (GCCS-M only)</i>	8.137	5.515	3.479	-	3.479	1.840	0.861	0.715	0.721	8.891	41.651
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
Increment 2 delivers two different materiel solutions: (1) Force Level, based on the Global Command and Control System-Joint (GCCS-J) 4.2 or higher software, and (2) Group and Unit Level, based on the Office of Naval Research (ONR) extensible Common Operational Picture (XCOP) software. This approach satisfies the current validated requirements, supports the accelerated retirement of legacy systems, and reduces overall risk to the program. Each solution will integrate maritime-specific capabilities and will be scalable to the ship class.											
The Global Command and Control System-Maritime (GCCS-M) Program Office promotes full and open competition by competitively awarding software and Fleet support engineering services contracts. Additionally, the Program Office has awarded a Command and Control (C2) Indefinite Delivery Indefinite Quantity (IDIQ) Multi-Award Contract (MAC) from which two delivery orders were awarded to SAIC, one of the C2 IDIQ MAC awardees.											
<b>E. Performance Metrics</b>											
GCCS-M Increment 2 leverages software investments by Defense Information Systems Agency (DISA) and ONR to realize both the Force Level and Group/Unit Level materiel solutions. This greatly reduces the integration and testing costs associated with each software release. The Force Level solution will reside on Common Computing Environment/Consolidated Afloat Networks and Enterprise Services (CCE/CANES) architecture; the Group/Unit Level solution will be implemented on the current/future infrastructure. These Increment 2 software-only solutions eliminate the GCCS-M hardware procurement, installation and sustainment costs.											



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604231N / <i>Tactical Command System</i>				Project (Number/Name) 2213 / <i>Mission Planning</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2213: <i>Mission Planning</i>	251.060	23.104	20.059	36.097	-	36.097	25.704	24.289	22.129	22.570	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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 capabilities, 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 of the aforementioned T/M/S are required to transition to Microsoft Windows 7 before Microsoft XP support ends April 2014 by using Framework (FW) Version 1.3.5. An extension of Windows XP is planned to allow all naval aircraft to be supported during the transition. Future JMPS platforms include: MQ-4C (Triton) and H-53K. The next JMPS architecture version will support net-centric goals by providing route "publish and subscribe" capabilities, transition to 64 bit and emerging technology and Information Assurance (IA) requirements. Funding profile includes 64 bit development which requires a complete software restructure to address memory limitations and system errors resulting in JMPS computer crashes. Failure to move to 64 bit will result in an inability to support future advanced platform mission planning needs based on processing space and capability.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> JMPS Framework (FW) & Common Capabilities Development	0.500	1.400	15.594
<b>Articles:</b>	-	-	-
<b>Description:</b> Due to the end of Microsoft support for Windows XP in April 2014, there is a requirement to change 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 1.4 will be incorporated in future FW versions to address migration to .NET environment and to enable interoperability improvements through utilization of services. FW 64 bit development efforts will start 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			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / Tactical Command System	Project (Number/Name) 2213 / Mission Planning		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
applications and software products increases. Ultimately, 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 capabilities software updates augment core mission planning capabilities across multiple aircraft.  <b>FY 2013 Accomplishments:</b> Conducted FW 1.3.5 testing with the objective to Initial Operational Capability (IOC) Windows 7 compatible system.  <b>FY 2014 Plans:</b> Start Framework 64 bit transition.  <b>FY 2015 Plans:</b> Full initiation and implementation of the 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 Lines of Logical Code (LOLC) 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.				
<b>Title:</b> Joint Mission Planning System Expeditionary (JMPS-E)  <b>Articles:</b>  <b>Description:</b> 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. This capability will be initially fielded using Framework Version 1.2.4. JMPS-E will start Windows 7 Operating System transition efforts in FY13.  <b>FY 2013 Accomplishments:</b>		1.293 -	1.260 -	0.740 -



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / Tactical Command System	Project (Number/Name) 2213 / Mission Planning		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
Initiated development, integration and testing of JMPS-E Mission Planning Environment (MPE) Version 2.0.0 to satisfy Windows 7 requirement. <b>FY 2014 Plans:</b> Complete development and intermediate testing of JMPS-E MPE Version 2.0.0 to satisfy Windows 7 requirement. <b>FY 2015 Plans:</b> Develop, integrate and test JMPS-E MPE Version 2.0.1.				
Title: Mission Planning Environment (MPE) Integration and Test  <b>Articles:</b>  <b>Description:</b> 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.  <b>FY 2013 Accomplishments:</b> Due to the end of Microsoft support for Windows XP in April 2014, there is a MPE requirement to change to Windows Operating System (OS) 7. Additional test and requirement verifications were required to ensure product stability to satisfy all platforms. Continued integration and test of 32 MPEs : AV-8B H61 4.0, MQ-4C 1.0, C-130 1.0 and 2.0, C-2A 3.0, CH-53K 1.0, CNATRA 1.0, E-2C 4.0 and 5.0, E-2D 1.0 and 2.0, EA-6B I3B5 6.0 and I3B6 7.0, F/A-18 H8E/2.4.0, 25X/2.5.0, H10E/27X/3.0 and 27X/3.1, Marine Helo 2.1, 3.0 and 4.0, MH-60R/S 1.0 and 2.0, NLH 2.0, P-3 3.0, P-8 1.0 and 2.0, TacMobile 1.0 and 2.0, V-22 1.2, 2.0 and 3.0, VH-3/VH-60 2.0.  <b>FY 2014 Plans:</b> Integration and test of MPEs in support of 36 aircraft Type/Model/Series (T/M/S).  <b>FY 2015 Plans:</b> 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.		21.311 -	17.399 -	19.763 -
Accomplishments/Planned Programs Subtotals		23.104	20.059	36.097

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy								Date: March 2014			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604231N / Tactical Command System				Project (Number/Name) 2213 / Mission Planning			

## C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/287600: Naval Mission Png System	9.411	14.131	13.950	-	13.950	13.905	10.521	10.373	10.596	Continuing	Continuing
• RDTE/3858,5302,5380: Air Force Mission Png Systems	69.377	62.605	86.628	-	86.628	86.700	78.456	79.010	-	Continuing	Continuing

## Remarks

## 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.

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604231N / Tactical Command System

Project (Number/Name)

2213 / Mission Planning

Mission Planning		FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones					V1.3.5 IOC ▲																								
Milestones																													
System Development																													
Software Development		FW 64 Bit Prototype						FW 64 Bit Architecture Development																					
Reviews		V1.3.5 OTRR ■																											
Test and Evaluation																													
Technical Evaluation		V1.2.4 MPE Integration/Validation																											
		V1.3.5 MPE Integration/Validation																			FW 64 Bit Integration/Validation								
Operational Evaluation			V1.3.5 OT																										
Production Milestones																													
Contract Awards																													
Deliveries																													

2015PB - 0604231N - 2213

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604231N / <i>Tactical Command System</i>				Project (Number/Name) 2307 / <i>Shipboard LAN/WAN</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2307: <i>Shipboard LAN/WAN</i>	0.300	0.029	-	-	-	-	-	-	-	-	-	0.329
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

## **A. Mission Description and Budget Item Justification**

The Shipboard LAN / WAN / Integrated Shipboard Network System (ISNS) provides Navy ships, including submarines, and Ashore sites with reliable, high-speed SECRET and UNCLASSIFIED Local Area Networks (LAN)s and wireless network technologies. The LAN provides Basic Network Information Distribution Services (BNIDS) and access to the Defense Information Systems Network (DISN) Wide Area Network (WAN) (Secure and Nonsecure Internet Protocol Router Network -SIPRNet and NIPRNet). It provides the network infrastructure and services to enable real-time information exchange within the ship and between afloat units, Component Commanders, and Fleet Commanders. It is a key factor in the implementation of the Navy's portion of Joint Vision 2020 and the migration of existing legacy systems into the IT-21 strategy. Program funding supports the design, development and testing of the ISNS LAN for surface ships, shore sites, and SubLAN for submarines.

The ISNS program maximizes the use of both Commercial off the Shelf (COTS) software and hardware. Engineering and technical support is provided so that existing systems will keep pace with hardware and software that continues to be commercially supported. ISNS uses a combination of high speed wired and wireless switches, routers, access points, servers, workstations and operating system software technologies to provide network access to classified and unclassified applications for use by ship's force, embarked units, embarked commanders and their staffs. Under the Navy's information modernization strategy, full synchronization of shipboard networks, mission and information applications, radio/satellite communications, and shore data dissemination infrastructure are necessary to ensure end-to-end mission capability. The Integrated Shipboard Networking System program is closely synchronized on a ship by ship basis with over 460 different systems of application configurations including the following: Global Command and Control System Maritime (GCCS-M), Navy Tactical Command Support System (NTCSS), Navy Standard Integrated Personnel System (NSIPS), Theatre Medical Information Program - Maritime (TMIP-M), Defense Messaging System (DMS), Automated Digital Network System (ADNS), Global Broadcasting System (GBS), Tactical Tomahawk Weapons Control System (TTWCS) and Information Security (INFOSEC) programs. The ISNS program provides the infrastructure to support implementation/fielding of these programs. The LAN modernization rate must keep pace with hardware and software that is supported commercially in order to provide a supportable and secure FORCEnet infrastructure. ISNS includes Afloat Core Services (ACS) which is the mechanism to deliver the FORCEnet interface to the warfighter. ACS provides a composable warfighting environment enabling dynamic configuration of capabilities tailored to meet specific warfighting missions. As the warfighting mission changes, the capabilities or services can be re-configured on the fly to meet the new warfighting requirement. This dynamic reconfiguration of services also known as "plug and fight" meets the composable services vision of FORCEnet. ACS also provides the common core enterprise services and technical framework to allow organizations ubiquitous access to reliable, decision-quality information through a net-based services infrastructure and applications to bridge real-time and near-real-time communities of interest (COI). ACS will empower the end user to pull information from any available source, with minimal latency, to support the mission. Its capabilities will allow Department of the Navy as well as Global Information Grid (GIG) users to task, post, process, use, store, manage and protect information resources on demand for warfighters, policy makers and support personnel. ACS will utilize a spiral process for delivering capability to the warfighter.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604231N / <i>Tactical Command System</i>	<b>Project (Number/Name)</b> 2307 / <i>Shipboard LAN/WAN</i>	
<p>The ISNS Inc 1, Sensitive Compartmented Information (SCI) Networks and Combined Enterprise Regional Information Exchange System (CENTRIXS) programs began migration to ISNS Inc 2/Consolidated Afloat Networks and Enterprise Services (CANES). ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment (CCE); ACS; and Multi-Level Security (MLS)/Cross Domain Solutions (CDS).</p>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p><b>Title:</b> Integrated Shipboard Network System (ISNS)</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b> Continued development of replacement solutions for End of Life (EOL) equipment as EOL occurs. Developed replacement solutions for End of Sale (EOS) equipment/software as EOS occurs. Completed Certification and Accreditation efforts for ISNS variants.</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b> N/A</p>		0.029 -	- -
<b>Accomplishments/Planned Programs Subtotals</b>		0.029	-
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
This program fully transitions to CANES in FY13.			
<b>E. Performance Metrics</b>			
ISNS development and testing against ISNS variants as well as Early Adopter Common Computing Environment (CCE) testing on the Lincoln Strike Group met and exceeded all measures of effectiveness and suitability of the system.			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604231N / <i>Tactical Command System</i>				Project (Number/Name) 3032 / <i>NTCSS (Naval Tactical Command Spt Sys)</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3032: <i>NTCSS (Naval Tactical Command Spt Sys)</i>	39.069	13.784	16.600	11.250	-	11.250	4.220	1.285	-	-	-	86.208
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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. FY2015 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 design, development, and testing of the Relational Administration (RADM) application upgrade providing personnel management capability to unit and force level activities.
- (3) 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)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> NTCSS (Naval Tactical Command Spt Sys)	13.784	16.600	11.250
<b>Articles:</b>	-	-	-
<b>Description:</b> Maintenance and Supply Management Capability			
<b>FY 2013 Accomplishments:</b> Continued design, development, and testing efforts for NTCSS Open Architecture (OA), to include consolidation of organizational and intermediate level NALCOMIS maintenance applications, multi-UIC capability, upgrades to Ships Store (Retail Operations Management (ROM)), Food Services Management (FSM)) products, Relational Administration, and an enterprise database system.			
<b>FY 2014 Plans:</b> 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			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy								Date: March 2014			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604231N / <i>Tactical Command System</i>				Project (Number/Name) 3032 / <i>NTCSS (Naval Tactical Command Spt Sys)</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>								<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
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.											
<b>FY 2015 Plans:</b> 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 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 NTCSS OA follow-on efforts.											
Accomplishments/Planned Programs Subtotals								13.784	16.600	11.250	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/2611: <i>Naval Tactical Command Support System</i>	32.108	15.703	18.192	-	18.192	22.106	17.277	18.062	18.473	Continuing	Continuing
Remarks											
<b>D. Acquisition Strategy</b> 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. Additionally, 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.											
<b>E. Performance Metrics</b> 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 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.											

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

Date: March 2014

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)

Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
	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																1&3 FD	2&4 FD											
NTCSS Open Architecture (OA)																△	△											
Engineering Milestones																												
NTCSS OA Release 1.2			SRR △																									
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															Rel 1&3 DT △	Rel 2&4 DT △												
NTCSS OA																												
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;

Exhibit R-4, Schedule Profile



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604231N / <i>Tactical Command System</i>				Project (Number/Name) 3320 / <i>TRIDENT Warrior</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3320: <i>TRIDENT Warrior</i>	3.619	3.169	2.340	2.260	-	2.260	2.247	2.289	2.316	2.365	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Trident Warrior	3.169	2.340	2.260
<b>Articles:</b>	-	-	-
<b>FY 2013 Accomplishments:</b> -Focused on operational experimentation of Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) technologies during the Navy's premier, annual Fleet Experimentation (FLEX) events. The primary goal was to validate information dominance capabilities, maritime warfighting policy and procedures, and interoperability between the United States (U.S.) and Coalition partners. -Provided systems engineering and analysis to rapidly identify emergent fleet needs and capability shortfall, assessing risk, validating cost and delivering capability. Found solutions for the Office of the Chief of Naval Operations/Commander, U.S. Fleet Force Command (USFFC) selected capability gaps and packaged them for operational use, favoring cost effective, disruptive technologies. Facilitated the successful transition of identified technology capabilities into Programs of Record (POR). This process delivered Program Objective Memorandum (POM) recommendations and supporting roadmaps based on assessments of capability gaps with a focus on technologies that respond to irregular, catastrophic and disruptive technology insertion. -The majority of TW experimentation occurred during operational at-sea venues where new and emerging capabilities were integrated with current fleet units and either demonstrated or evaluated on their potential military utility. The Sea-based venue worked on an 18-month cycle and focused on the readiness of higher Technology Readiness Level technologies in a Maritime-based environment. The at-sea portion of TW was executed in two phases. The venues were operational venues which support the experimental objectives of information dominance. -Developed FY14 TW FLEX plan and began to develop FY15 TW FLEX plan.			
<b>FY 2014 Plans:</b> -Finalize analysis of TW 13 experiment to result in recommendations by USFFC on experiment initiatives.			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604231N / <i>Tactical Command System</i>		<b>Project (Number/Name)</b> 3320 / <i>TRIDENT Warrior</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<ul style="list-style-type: none"> <li>-Explore Trident Warrior (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.</li> <li>-Direct, coordinate, assist and supervise 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.</li> <li>-Assist participants to achieve required installation and security certifications, accreditations and approvals.</li> <li>-Provide subject matter experts (SMEs) to maintain core ship services during the experimentation period.</li> <li>-Provide 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 United States Fleet Forces Command (USFFC).</li> <li>-Provide results to government sponsors to support the program's Planning, Programming, Budgeting, and Execution Process (PPBE) and engineering decisions.</li> <li>-Plan and execute TW 14 operational events to accelerate the transition of Information Dominance (ID) capability to the Fleet.</li> <li>-Solicit participation for TW 15 of government sponsored and industry sponsored technologies responsive to identified Naval capability gaps. Select technologies for participation in numbers supportable within resources.</li> </ul> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>-Finalize analysis of TW 14 executed experiment in order to determine recommended next steps for Naval Warfare Development Center (NWDC).</li> <li>-Explore TW 15 in Fleet Forces Command AOR using CSG/ESG units with possible Allied/Coalition presence.</li> <li>-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.</li> <li>-Coordinate TW participant efforts to achieve required installation and security certifications, accreditations and approvals.</li> <li>-Provide SMEs for core ship services during the experimentation period.</li> <li>-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.</li> <li>-Provide results to government sponsors to support the program's PPBE and engineering recommendations.</li> <li>-Plan and execute TW 15 operational events to accelerate the transition of ID capability to the Fleet.</li> <li>-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.</li> </ul>					
<b>Accomplishments/Planned Programs Subtotals</b>			3.169	2.340	2.260
<b>C. Other Program Funding Summary (\$ in Millions)</b>					
N/A					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / <i>Tactical Command System</i>	Project (Number/Name) 3320 / <i>TRIDENT Warrior</i>
C. Other Program Funding Summary (\$ in Millions)		
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.		

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**

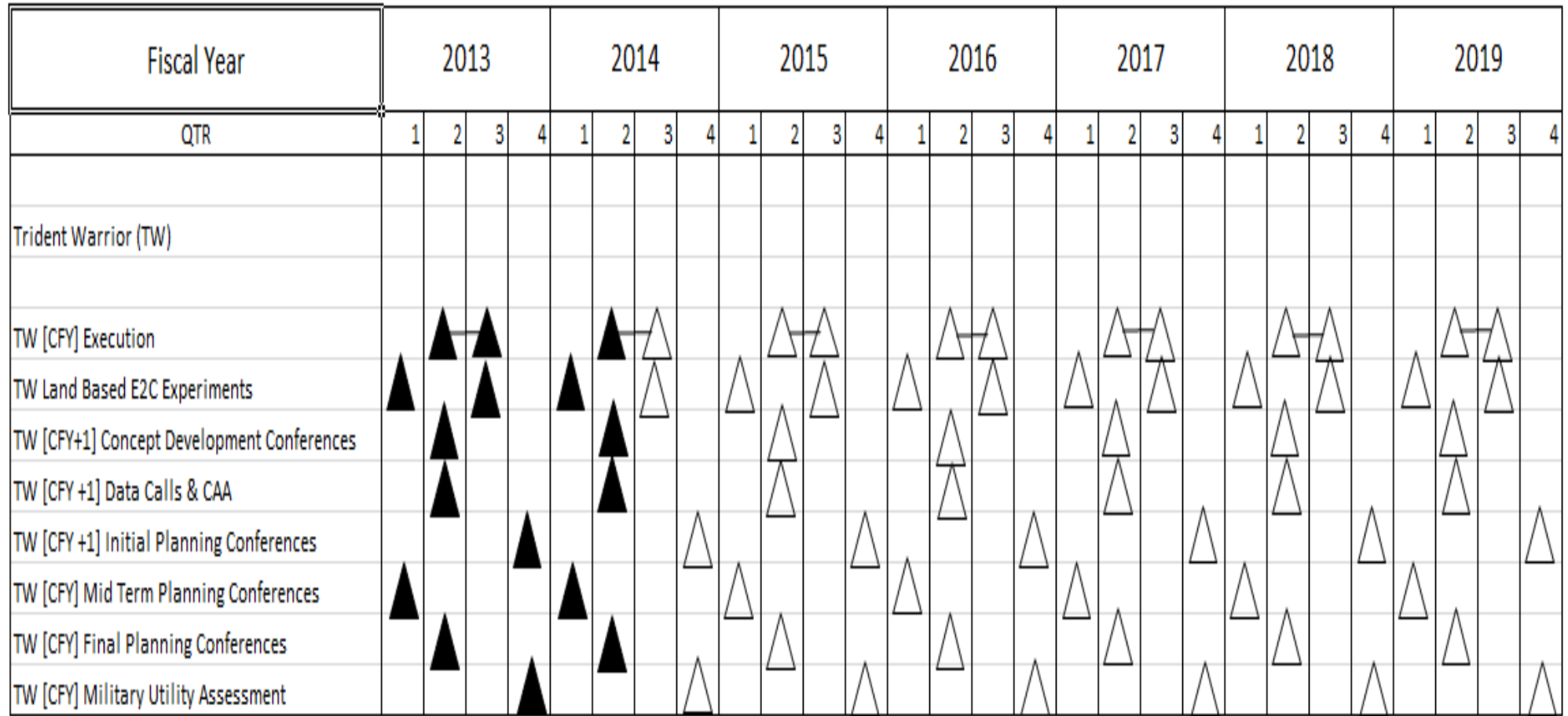
1319 / 5

**R-1 Program Element (Number/Name)**

PE 0604231N / *Tactical Command System*

**Project (Number/Name)**

3320 / *TRIDENT Warrior*



*Note: CFY: Current Fiscal Year*

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3323: Maritime Tactical Command & Control (MTC2)	0.003	6.916	12.443	11.955	-	11.955	16.121	20.318	22.821	23.421	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
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 and align to the Navy Tactical Cloud (NTC). MTC2 fields to all echelons of command within the Navy. The goal is to provide a suite of maritime applications notionally as part of an "Application Store" that enables the Navy command structure enhanced situational awareness, planning, execution, monitoring, and assessment of its mission requirements. MTC2 will field maritime applications designed to provide automated and structured support for tactical and operational planning, decision-making, and execution. In FY15, MTC2 will complete software requirements specification, architectural design, and begin software development for fielding of NTC Prototype in FY16.												
GFM-DI is the Department-wide enterprise solution that enables visibility/accessibility/sharing of data applicable to the entire DoD force structure. GFM-DI is the enterprise solution for force structure representation and MTC2 will be the data source for the Navy's force structure representation. In FY15, GFM-DI will perform design and development for integration into MTC2 and will align to the joint command and control objective architecture and NTC.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)												
Title: Maritime Tactical Command and Control (MTC2)  Articles:  FY 2013 Accomplishments: Began initial development of Maritime Tactical Command and Control (MTC2) capabilities. Analyzed, integrated and tested software transitioning from Command and Control Rapid Prototype Continuum (C2RPC) Science & Technology (S&T) efforts into the MTC2 Program of Record. Performed systems engineering analysis, system design efforts, and acquisition documentation in support of a Build Decision (Release 1).  FY 2014 Plans: Develop software requirement specification (SRS). Coordinate MTC2 requirements, design and architecture to ensure alignment with Navy Tactical Cloud effort. Develop Requirements Definition Package (RDP) and update Capability Drop 1 (CD1) to align requirements to NTC. Perform assessment of NTC to develop and align MTC2 processes. Continue software development,									FY 2013	FY 2014	FY 2015	
									6.916 -	11.943 -	10.094 -	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy							<b>Date:</b> March 2014				
<b>Appropriation/Budget Activity</b> 1319 / 5			<b>R-1 Program Element (Number/Name)</b> PE 0604231N / <i>Tactical Command System</i>			<b>Project (Number/Name)</b> 3323 / <i>Maritime Tactical Command &amp; Control (MTC2)</i>					
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>		
analysis, integration, and testing to transition from C2RPC S&T efforts into MTC2 Program of Record. Conduct technical and information exchanges with international activities supporting cooperative-development of maritime C2 capabilities.											
<b>FY 2015 Plans:</b> Complete SRS, RDP, and CD1 development. Complete MTC2 design and architecture for alignment to NTC. Begin software development for MTC2 fielding to NTC Prototype in FY16.											
<b>Title:</b> Global Force Management - Data Initiative (GFM-DI)											
<b>Articles:</b>							-	0.500	1.861		
<b>FY 2013 Accomplishments:</b> N/A							-	-	-		
<b>FY 2014 Plans:</b> Conduct 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). Evaluate NTC to determine how GFM DI will be ingested by NTC.											
<b>FY 2015 Plans:</b> Provide engineering plan for ingestion of GFM-DI data into MTC2 architecture that aligns with the NTC. Determine criteria for and develop the plan for integration of scheduling tool (Slider/Websked) capabilities into MTC2. GFM-DI will perform design and development for integration into MTC2 and will align to the joint command and control objective architecture.											
<b>Accomplishments/Planned Programs Subtotals</b>							6.916	12.443	11.955		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• RDTEN/0604231N/0709: GCCS-M	5.141	-	-	-	-	-	-	-	-	-	199.775
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
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. MTC2 will be software only, and require the Navy Tactical Cloud (NTC), Navy Common Computing Enterprise (CCE)/Consolidated Afloat Networks and Enterprise Services (CANES) provided by other network centric programs to serve as the underlying information technology infrastructure of network and hardware for MTC2 software. MTC2's primary contracting method for software development utilizes SPAWAR Systems Center - Pacific (SSC-PAC), San Diego, CA and SPAWARSSCOM contracts.											

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / <i>Tactical Command System</i>	Project (Number/Name) 3323 / <i>Maritime Tactical Command &amp; Control (MTC2)</i>
<b>E. Performance Metrics</b> <p>MTC2 leverages software investments by the Office of Naval Research (ONR), to realize recommended materiel solutions defined in the Initial Capabilities Document (ICD) for meeting Capability Drop 1 (CD1) Operational Level of Warfare (OLW) capability needs within a Maritime Operation Center (MOC). MTC2 will align to the Navy Tactical Cloud (NTC) and reside on the Cloud, CCE/CANES and Agile Core Services (ACS) technology architecture. Successfully complete initial engineering and design analysis, and acquisition documentation to achieve a minimum of two software releases.</p>		

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

Date: March 2014

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)

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																												
Engineering Milestones																												
Software Deliveries																												
Test & Evaluation Milestones																												
Navy Tactical Cloud Events																												

## Legend:

BD - Build Decision

CD - Capability Drop

DT - Developmental Test

IT - Integrated Test

MTC2 - Maritime Tactical Command and Control

MTC2 R0 - NTC Prototype Software

MTC2 R1 - Production Software for NTC

NTC - Navy Tactical Cloud

OT - Operational Test

RDP - Requirement Definition Package

R1 - Release One

SRS - Software Requirement Specification

EXHIBIT R-4, Schedule Profile



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3324: Navy Air Operations Command and Control (NAOC2)	2.073	4.463	4.045	1.831	-	1.831	0.961	0.982	1.012	1.037	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 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 and Combined Air Operations Center personnel to plan daily air operations including strike, airlift, offensive and defensive air, 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 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. In FY2015, the program will continue Navy integration and testing for Air Force developed C2AOS and C2IS, with focus on two of the currently planned four Capability Packages.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: TBMCS CANES Migration									1.359	1.383	-	
									Articles: -	-	-	
FY 2013 Accomplishments: Continued 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 Developmental Tests.												
FY 2014 Plans: Complete 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. Conduct Operational Assessment and Operational Test.												
FY 2015 Plans:												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604231N / <i>Tactical Command System</i>	<b>Project (Number/Name)</b> 3324 / <i>Navy Air Operations Command and Control (NAOC2)</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
N/A			
<b>Title:</b> Command and Control Air and Space Operations Suite (C2AOS) / Command, Control and Information Services (C2IS) Integration and Testing  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> Conducted integration and testing of Air Tasking Order Management System (ATOMS) as part of Air Force developed Command and Control Air Operations Suite - Command and Control Information Services I (C2AOS-C2IS I), ensuring full functionality on Navy unique infrastructure to include Consolidated Afloat Networks and Enterprise Services (CANES) to ensure increased Joint interoperability and enhanced capability including theater level planning plus distributed air re-planning and execution processes.  <b>FY 2014 Plans:</b> Conduct continued integration and testing of Air Tasking Order Management System (ATOMS) along with initial integration and testing of Request Information Services for Command and Control (RISC2), Airspace Management Application/Airspace Information Service (ASMA/ASIS) and Integrated Air and Missile Defense (IAMD) Planner as part of Air Force developed Command and Control Air Operations Suite - Command and Control Information Services I (C2AOS-C2IS I) to ensure 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.  <b>FY 2015 Plans:</b> Conduct continued integration and testing of Request Information Services for Command and Control (RISC2), Airspace Management Application/Airspace Information Service (ASMA/ASIS) and Integrated Air and Missile Defense (IAMD) Planner as part of Air Force developed Command and Control Air Operations Suite - Command and Control Information Services I (C2AOS-C2IS I) to ensure 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.		3.104 -	2.662 -
<b>Accomplishments/Planned Programs Subtotals</b>		4.463	1.831
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604231N / <i>Tactical Command System</i>	Project (Number/Name) 3324 / <i>Navy Air Operations Command and Control (NAOC2)</i>
<p><b>D. Acquisition Strategy</b></p> <p>TBMCS is designed, developed, and delivered by the Air Force and will be integrated for a Navy Common Computing Environment (CCE) such as 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.</p> <p>Command and Control Air and Space Operations Suite (C2AOS) and Command, Control and Information Services (C2IS) are designed, developed, and delivered by the Air Force and will be integrated for a Navy CCE and service oriented architecture environment such as CANES. This approach satisfies the current validated requirements and reduces overall risk to the program.</p> <p><b>E. Performance Metrics</b></p> <p>TBMCS, C2AOS, and C2IS are designed, developed, and delivered by the Air Force. This leverage greatly reduces the integration and testing costs associated with each software release. The solutions will reside on CCE/CANES architecture. These software-only solutions eliminate hardware procurement, installation, and sustainment costs.</p>		

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

Date: March 2014

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)

Fiscal Year		2013				2014				2015				2016				2017				2018				2019			
		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
C2AOS/C2IS	Acquisition Milestones	C2AOS-C2ISMSB (Air Force)																											
	ATOMS			Rel 1: Int & Testing		Rel 2: Integration & Testing on Navy systems																							
	RISC2					Rel 3: Integration & Testing on Navy systems																							
	IAMD Planner					Integration & Testing on Navy systems																							
	ASMA/ASIS							Rel 1: Int & Testing		Rel 2: Integration & Testing on Navy systems																			
	Capability Package 3													Rel 1: Integration & Testing on Navy systems															
	Capability Package 4																Rel 2: Integration & Testing on Navy systems												
CANES						CANES Integrated Baseline			CANES Integrated Baseline			CANES Integrated Baseline			CANES Integrated Baseline			CANES Integrated Baseline			CANES Integrated Baseline			CANES Integrated Baseline					
TBMCS																													
CANES Migration		Maintenance Release 2 Integration/Testing																											

Note: All acronyms listed in R-4A. Navy schedule is for integration and inclusion in CANES Integrated Baseline only. Command and Control Air Operations Suite - Command and Control Information Services (C2AOS-C2IS) is being developed in a series of applications that will be included in CANES Integrated Baselines for fielding as available. Theater Battle Management Core Systems (TBMCS) migration will support Consolidated Afloat Networks and Enterprise Services (CANES) testing events and inclusion in CANES Integrated Baseline for fielding. Air Force milestones were taken from Air Force PB14 R-1 Line Item #150, PE 0207410F, Project 675218.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604231N / <i>Tactical Command System</i>				Project (Number/Name) 9123 / <i>FORCEnet</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
9123: <i>FORCEnet</i>	225.322	4.112	2.924	2.601	-	2.601	2.210	2.084	2.244	2.317	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

## 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)

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> FORCEnet	4.112	2.924	2.601
<b>Articles:</b>	-	-	-
<b>FY 2013 Accomplishments:</b>			
DoN C4ISR Transformation/Strategic Planning within DoN/Joint/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, technology insertion, and incorporation of material and non-material solutions for enhanced Joint operational capabilities in NCO/W.			
-Continued to support Navy implementation of MDA, Standing Joint Force Headquarters, MOC and Coalition/Allied operations.			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604231N / <i>Tactical Command System</i>	<b>Project (Number/Name)</b> 9123 / <i>FORCEnet</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p>Information Dominance Roadmaps and Analysis: Researched the Navy mission areas for interdependencies between programs for budget tradeoffs and mission impacts of those tradeoffs.</p> <p>-Identified Navy mission area gaps in Information Dominance capabilities to prioritize Science and Technology efforts for future budget decisions.</p> <p>-Evaluated Navy mission areas for linkages to roadmap action items and provided analytical and architectural support in the development of Information Dominance Roadmaps.</p> <p>-Ensured Information Dominance Roadmaps objectives provided stated capabilities to the warfighters.</p> <p><b>FY 2014 Plans:</b></p> <p>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, 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.</p> <p>-Continue to support Navy implementation of Maritime Domain Awareness, Standing Joint Force Headquarters, Maritime Operations Centers and Coalition/Allied operations.</p> <p>Information Dominance Roadmaps and Analysis: Continue to research the Navy mission areas for interdependencies between programs for budget tradeoffs and mission impacts of those tradeoffs.</p> <p>-Continue to identify Navy mission area gaps in Information Dominance capabilities to prioritize Science and Technology efforts for future budget decisions.</p> <p>-Continue to evaluate Navy mission areas for linkages to roadmap action items and provide analytical and architectural support in the development of Information Dominance Roadmaps.</p> <p>-Continue to ensure Information Dominance Roadmaps objectives provide stated capabilities to the warfighters.</p> <p><b>FY 2015 Plans:</b></p> <p>DoN C4ISR Transformation/Strategic Planning within DoN/Joint/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.</p> <p>-Continue to support Navy implementation of Maritime Domain Awareness, Standing Joint Force Headquarters, Maritime Operations Centers and Coalition/Allied operations.</p>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604231N / <i>Tactical Command System</i>	<b>Project (Number/Name)</b> 9123 / <i>FORCEnet</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p>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.</p> <p>-Identify Navy mission area gaps in Information Dominance capabilities to prioritize Science and Technology efforts for future budget decisions.</p> <p>-Assess tradespace and solutions, insuring Force level capability and systems of systems integration and interoperability in studied mission areas.</p> <p>-Package assessments to support sponsor decision making processes.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>		4.112	2.924
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
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.			
<b>E. Performance Metrics</b>			
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.			

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

Date: March 2014

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0604231N / *Tactical Command System*

Project (Number/Name)  
9123 / *FORCEnet*

Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
QTR	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 9123																												
Naval Information Dominance Enterprise																												



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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604234N / Advanced Hawkeye							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	4,006.143	125.194	107.041	193.200	-	193.200	274.352	319.405	252.270	186.511	243.560	5,707.676
3051: E-2D Adv Hawkeye	3,998.294	116.206	107.041	193.200	-	193.200	274.352	319.405	252.270	186.511	243.560	5,690.839
9999: Congressional Adds	7.849	8.988	-	-	-	-	-	-	-	-	-	16.837
MDAP/MAIS Code: 364												

# The FY 2015 OCO Request will be submitted at a later date.

## 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 In-Flight Refueling (IFR) 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). IFR 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 Ultra High Frequency (UHF) Guard Radio allows the aircrew to monitor the emergency UHF Guard frequency without having to dedicate a specific radio, freeing that radio up for use in the tactical mission. Because of the UHF Tunable Filter Amplifiers, the ARC-210 radios cannot provide continuous UHF guard monitoring, although the internal guard receiver is operational. A separate UHF guard receiver is provided for monitoring the UHF guard (243 MHz) frequency. It is powered by the Guard switch located on the Communication/Control Display Unit Power Panel.

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0604234N / Advanced Hawkeye				
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 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 Multifunctional Information Distribution System - Joint Tactical Radio System(MIDS-JTRS) that has incorporated the TTNT. MIDS JTRS with TTNT is a key enabler for E-2D sensor netting capability in support of the NIFC-CA mission.						
The Link-16/Cooperative Engagement Capability (CEC) Interoperability Program 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.						
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget		119.065	152.041	190.742	-	190.742
Current President's Budget		125.194	107.041	193.200	-	193.200
Total Adjustments		6.129	-45.000	2.458	-	2.458
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-45.000			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-2.702	-			
• Program Adjustments		-	-	2.204	-	2.204
• Rate/Misc Adjustments		-	-	0.254	-	0.254
• Congressional General Reductions		-0.169	-	-	-	-
Adjustments						
• Congressional Add Adjustments		9.000	-	-	-	-
Congressional Add Details (\$ in Millions, and Includes General Reductions)						
Project: 9999: Congressional Adds						
Congressional Add: Adv Radar Innovation Fund - Air (Cong)						

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0604234N / <i>Advanced Hawkeye</i>	
<b>Congressional Add Details (\$ in Millions, and Includes General Reductions)</b>		<b>FY 2013</b>	<b>FY 2014</b>
Congressional Add Subtotals for Project: 9999		8.988	-
Congressional Add Totals for all Projects		8.988	-
<b><u>Change Summary Explanation</u></b> Technical: N/A Schedule: Updated IFR Acquisition Milestone Reviews, Fuel Rig Test, Probe Static Test, Instrument A/C Modernization and First Flight. Updated TTNT and SIPRChat Acquisition Milestone Reviews. Updated Advanced Hawkeye Aircraft Quantities and Delivery Schedule. Updated Advanced Hawkeye to include FY2019 FRP V Aircraft Deliveries. Updated In-Flight Refueling (IFR) Flying Qualities Evaluation Tests, updated IFR Fuel Rig Test and the Probe Static Test, updated IFR Reviews, updated IFR First Flight, updated IFR SIL Test, E&MD and Developmental Flight Testing. Updated Link-16/Cooperative Engagement Capability Interoperability Program to incorporate software & System Integration Laboratory (SIL) testing and updated the flight test plan. Updated Guard Radio to remove flight testing that was completed during FY2013.			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>				Project (Number/Name) 3051 / <i>E-2D Adv Hawkeye</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3051: <i>E-2D Adv Hawkeye</i>	3,998.294	116.206	107.041	193.200	-	193.200	274.352	319.405	252.270	186.511	243.560	5,690.839
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

## 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 In-Flight Refueling 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). IFR 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.

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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.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604234N / Advanced Hawkeye	Project (Number/Name) 3051 / E-2D Adv Hawkeye		
<p>The 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 Multifunctional Information Distribution System - Joint Tactical Radio System(MIDS-JTRS) that has incorporated the TTNT. MIDS JTRS with TTNT is a key enabler for E-2D sensor netting capability in support of the NIFC-CA mission.</p> <p>An 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.</p>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
<p><b>Title:</b> System Development and Demonstration</p> <p><b>Articles:</b></p> <p><b>Description:</b> System Development and Demonstration (SDD) contract with Northrop Grumman Corporation for SDD and Pilot Production efforts for the E-2D Advanced Hawkeye (AHE) Program.</p> <p><b>FY 2013 Accomplishments:</b> Funds provided to correct flight test deficiencies discovered during Initial Operational Test &amp; Evaluation.</p> <p><b>FY 2014 Plans:</b> Funds provided for Upper Transponder and Full Scale Fatigue Tests and costs associated with Initial Operational Capability (IOC) of the first E-2D squadron.</p> <p><b>FY 2015 Plans:</b> Funds provided for continued support of Full Scale Fatigue Tests.</p>		9.600 -	19.558 -	8.994 -
<p><b>Title:</b> Naval Air Warfare Center Aircraft Division Engineering and Test Support</p> <p><b>Articles:</b></p> <p><b>Description:</b> Fund Government Engineering, Contractor Engineering, and Classified Engineering Support. Perform Government oversight. Execute test program risk reduction efforts.</p> <p><b>FY 2013 Accomplishments:</b> Funding provides continued support for Follow-On Test &amp; Evaluation. Funds also provided for In-Flight Refueling (IFR) and Naval Integrated Fire Control - Counter Air (NIFC-CA) efforts. Funding levels decreases as we transition from OPEVAL to FOT&amp;E.</p> <p><b>FY 2014 Plans:</b></p>		29.315 -	12.077 -	6.957 -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
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.				
Title: NC-130H/E-2D Classified Programs		5.284	5.538	8.313
Articles:		-	-	-
Description: Provides support for the E-2D Advanced Hawkeye (AHE) Classified Development efforts.				
FY 2013 Accomplishments: Funding is for the continuation of E-2D AHE Classified Development efforts.				
FY 2014 Plans: 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.				
Title: Trainers		4.021	-	-
Articles:		-	-	-
Description: Funds the design, development and delivery of the trainers in support of the E-2D AHE program.				
FY 2013 Accomplishments: Funding is for Cooperative Engagement Capability Training Device Capability to train Theater Air Missile Defense and Dual E-2D Operations Tactical Training efforts.				
FY 2014 Plans: N/A				
FY 2015 Plans: N/A				
Title: Mode 5/S		24.182	6.296	-
Articles:		-	-	-
Description: Mode 5/S is the replacement/upgrade to the existing Identification Friend or Foe system.				
FY 2013 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>	Project (Number/Name) 3051 / <i>E-2D Adv Hawkeye</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
Funding is for continued system development, integration and test to support the incorporation of IFF Mode 5/S technology into the E-2D AHE IFF Interrogator mission equipment. Integration testing will include laboratory, ground and flight tests. Funding levels increase due to software development and flight test efforts.  <b>FY 2014 Plans:</b> 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, ground and flight tests. Funding levels decrease due to reduced efforts for system development, software development and flight test.  <b>FY 2015 Plans:</b> N/A				
<b>Title:</b> In-Flight Refueling  <b>Articles:</b>  <b>Description:</b> Funds the system development and testing to support the incorporation of In-Flight Refueling 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.  <b>FY 2013 Accomplishments:</b> Funding is provided for the start of Engineering & Manufacturing Development (E&MD) of In-Flight Refueling and continued system development efforts.  <b>FY 2014 Plans:</b> Funding provided for continued Engineering & Manufacturing Development (E&MD) of In-Flight Refueling and System Integration Laboratory (SIL) testing. FY 2014 decrease is due to a Congressional Directed reduction that provided a program decrease to In-Flight Refueling.  <b>FY 2015 Plans:</b> Funding provided for continued Engineering & Manufacturing Development (E&MD) of In-Flight Refueling, System Integration Laboratory (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.		33.080 -	24.731 -	84.044 -
<b>Title:</b> Guard Radio  <b>Articles:</b>  <b>Description:</b> The Ultra High Frequency (UHF) Guard Radio allows the aircrew to monitor the emergency UHF Guard frequency without having to dedicate a specific radio, freeing that radio up for use in the tactical mission. Due to the UHF Tunable Filter Amplifiers, the ARC-210 radios can not provide continuous UHF guard monitoring, although the internal guard receiver is		3.346 -	- -	- -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
operational. A separate UHF guard receiver is provided for monitoring the UHF guard (243 MHz) frequency. It is powered by the Guard switch located on the Communication/Control Display Unit Power Panel.				
FY 2013 Accomplishments: Funds provided for continued engineering and systems integration support.				
FY 2014 Plans: N/A				
FY 2015 Plans: N/A				
Title: E-2D Counter Electronic Attack		6.642	0.224	11.178
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 2013 Accomplishments: Funds provided for initiation of E&MD for E-2D Counter Electronic Attack capability.				
FY 2014 Plans: 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.				
Title: Tactical Targeting Networking Technology		-	17.091	38.149
Articles:		-	-	-
Description: Tactical Targeting Networking Technology (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 TTNT. MIDS JTRS with TTNT is a key enabler for E-2D sensor netting capability in support of the Naval Integrated Fire Control-Counter Air mission.				
FY 2013 Accomplishments: N/A				
FY 2014 Plans:				



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>	Project (Number/Name) 3051 / <i>E-2D Adv Hawkeye</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
Funding is provided for Development, Design and Support costs.				
<b>FY 2015 Plans:</b> Funding is provided for continued Development, Design and Support costs, hardware and software associated with MIDS/JTRS/TTNT integration and lab testing.				
<b>Title:</b> Link-16/Crypto Modernization		0.736	-	-
<b>Articles:</b>		-	-	-
<b>Description:</b> This effort was previously included under Naval Air Warfare Center Aircraft Division Engineering and Test Support.				
<b>FY 2013 Accomplishments:</b> Funds provided for Systems Hardware Development.				
<b>FY 2014 Plans:</b> N/A				
<b>FY 2015 Plans:</b> N/A				
<b>Title:</b> SIPRChat		-	4.845	9.828
<b>Articles:</b>		-	-	-
<b>FY 2013 Accomplishments:</b> N/A				
<b>FY 2014 Plans:</b> Funds provided for System Development & Design, Software and Router Integration.				
<b>FY 2015 Plans:</b> Funds provided for continued System Development & Design, Software and Router Integration, Program Design Review and Critical Design Review.				
<b>Title:</b> Naval Integrated Fire Control Counter Air Testing		-	10.000	8.720
<b>Articles:</b>		-	-	-
<b>FY 2013 Accomplishments:</b> N/A				
<b>FY 2014 Plans:</b> Funds provided for software development support and developmental flight tests.				
<b>FY 2015 Plans:</b>				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy							<b>Date:</b> March 2014				
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604234N / <i>Advanced Hawkeye</i>			<b>Project (Number/Name)</b> 3051 / <i>E-2D Adv Hawkeye</i>				

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Funds provided for continued software development support and developmental flight tests.						
<b>Title:</b> Link-16/Cooperative Engagement Capability (CEC) Interoperability Program  <div style="text-align: right;"><b>Articles:</b></div>				-	6.681	17.017
<b>FY 2013 Accomplishments:</b> N/A				-	-	-
<b>FY 2014 Plans:</b> Funds provided for systems engineering and systems development support.						
<b>FY 2015 Plans:</b> Funds provided for continued systems engineering, systems development support and software integration.						
<b>Accomplishments/Planned Programs Subtotals</b>				116.206	107.041	193.200

**C. Other Program Funding Summary (\$ in Millions)**

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN/0195: <i>E-2D AHE</i>	898.463	1,224.195	1,045.635	-	1,045.635	1,118.823	1,083.814	932.913	1,158.548	4,851.899	19,408.086
• APN/0605: <i>Initial Spares - E-2</i>	35.791	16.612	7.582	-	7.582	7.882	11.051	15.339	16.430	16.848	445.396
• APN/0544: <i>E-2 Series</i>	-	6.141	12.776	-	12.776	17.627	21.135	74.176	77.649	634.022	843.526

**Remarks**

**D. Acquisition Strategy**

Acquisition Strategy was signed by Milestone Decision Authority, Under Secretary of Defense for Acquisition, Technology and Logistics on 29 Dec 2008. Milestone C approval to proceed into Production and Deployment was given 11 June 2009 by the Defense Acquisition Board (DAB). Certification for entrance into Initial Operational Test & Evaluation was received on 14 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 31 January 2013.

**E. Performance Metrics**

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>				Project (Number/Name) 3051 / <i>E-2D Adv Hawkeye</i>					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPAF	Northrop Grumman Corporation (NGC) : Bethpage, NY	2,914.440	13.735	Feb 2013	20.102	Feb 2014	11.349	Feb 2015	-		11.349	75.291	3,034.917	3,034.917
Primary Hardware Development - SIPRChat	C/CPIF	Northrop Grumman Corporation (NGC) : Bethpage, NY	0.000	-		1.300	Apr 2014	3.309	Apr 2015	-		3.309	12.012	16.621	16.621
Primary Hardware Development - NIFCA Test	C/CPIF	Northrop Grumman Corporation (NGC) : Bethpage, NY	0.000	-		1.562	Apr 2014	-		-		-	-	1.562	1.562
Primary Hardware Development - TTNT	C/CPIF	Northrop Grumman Corporation (NGC) : Bethpage, NY	0.000	-		6.804	Apr 2014	17.930	Apr 2015	-		17.930	35.652	60.386	60.386
Primary Hardware - In-Flight Refueling	SS/CPAF	Northrop Grumman Corporation (NGC) : Bethpage, NY	4.556	25.880	Mar 2013	16.739	Mar 2014	82.744	Mar 2015	-		82.744	215.172	345.091	345.091
Training Development	C/CPIF	Rockwell Collins : Cedar Rapids, IA	120.271	2.794	May 2013	-		-		-		-	-	123.065	123.065
Training Development	C/CPIF	Lockheed Martin : Liverpool, NY	6.972	-		-		-		-		-	-	6.972	6.972
Systems Engineering	PO	Navy Syst Mgt Activity : Arlington, VA	174.488	0.500	Mar 2013	-		-		-		-	-	174.988	-
GFE	Various	Various : Various	31.509	-		2.491	May 2014	-		-		-	2.718	36.718	-
Award Fees	SS/CPAF	NGC : Bethpage, NY	147.891	2.812	Oct 2013	0.746	Oct 2014	-		-		-	-	151.449	151.449
Training Development	TBD	TBD : TBD	0.000	-		-		1.063	Feb 2015	-		1.063	51.683	52.746	-
Prior Year Prod Dev costs no longer funded in FYDP	Various	Various : Various	168.042	-		-		-		-		-	-	168.042	-
Primary Hardware Development - Added Capabilities NAVWAR	SS/CPFF	Northrop Grumman Corporation (NGC) : Bethpage, NY	0.000	-		-		-		-		-	21.694	21.694	21.694
Subtotal			3,568.169	45.721		49.744		116.395		-		116.395	414.222	4,194.251	-
Remarks															
Totals may not add due to rounding.															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>				Project (Number/Name) 3051 / <i>E-2D Adv Hawkeye</i>					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Award Fee: Period 1 FY04 - 90%    Period 7 FY08 - 94%    Period 13 FY13 - 93% Period 2 FY04 - 91%    Period 8 FY09 - 93% 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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	Various : Various	9.400	-		-		2.161	Nov 2014	-		2.161	-	11.561	-
Software Development	SS/CPIF	NGC : Bethpage, NY	26.273	10.343	Apr 2013	8.225	Apr 2014	14.651	Apr 2015	-		14.651	105.717	165.209	165.209
Integrated Logistics Support	Various	Various : Various	7.825	0.150	Nov 2012	1.018	Nov 2013	1.697	Nov 2014	-		1.697	11.824	22.514	-
Integrated Logistics Support	C/CPAF	NGC : Bethpage, NY	0.000	0.247	Mar 2013	-	Mar 2014	-	Mar 2015	-		-	-	0.247	0.247
Government Engineering Sup	WR	Naval Air Warfare Center Aircraft Division (NAWCAD : Pax River, MD	77.878	6.781	Nov 2012	11.791	Nov 2013	9.643	Nov 2014	-		9.643	131.475	237.568	-
Government Engineering Support	WR	Naval Air Warfare Center Training Systems Division : Orlando, FL	10.126	1.226	Nov 2012	-		-		-		-	0.622	11.974	-
Government Engineering Sup	Various	Various : Various	11.765	0.353	Nov 2012	0.711	Nov 2013	0.910	Nov 2014	-		0.910	0.539	14.278	-
Contractor Engineering Supt ETS	C/CPFF	Wyle Labs : Huntsville, AL	23.088	0.463	Dec 2012	-		-		-		-	-	23.551	23.551
Technical Data	Various	Various : Various	0.253	0.491	Mar 2013	0.506	Mar 2014	0.550	Mar 2015	-		0.550	1.986	3.786	-
Configuration Management	Various	Various : Various	0.050	0.151	Dec 2012	0.154	Dec 2013	0.100	Dec 2014	-		0.100	0.652	1.107	-

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604234N / <i>Advanced Hawkeye</i>	<b>Project (Number/Name)</b> 3051 / <i>E-2D Adv Hawkeye</i>
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Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	Various	Navy Syst Mgt Activity : Arlington, VA	0.000	11.211	Nov 2012	5.998	Nov 2013	18.773	Nov 2014	-		18.773	71.014	106.996	-
Software Development	C/CPIF	Northrop Grumman Corporation (NGC) : Bethpage, NY	0.000	-		5.122	Apr 2014	17.894	Apr 2015	-		17.894	222.377	245.393	245.393
Prior Year Support costs no longer funded in FYDP	Various	Various : Various	22.721	-		-		-		-		-	-	22.721	-
Contractor Engineering Support ETS	C/CPFF	Imagine One : Colonial Beach, VA	0.000	1.137	Mar 2013	1.829	Jan 2014	0.442	Jan 2015	-		0.442	2.281	5.689	5.689
<b>Subtotal</b>			189.379	32.553		35.354		66.821		-		66.821	548.487	872.594	-

**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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (T&E)	WR	NAWCAD : Pax River, MD	68.918	18.013	Nov 2012	9.753	Nov 2013	5.348	Nov 2014	-		5.348	191.396	293.428	-
Developmental T & E	Various	Various : Various	27.376	7.127	Dec 2012	5.073	Dec 2013	-		-		-	20.828	60.404	-
Developmental T & E 1	WR	Various : Various	4.572	3.897	Mar 2013	2.616	Mar 2014	1.632	Mar 2015	-		1.632	29.412	42.129	-
Developmental T&E ETS	C/CPFF	Wyle Labs : Huntsville, AL	12.345	2.040	Dec 2012	-		-		-		-	-	14.385	14.385
Developmental T&E ETS	C/FFP	L-3 Communications : Newport News, VA	10.322	3.725	Dec 2012	0.225	Dec 2013	0.225	Dec 2014	-		0.225	1.796	16.293	16.293
Operational T & E	WR	NAWCAD : Pax River, MD	21.318	0.865	Nov 2012	0.880	Nov 2013	0.895	Nov 2014	-		0.895	41.515	65.473	-
Operational T & E	Various	Various : Various	5.032	-		-		-		-		-	0.500	5.532	-

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604234N / <i>Advanced Hawkeye</i>	<b>Project (Number/Name)</b> 3051 / <i>E-2D Adv Hawkeye</i>
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Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental T & E	C/CPFF	Airborne Tactical Advantage Co, LLC : Pax River, MD	0.000	-		-		-		-		-	2.767	2.767	2.767
Developmental T&E ETS	Various	Various : Various	6.573	-		-		-		-		-	-	6.573	-
Developmental T & E	C/CPFF	Wyle Labs - ESTEL : Huntsville, AL	2.000	2.060	Jan 2013	2.122	Jan 2014	0.985	Jan 2015	-		0.985	7.443	14.610	14.610
Test Assets	C/CPAF	NGC : Bethpage, NY	3.900	-		-		-	Mar 2015	-		-	11.112	15.012	15.012
Prior Year T&E costs no longer funded in FYDP	Various	Various : Various	9.155	-		-		-		-		-	-	9.155	-
<b>Subtotal</b>			171.511	37.727		20.669		9.085		-		9.085	306.769	545.761	-

**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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Cont Eng Supp Management & Prof Supp Services (MSS)	Various	Various : Various	3.594	-		0.157	Dec 2013	0.161	Dec 2014	-		0.161	0.854	4.766	-
Cont Eng Supp MSS	C/CPFF	Wyle Labs : Huntsville, AL	11.283	-		-		-		-		-	-	11.283	11.283
Govt Eng Support	WR	NAWCAD : Pax River, MD	11.172	0.049	Nov 2012	0.639	Nov 2013	0.449	Nov 2014	-		0.449	1.741	14.050	-
Prog Management Supp	Various	Various : Various	2.015	0.075	Nov 2012	0.068	Nov 2013	0.026	Nov 2014	-		0.026	0.199	2.383	-
Travel	Various	Various : Various	2.594	0.081	Oct 2012	0.410	Oct 2013	0.263	Oct 2014	-		0.263	3.823	7.171	-
Prior Year Mgmt costs no longer funded in FYDP	Various	Various : Various	38.577	-		-		-		-		-	-	38.577	-
<b>Subtotal</b>			69.235	0.205		1.274		0.899		-		0.899	6.617	78.230	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604234N / <i>Advanced Hawkeye</i>	<b>Project (Number/Name)</b> 3051 / <i>E-2D Adv Hawkeye</i>
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Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract

**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 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	3,998.294	116.206		107.041		193.200		-		193.200	1,276.095	5,690.836	-

**Remarks**  
 Totals may not add due to rounding.

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<b>R-1 Program Element (Number/Name)</b>
PE 0604234N / <i>Advanced Hawkeye</i>

<b>Project (Number/Name)</b>	3051 / E-2D Adv Hawkeye
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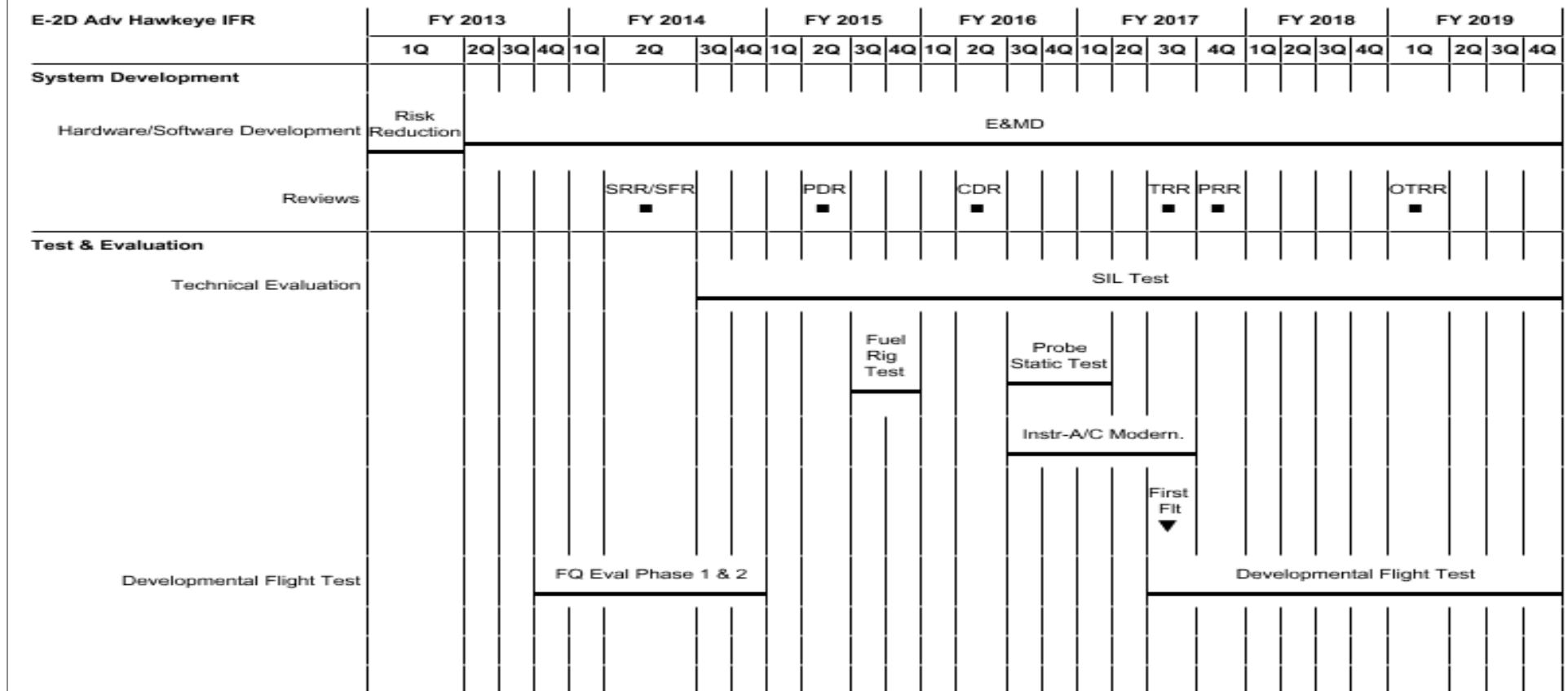
**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**  
1319 / 5

**R-1 Program Element (Number/Name)**  
PE 0604234N / *Advanced Hawkeye*

**Project (Number/Name)**  
3051 / *E-2D Adv Hawkeye*



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**Project (Number/Name)**  
3051 / E-2D Adv Hawkeye

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

Date: March 2014

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0604234N / *Advanced Hawkeye*

Project (Number/Name)  
3051 / *E-2D Adv Hawkeye*

E-2D Counter Electronic Attack	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
System Development																												
Software Development					SW Developmnet												SIL Integration											
Test & Evaluation																												
Developmental T&E																					Dev T&E							
Operational T&E																								Operational T&E				

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**

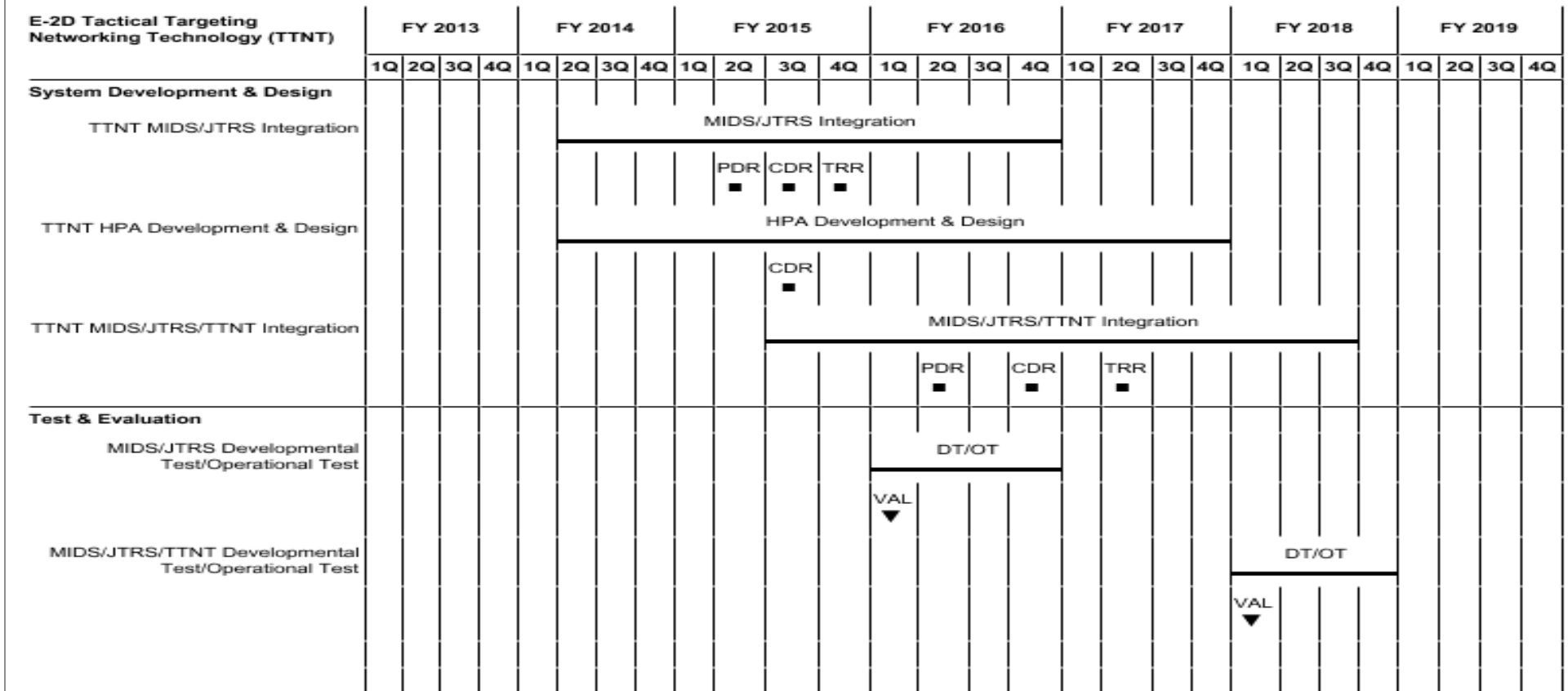
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**R-1 Program Element (Number/Name)**

PE 0604234N / *Advanced Hawkeye*

**Project (Number/Name)**

3051 / *E-2D Adv Hawkeye*



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

Date: March 2014

Appropriation/Budget Activity  
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R-1 Program Element (Number/Name)  
PE 0604234N / Advanced Hawkeye

Project (Number/Name)  
3051 / E-2D Adv Hawkeye

E-2D Adv Hawkeye Link 16 Crypto Modernization	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
System Development																												
Hardware Development			Sys Hdwr Proc																									

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<b>R-1 Program Element (Number/Name)</b>
PE 0604234N / <i>Advanced Hawkeye</i>

<b>Project (Number/Name)</b>	3051 / E-2D Adv Hawkeye
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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity

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R-1 Program Element (Number/Name)

PE 0604234N / *Advanced Hawkeye*

Project (Number/Name)

3051 / *E-2D Adv Hawkeye*

## Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>E-2D Adv Hawkeye</i></b>				
Acquisition Milestones: Milestones: Acquisition Milestones - Full Rate Production (FRP)	2	2013	2	2013
Acquisition Milestones: Milestones: Acquisition Milestones - Initial Operational Capabilities	1	2015	1	2015
Test & Evaluation: Operational Evaluation: Verification of Correction of Deficiencies (VCD)	3	2013	1	2014
Test & Evaluation: Operational Evaluation: Integrated Test D2	2	2013	1	2014
Test & Evaluation: Operational Evaluation: Integrated Test D3	2	2014	4	2014
Test & Evaluation: Operational Evaluation: Follow On Test & Evaluation	1	2013	4	2017
Production Milestones: Contract Awards: Production Milestones - FRP Lot I CA	3	2013	3	2013
Production Milestones: Contract Awards: Production Milestones - FRP Lot II CA	2	2014	2	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
Deliveries: Production Deliveries - LRIP II (3 A/C APN)	3	2013	4	2013
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 (4 A/C)	4	2017	3	2018
Deliveries: Production Deliveries - FRP IV (5 A/C)	4	2018	2	2019
Deliveries: Production Deliveries - FRP V (6 A/C)	3	2019	4	2019
<b><i>E-2D Adv Hawkeye IFR</i></b>				
System Development: Hardware/Software Development: In-Flight Refueling - Valve Trade Study - Risk Reduction	1	2013	1	2013



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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

## Appropriation/Budget Activity

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## R-1 Program Element (Number/Name)

PE 0604234N / *Advanced Hawkeye*

## Project (Number/Name)

3051 / *E-2D Adv Hawkeye*

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
System Development: Hardware/Software Development: In-Flight Refueling - Engineering & Manufacturing Development	2	2013	4	2019
System Development: Reviews: In-Flight Refueling - System Requirements Review2/ System Functional Review	2	2014	2	2014
System Development: Reviews: In-Flight Refueling - Preliminary Design Review	2	2015	2	2015
System Development: Reviews: In-Flight Refueling - Critical Design Review	2	2016	2	2016
System Development: Reviews: In-Flight Refueling - Test Readiness Review	3	2017	3	2017
System Development: Reviews: In-Flight Refueling - Production Readiness Review	4	2017	4	2017
System Development: Reviews: In-Flight Refueling - Operational Test Readiness Review	1	2019	1	2019
Test & Evaluation: Technical Evaluation: In-Flight Refueling - SIL Probe Static Test	3	2014	4	2019
Test & Evaluation: Technical Evaluation: In-Flight Refueling - Fuel Rig Test	3	2015	4	2015
Test & Evaluation: Technical Evaluation: In-Flight Refueling - Probe Static Test	3	2016	1	2017
Test & Evaluation: Technical Evaluation: In-Flight Refueling - Instrumentation/Aircraft Mod	3	2016	3	2017
Test & Evaluation: Technical Evaluation: In-Flight Refueling - First Flight	3	2017	3	2017
Test & Evaluation: Developmental Flight Test: Developmental Flight Test	3	2017	4	2019
Test & Evaluation: Developmental Flight Test: Flying Qualities Evaluation Test Phase 1 & 2	4	2013	4	2014
<b>E-2D Adv Hawkeye Guard Radio</b>				
System Development: Hardware Development: Guard Radio - System Integration Design	3	2013	4	2013
Test & Evaluation: Technical Evaluation: Guard Radio - SIL Integration & Test	3	2013	2	2014
Test & Evaluation: Technical Evaluation: Guard Radio - VAL	2	2014	2	2014
<b>E-2D Counter Electronic Attack</b>				
System Development: Software Development: Counter Electronic Attack - SW Development	4	2013	1	2017

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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

## Appropriation/Budget Activity

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## R-1 Program Element (Number/Name)

PE 0604234N / Advanced Hawkeye

## Project (Number/Name)

3051 / E-2D Adv Hawkeye

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
System Development: Software Development: Counter Electronic Attack - SIL Integration	2	2017	4	2017
Test & Evaluation: Developmental T&E: Counter Electronic Attack - DT&E Tech Evaluation	1	2018	3	2018
Test & Evaluation: Operational T&E: Counter Electronic Attack - OT&E	4	2018	4	2019
<b>E-2D Tactical Targeting Networking Technology (TTNT)</b>				
System Development & Design: TTNT MIDS/JTRS Integration: E-2D TTNT MIDS/JTRS Integration	2	2014	4	2016
System Development & Design: TTNT MIDS/JTRS Integration: TTNT - Preliminary Design Review	2	2015	2	2015
System Development & Design: TTNT MIDS/JTRS Integration: TTNT - Critical Design Review	3	2015	3	2015
System Development & Design: TTNT MIDS/JTRS Integration: TTNT -Test Readiness Review	4	2015	4	2015
System Development & Design: TTNT HPA Development & Design: TTNT Hight Power Amplifier Development & Design	2	2014	4	2017
System Development & Design: TTNT HPA Development & Design: TTNT High Power Amplifier Critical Design Review	3	2015	3	2015
System Development & Design: TTNT MIDS/JTRS/TTNT Integration: E-2D MIDS/JTRS/TTNT Integration	3	2015	3	2018
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	2	2017	2	2017
Test & Evaluation: MIDS/JTRS Developmental Test/Operational Test: Developmental Test - Operational Test	1	2016	4	2016
Test & Evaluation: MIDS/JTRS Developmental Test/Operational Test: MIDS/JTRS VAL	1	2016	1	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014	
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: MIDS/JTRS/TTNT Developmental Test/Operational Test: Developmental Test - Operational Test	1	2018	4	2018
Test & Evaluation: MIDS/JTRS/TTNT Developmental Test/Operational Test: MIDS/JTRS/TTNT VAL	1	2018	1	2018
E-2D Adv Hawkeye Link 16 Crypto Modernization				
System Development: Hardware Development: Link-16 Crypto Modernization - Multifunctional Information Distribution System Hardware Procurement	3	2013	4	2013
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	3	2014	4	2017
System Development: Software Development: Router Development & Design	3	2014	4	2016
System Development: Software Development: Software Integration	4	2014	4	2016
Test & Evaluation: Developmental Flight Test: SIPRChat VAL	1	2017	1	2017
Test & Evaluation: Developmental Flight Test: SIPRChat Flight Test	2	2017	4	2017
Trainers: Trainer Development: SIPRChat Trainer Design & Developo WST 1	2	2017	4	2017
Link-16 Cooperative Engagement Capability (CEC) Interoperability Program				
Acquisition Milestones: Milestones: System Readiness Review	3	2014	3	2014
Acquisition Milestones: Milestones: Preliminary Design Review	1	2015	1	2015
Acquisition Milestones: Milestones: Critical Design Review	2	2015	2	2015
Systems Development: Software Development: Systems Engineering	1	2014	4	2018
Systems Development: Software Development: Systems Development	1	2014	4	2018
Systems Development: Software Development: Software Integration	2	2015	4	2016
Systems Development: Software Development: System Integration Lab Integration	4	2015	3	2016
Test & Evaluation: Technical Evaluation: Functional Test	4	2015	4	2015
Test & Evaluation: Technical Evaluation: Flight Test	2	2016	4	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>		Project (Number/Name) 3051 / <i>E-2D Adv Hawkeye</i>	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
Test & Evaluation: Technical Evaluation: Performance Evaluation Test II		4	2017	4	2017
Test & Evaluation: Technical Evaluation: Performance Evaluation Test III		4	2018	4	2018

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014																	
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604234N / <i>Advanced Hawkeye</i>				<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>																		
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>															
9999: <i>Congressional Adds</i>	7.849	8.988	-	-	-	-	-	-	-	-	-	16.837															
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-																	
# The FY 2015 OCO Request will be submitted at a later date.																											
<b>A. Mission Description and Budget Item Justification</b> Congressional Add																											
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b> <table border="1" style="float: right; margin-top: 10px;"> <tr> <td></td> <td><b>FY 2013</b></td> <td><b>FY 2014</b></td> </tr> <tr> <td><b>Congressional Add:</b> Adv Radar Innovation Fund - Air (Cong)</td> <td align="right">8.988</td> <td align="center">-</td> </tr> <tr> <td><b>FY 2013 Accomplishments:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td><b>FY 2014 Plans:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td align="right"><b>Congressional Adds Subtotals</b></td> <td align="right">8.988</td> <td align="center">-</td> </tr> </table>														<b>FY 2013</b>	<b>FY 2014</b>	<b>Congressional Add:</b> Adv Radar Innovation Fund - Air (Cong)	8.988	-	<b>FY 2013 Accomplishments:</b> N/A			<b>FY 2014 Plans:</b> N/A			<b>Congressional Adds Subtotals</b>	8.988	-
	<b>FY 2013</b>	<b>FY 2014</b>																									
<b>Congressional Add:</b> Adv Radar Innovation Fund - Air (Cong)	8.988	-																									
<b>FY 2013 Accomplishments:</b> N/A																											
<b>FY 2014 Plans:</b> N/A																											
<b>Congressional Adds Subtotals</b>	8.988	-																									
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A																											
<b>Remarks</b>																											
<b>D. Acquisition Strategy</b> Not required for Congressional Adds																											
<b>E. Performance Metrics</b> Not required for Congressional Adds																											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604234N / <i>Advanced Hawkeye</i>				Project (Number/Name) 9999 / <i>Congressional Adds</i>					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/FFP	Northrop Grumman Corporation (NGC) : Bethpage, NY	6.999	8.988	Sep 2013	-		-		-		-	-	15.987	15.987
Primary Hardware Development	Various	NSMA : Arlington, VA	0.400	-		-		-		-		-	-	0.400	-
Subtotal			7.399	8.988		-		-		-		-	-	16.387	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support ETS	C/CPFF	Imagine One Technology and Management LTD : Colonial Beach, VA	0.450	-		-		-		-		-	-	0.450	0.450
Subtotal			0.450	-		-		-		-		-	-	0.450	0.450
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			7.849	8.988		-		-		-		-	-	16.837	-
Remarks															

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604245N / H-1 Upgrades							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	1,509.401	27.724	47.123	44.115	-	44.115	27.433	28.150	28.448	29.709	Continuing	Continuing
2279: 4BW/4BN Upgrade	1,509.401	27.724	-	-	-	-	-	-	-	-	-	1,537.125
3359: H-1 Improvements	0.000	-	47.123	44.115	-	44.115	27.433	28.150	28.448	29.709	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## Note

Efforts previously budgeted in Project 2279 are continued in Project 3359 from FY 2014 through the FYDP.

## A. Mission Description and Budget Item Justification

The mission of the AH-1W 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-1N 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 blade fold, 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 to 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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0604245N / H-1 Upgrades			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	31.105	47.123	46.789	-	46.789
Current President's Budget	27.724	47.123	44.115	-	44.115
Total Adjustments	-3.381	-	-2.674	-	-2.674
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.824	-			
• Rate/Misc Adjustments	0.001	-	-2.674	-	-2.674
• Congressional General Reductions Adjustments	-2.558	-	-	-	-
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: Beginning in FY 2016, schedule of SCS deliveries to the fleet will be extended to meet reduced budget profile.					
Cost: Changes due to sequestration reductions and Congressional general reductions.					



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604245N / H-1 Upgrades				Project (Number/Name) 2279 / 4BW/4BN Upgrade			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2279: 4BW/4BN Upgrade	1,509.401	27.724	-	-	-	-	-	-	-	-	-	1,537.125
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
Efforts previously budgeted in Project 2279 are continued in Project 3359 from FY 2014 through the FYDP.												
A. Mission Description and Budget Item Justification												
The mission of the AH-1W 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-1N 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 blade fold, performance-matched transmissions, T700 Engine Digital Electronic Control Units, 4-bladed tail rotors and drive systems, more effective stabilizers, upgraded landing gear, tail pylon structural modifications, 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 to sensors and weapons integration, avionics, and air vehicle components will address deficiencies, 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. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: System Configuration Set Development									14.831	-	-	
									Articles: -	-	-	
FY 2013 Accomplishments:												
SCS 6.0 - completed operational flight testing												
SCS 7.0 - continued hardware and software development efforts and continued developmental flight testing phase												
SCS 8.0 - completed critical design review (CDR) of TRMC. Continued hardware and software development efforts.												
FY 2014 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014	
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604245N / H-1 Upgrades				Project (Number/Name) 2279 / 4BW/4BN Upgrade			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2013	FY 2014	FY 2015	
N/A											
FY 2015 Plans: N/A											
Title: Weapons and Sensors Testing and Integration								2.471	-	-	
Articles:								-	-	-	
FY 2013 Accomplishments: Continued Target Sight System (TSS) turret test and evaluation activities for hardware and infrared improvement efforts. Aircraft stores development, integration, and testing effort including APKWS, the M299A1 launcher, and Air-Launched Intercept Missile on the AH-1Z.											
FY 2014 Plans: N/A											
FY 2015 Plans: N/A											
Title: Air Vehicle and Avionics Development								10.422	-	-	
Articles:								-	-	-	
FY 2013 Accomplishments: Continued TRB redesign efforts. Continue MRGB "run dry" and component improvement; focus on new sump, coating and filter components. Conduct avionics development & testing on Digital Map/Video Data Link, air vehicle development box, cargo door redesign, Crash Survivable Flight Incident Recorder, design of aircrew restraint system, and Full Motion Video to enhance digitization. Mission computer components obsolescence and regression testing. Continued TRMC hardware redesign with a critical design review (CDR) completed in 4Q13.											
FY 2014 Plans: N/A											
FY 2015 Plans: N/A											
Accomplishments/Planned Programs Subtotals								27.724	-	-	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN/017800: UH-1Y/AH-1Z APN1	762.287	-	-	-	-	-	-	-	-	-	5,357.068

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604245N / H-1 Upgrades				Project (Number/Name) 2279 / 4BW/4BN Upgrade			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN/01780C: UH-1Y/AH-1Z APN1 Advance Procurement	64.311	-	-	-	-	-	-	-	-	-	229.680
Remarks											
D. Acquisition Strategy											
The USMC H-1 Upgrades is an ACAT 1C program which has completed Engineering and Manufacturing Development and is in Full Rate Production of UH-1Y and AH-1Z helicopters. Ongoing RDT&E projects are focused on improving reliability and maintainability of the current design, increasing warfighter capability, and enhancing safety and situational awareness characteristics of the aircraft. The prime production contract is a sole source to Bell Helicopter Textron, Inc.											
E. Performance Metrics											
Main Rotor Gear Box (MRGB) loss of lubrication prototype development and testing is an effort to meet the survivability requirement of 30-minutes of operation following a total loss of lubrication. The redesign, development, testing, qualification, and deployment of the MRGB improvements will allow the UH-1Y and AH-1Z to reduce their vulnerable area and greatly improve upon the current 17-minute limitation. This effort will also increase the survival rate of the aircrew and aircraft through improved resistance to ballistic threats.											

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**

1319 / 5

**R-1 Program Element (Number/Name)**

PE 0604245N / H-1 Upgrades

**Project (Number/Name)**

2279 / 4BW/4BN Upgrade

H-1 Upgrades	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>Acquisition Milestones</b>																												
Milestones																												
<b>Systems Development</b>																												
Software Development		SCS 6.0																										
		SCS 7.0																										
		SCS 8.0																										
System Configuration Set (SCS) Reviews				8.0 CDR																								
				■																								
<b>Test &amp; Evaluation</b>																												
H-1 Improvements DT		H-1 Imp DT																										
H-1 Improvements Operational Test (OT)		H-1 Imp OT																										
<b>Production Milestones</b>																												
Contract Awards		Lot 10																										
		●																										
<b>Deliveries</b>																												
Software Deliveries		SCS 6.0																										
		▼																										
Aircraft Deliveries		Lot 6 (24)																										
		Lot 7 (27)																										
		Lot 8 (31)																										

2015OSD - 0604245N - 2279

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3359: H-1 Improvements	-	-	47.123	44.115	-	44.115	27.433	28.150	28.448	29.709	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**  
Efforts previously budgeted in Project 2279 are continued in Project 3359 from FY 2014 through the FYDP.

**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), 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

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604245N / H-1 Upgrades	Project (Number/Name) 3359 / H-1 Improvements		
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 to the UH-1Y. The Joint Air to Ground Missile (JAGM) and AGM-114 Romeo Hellfire missiles will begin 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.					
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 2013	FY 2014	FY 2015
Title: System Configuration Set Development  Articles:  FY 2013 Accomplishments: N/A  FY 2014 Plans: 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.			-	22.295	19.838
			-	-	-
Title: Weapons and Sensors Testing and Integration			-	6.787	6.105
Articles:			-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A					
FY 2014 Plans: 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.					
Title: Air Vehicle and Engines Improvements			-	15.356	15.455
Articles:			-	-	-
FY 2013 Accomplishments: N/A					
FY 2014 Plans: 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; 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 composite and metal structural 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. 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					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
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.												
Title: Avionics Improvements										-	2.685	2.717
Articles:										-	-	-
FY 2013 Accomplishments: N/A												
FY 2014 Plans: 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.												
Accomplishments/Planned Programs Subtotals										-	47.123	44.115
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• APN/017800: UH-1Y/AH-1Z APN1	-	604.634	778.757	-	778.757	838.611	847.323	828.191	876.429	443.998	5,217.943	
• APN/017800C: UH-1Y/AH-1Z APN1 Advance Procurement	-	60.000	80.926	-	80.926	76.686	78.040	84.290	62.700	-	442.642	
Remarks												



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604245N / H-1 Upgrades	<b>Project (Number/Name)</b> 3359 / H-1 Improvements	

### 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 1Q FY 2015. SCS 8.1 software delivery 2Q FY 2016. SCS 8.2 software delivery 3Q FY 2018. Successfully complete Developmental Test and Operational Test for H-1 Improvements.

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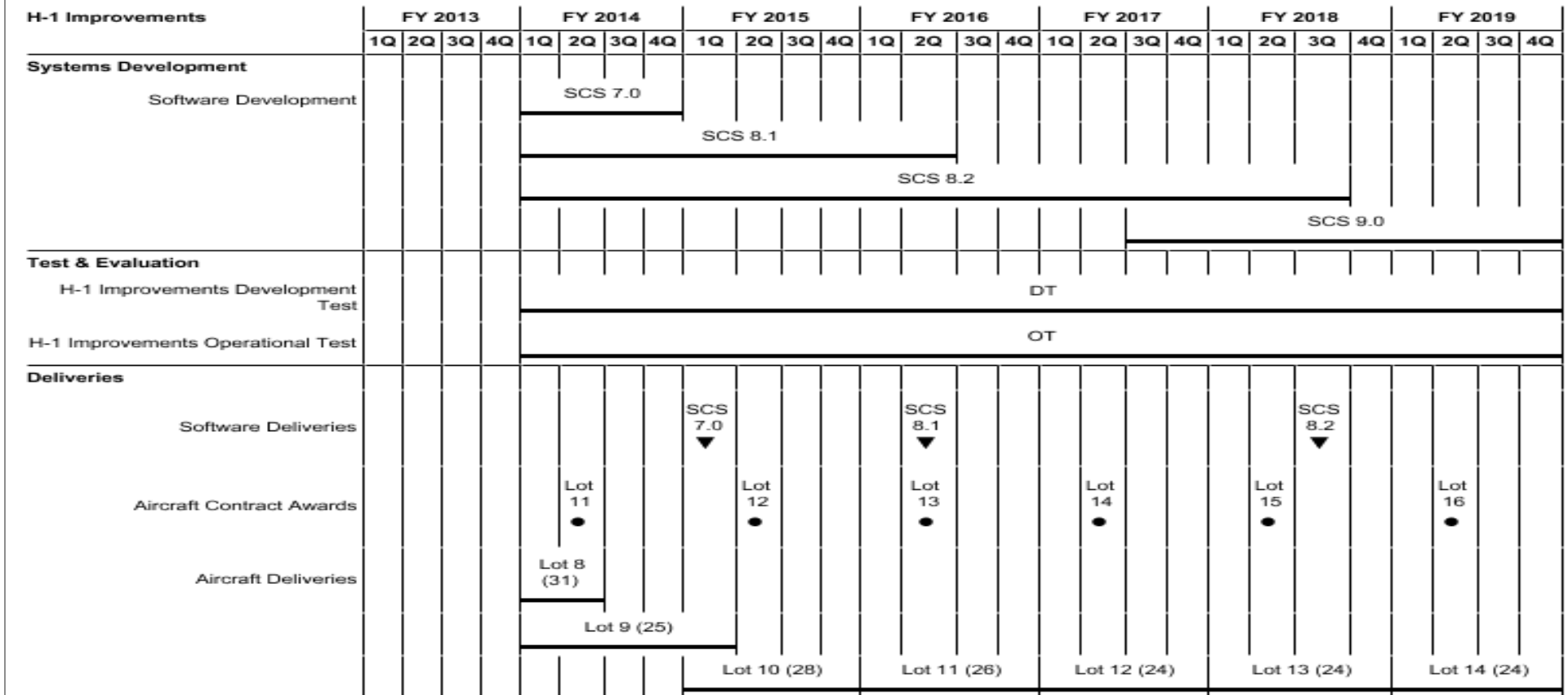
**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**  
1319 / 5

**R-1 Program Element (Number/Name)**  
PE 0604245N / H-1 Upgrades

**Project (Number/Name)**  
3359 / H-1 Improvements



2015PB - 0604245N - 3359

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>					<b>R-1 Program Element (Number/Name)</b> PE 0604261N / <i>Acoustic Search Sensors</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	371.022	32.507	29.195	23.227	-	23.227	22.045	18.276	17.320	17.697	Continuing	Continuing
0480: <i>ASW Sensors &amp; Proc</i>	301.053	15.204	18.611	16.001	-	16.001	13.114	13.310	13.220	13.520	Continuing	Continuing
3224: <i>High Altitude ASW</i>	69.969	17.303	10.584	7.226	-	7.226	8.931	4.966	4.100	4.177	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

**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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	34.299	30.208	27.044	-	27.044
Current President's Budget	32.507	29.195	23.227	-	23.227
Total Adjustments	-1.792	-1.013	-3.817	-	-3.817
• Congressional General Reductions	-	-0.013			
• Congressional Directed Reductions	-	-1.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.901	-			
• SBIR/STTR Transfer	-0.718	-			
• Program Adjustments	-	-	-0.533	-	-0.533
• Rate/Misc Adjustments	-	-	-3.284	-	-3.284
• Congressional General Reductions Adjustments	-2.975	-	-	-	-

**Change Summary Explanation**

Technical: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0604261N / Acoustic Search Sensors	
<p>Schedule:</p> <p>0480 Schedule 1. Due to the unavailability of test assests (sub services) and delays associated with DOT&amp;E oversight, the Milestone, the Software delivery, the FOT&amp;E period &amp; the contract awards slipped accordingly.</p> <p>0480 Schedule 2. Due to test asset availability, APB(2) Fleet software release slipped accordingly. APB(4) &amp; APB(5) were deleted &amp; RCI(2) inserted to reflect change from P-3 to P-8 platform.</p> <p>3224. HAASW Sonobuoy and Software Integration schedules have been adjusted to align with the P8-A schedule. A prioritized GPS Drop Vector Algorithm (GDVA) is aligned with the Increment 2 ECP 3 High Altitude ASW Weapons Capability (HAAWC) FY17 IOC. Digital Telemetry has been deferred to P-8A Increment 3 (FY18 start). Due to the \$2.265M rephasing in FY15, the ECP2 Integrated Testing period &amp; the P-8A FOT&amp;E period has been extended through 4Q/15 &amp; 3Q/16 accordingly.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>				Project (Number/Name) 0480 / <i>ASW Sensors &amp; Proc</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0480: <i>ASW Sensors &amp; Proc</i>	301.053	15.204	18.611	16.001	-	16.001	13.114	13.310	13.220	13.520	Continuing	Continuing
Quantity of RDT&E Articles	0.000	50.000	75.000	200.000	-	200.000	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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. Multi-static Active Coherent (MAC) and Advanced Processing Builds (APB) are efforts funded during the period identified. The MAC program encompasses the development of an active coherent (electronic) source sonobuoy, modifications to the existing 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 Operational Readiness Trainer and the Tactical Ground Replay System. MAC provides a large area search capability in all water environments and will eliminate current impulsive source safety, training, and Rules of Engagement restrictions. Project 0480 also provides funding for the 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 325 sonobuoy test articles in FY13/15 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)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> APB System Qualification Test/Fleet Release for P-3C. Rapid Capability Insertion (RCI)/Fleet Release for P-8A	0.936	7.472	12.127
<b>Articles:</b>	-	-	-
<b>FY 2013 Accomplishments:</b> Finished APB(2) Software Qualification Test (SQT) and prepared software for Fleet release.			
<b>FY 2014 Plans:</b> Continue software development/integration for APB(3). Release APB(2) software to Fleet. Conduct APB(3) SQT and prepare software for Fleet release. Begin system Fleet Introduction Training.			
<b>FY 2015 Plans:</b>			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy							Date: March 2014				
Appropriation/Budget Activity 1319 / 5			R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>			Project (Number/Name) 0480 / <i>ASW Sensors &amp; Proc</i>					
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>		
Release APB(3) software to Fleet. Final APB release for P-3. Begin software development/Engineering Measurement Program (EMP) for P-8A RCI(2). Continue system Fleet Introduction Training.											
<b>Title:</b> Multi-static Active Coherent (MAC)  <b>Articles:</b>							14.268 50.000	11.139 75.000	3.874 200.000		
<b>FY 2013 Accomplishments:</b> Awarded SSQ-125A ECP contract. Commenced MAC OT.											
<b>FY 2014 Plans:</b> Complete OT and release MAC software to Fleet. Deliver software for FOT&E. Conduct decision brief for full rate production on SSQ-125. Complete FOT&E. Continue SSQ-125A ECP effort to increase source level.											
<b>FY 2015 Plans:</b> Complete SSQ-125A ECP. Deliver SSQ-125A EDM units to support ECP test in 3Q/4Q.											
<b>Accomplishments/Planned Programs Subtotals</b>							15.204	18.611	16.001		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• OPN/4048: <i>Sonobuoys - All Types</i>	17.646	54.917	52.576	-	52.576	44.701	41.918	44.644	43.707	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
The development and integration of MAC using coherent source technology into the P-3C and P-8A Aircraft. 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).											
<b>E. Performance Metrics</b>											
Continued development/test of a MAC coherent source and related software that will satisfy the Multi-static Active wide area ASW search requirement.											

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604261N / Acoustic Search Sensors

Project (Number/Name)

0480 / ASW Sensors & Proc

Proj: 0480 ASW Sensors & Processors - Multistatic Active Coherent	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>Acquisition Milestones</b>																												
Milestones						FRP Decision ◆																						
<b>System Development</b>																												
Hardware Development						ECP																						
EDM Delivery										H/W EDM ▼																		
Software Development																												
Software Integration Delivery				Integration S/W Delivery ▼																								
Reviews																												
<b>Test &amp; Evaluation</b>																												
Technical Evaluation																												
Development Test												ECP Test																
Operational Evaluation						OT ▼																						
						Commence FOT&E ▼						Complete FOT&E ▼																
<b>Production Milestones</b>																												
Contract Awards			ECP ●							FRP ●																		
<b>Deliveries</b>																												

2015OSD - 0604261N - 0480

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604261N / Acoustic Search Sensors

Project (Number/Name)

0480 / ASW Sensors & Proc

Proj: 0480 ASW Sensors & Processors - Advanced Processing Builds (APB)	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
Milestones						APB (2) Fit Rel ▼				APB (3) Fit Rel ▼											RCI (2) Fit Rel ▼							
System Development																												
Software Development																												
						APB (2) S/W Rel ▼				APB (3) S/W Rel ▼																		
Test & Evaluation																												
Technical Evaluation																												
						APB (3) SQT ▼																RCI (2) SQT ▼						
Fleet Introduction Training																												

2015OSD - 0604261N - 0480



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604261N / <i>Acoustic Search Sensors</i>				<b>Project (Number/Name)</b> 3224 / <i>High Altitude ASW</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
3224: <i>High Altitude ASW</i>	69.969	17.303	10.584	7.226	-	7.226	8.931	4.966	4.100	4.177	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
<p># The FY 2015 OCO Request will be submitted at a later date.</p>												
<p><b>A. Mission Description and Budget Item Justification</b></p> <p>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 &amp; 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.</p>												
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>									<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
<p><b>Title:</b> Provide precision delivery of sonobuoys</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b> Completed HAASW sonobuoy Critical Design Review (Nov12). Final ERAPSCO contract awarded (Feb13). P-8A Inc 2 Integration contract awarded (Dec12). Completed P-8A Inc 2 Systems Requirements Review (SRR).</p> <p><b>FY 2014 Plans:</b> Finalize the HAASW sonobuoy qualification and certification and integrate the ECP into the SSQ-53, SSQ-62, and SSQ-101 sonobuoys. Continue HAASW software development and P-8A Integrated Test (IT).</p> <p><b>FY 2015 Plans:</b> Continued P-8A IT. Initiate P-8A Inc 2 FOT&amp;E.</p>									17.303	10.584	7.226	
									-	-	-	
<b>Accomplishments/Planned Programs Subtotals</b>									17.303	10.584	7.226	
<p><b>C. Other Program Funding Summary (\$ in Millions)</b></p> <p>N/A</p> <p><b>Remarks</b></p>												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604261N / <i>Acoustic Search Sensors</i>	Project (Number/Name) 3224 / <i>High Altitude ASW</i>
<p><b><u>D. Acquisition Strategy</u></b></p> <p>A 15 Mar 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 an SSQ-62 sonobuoys to FY17-FY19. All major contracts (ERAPSCO &amp; Boeing) to meet P-8A Inc2 ECP2 requirements have been awarded. IOC is planned for P-8 Inc2 ECP2 in FY16. The P-8 Inc2 ECP3 contract award that develops and integrates the GPS drop vector algorithm (GDVA) will be awarded in FY14. P-8 Inc2 ECP3 IOC is planned for FY17.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>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.</p>		



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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	8,993.370	44.294	43.084	61.249	-	61.249	58.893	59.944	53.793	53.596	41.000	9,409.223
1425: V-22	8,993.370	44.294	43.084	61.249	-	61.249	58.893	59.944	53.793	53.596	41.000	9,409.223
MDAP/MAIS Code: 212												
# The FY 2015 OCO Request will be submitted at a later date.												
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. Development efforts include Block C Upgrade, Mission System Upgrade, Mid-Wing Process Unit, ARC 210 Generation 5 Radio, Mission Computer Obsolescence Initiative, Ramp Mounted Weapon System, AAR-47 Hostile Fire Indicator, Time on Wing, Digital Interoperability, and Blue Force Tracker/Netted Weather. FY13 funds continued instrumentation of a test aircraft. FY14-FY15 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. FY14-FY15 will also continue development efforts for the V-22 Integrated Aircraft Survivability Equipment (IASE) 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. Begin MV-22 Digital Interoperability efforts in FY15.												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		PE 0604262N / V-22A			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	54.412	43.084	69.816	-	69.816
Current President's Budget	44.294	43.084	61.249	-	61.249
Total Adjustments	-10.118	-	-8.567	-	-8.567
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.096	-			
• SBIR/STTR Transfer	-1.281	-			
• Program Adjustments	-	-	0.787	-	0.787
• Rate/Misc Adjustments	-	-	-9.354	-	-9.354
• Congressional General Reductions Adjustments	-1.741	-	-	-	-
• Congressional Directed Reductions Adjustments	-5.000	-	-	-	-
<b>Change Summary Explanation</b>					
Technical: Not applicable					
Schedule: Not applicable					
Cost: FY13 reduction reflects sequestration, congressional general reductions, and reductions for program execution.					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1425: V-22	8,993.370	44.294	43.084	61.249	-	61.249	58.893	59.944	53.793	53.596	41.000	9,409.223
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

## 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. Development efforts include Block C Upgrade, Mission System Upgrade, Mid-Wing Process Unit, ARC 210 Generation 5 Radio, Mission Computer Obsolescence Initiative, Ramp Mounted Weapon System, AAR-47 Hostile Fire Indicator, Time on Wing, Digital Interoperability, and Blue Force Tracker/Netted Weather. FY13 funds continued instrumentation of a test aircraft. FY14-FY15 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. FY14-FY15 will also continue development efforts for the V-22 Integrated Aircraft Survivability Equipment (IASE) 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. Begin MV-22 Digital Interoperability efforts in FY15. Begin MV-22 Digital Interoperability efforts in FY15.

## B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Continued development of V-22	28.472	24.476	42.794
<b>Articles:</b>	-	-	-
<b>FY 2013 Accomplishments:</b> Continued MV-22 development efforts by Bell-Boeing. Rolls-Royce continued to provide engine support and development of MV-22 flight testing. Continued MV-22 software development efforts. Continued development in support of MV-22 Block upgrades. Continued engineering, logistics, flight test, flight test support and address correction of deficiencies. Continued			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604262N / V-22A		<b>Project (Number/Name)</b> 1425 / V-22	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
contracted development efforts on test aircraft. Continued instrumentation of test aircraft. Reduction in funding was the result of cost savings incurred on Instrumented Test Aircraft FPIF contract which awarded in March 2012.					
<b>FY 2014 Plans:</b> 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.					
<b>FY 2015 Plans:</b> 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. Begin MV-22 Digital Interoperability efforts.					
<b>Title:</b> Continued support of V-22 development, test and evaluation program			15.822	18.608	18.455
<b>Articles:</b>			-	-	-
<b>FY 2013 Accomplishments:</b> Continued in-house field activity support of Integrated Test Team, Integrated Product Teams, engineering and logistics. Continued development in support of MV-22 Block Upgrades. Continued field development efforts on test aircraft. Provided Research & Development support in areas of Reliability and Maintainability data analysis, loads and dynamics, electromagnetic environmental effects, V-22 avionics, facilities management, structures, communications, etc. Provided engineering, logistics, flight test, flight test support, envelope expansion testing and correction of deficiencies as required in support of the Flight Test Program, Block C, Defensive Weapon System, and the overall V-22 development program. Initiated support of instrumentation of test aircraft. Conducted aero-performance rebaseline, Time on Wing and Mission Computer Obsolescence Initiative Testing. Expanded shipboard launch and recovery envelopes with additional dynamic interface testing. Conducted KPP sustainment testing of proprotor improvements and nacelle sail design. Continued support of instrumentation of test aircraft. Tested B 5.01 software suite. Conducted Joint and Allied Threat Awareness System testing. Conducted Aircraft Mission Maneuvering Envelope Expansion and Velocity Not to Exceed Expansion testing.					
<b>FY 2014 Plans:</b> Continue support of instrumentation of test aircraft. Conduct V-22 Integrated Aircraft Survivability Equipment (IASE) testing/ APR-39(D)v2 testing. Conduct Aircraft Time on Wing, Mission Maneuvering Envelope Expansion and Velocity Not to Exceed Expansion testing.					
<b>FY 2015 Plans:</b>					



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604262N / V-22A	<b>Project (Number/Name)</b> 1425 / V-22	

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Continue support of instrumentation of test aircraft. Conduct V-22 IASE testing. Conduct Aircraft Time on Wing, Mission Maneuvering Envelope Expansion and Velocity Not to Exceed Expansion testing.			
<b>Accomplishments/Planned Programs Subtotals</b>	44.294	43.084	61.249

**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• APN 0164: V-22	1,486.280	1,391.086	1,532.920	-	1,532.920	1,496.086	1,446.944	429.539	439.793	7,231.205	36,844.040
• APN 0590: V-22 Series	88.861	156.534	135.584	-	135.584	121.761	139.021	150.041	146.108	733.407	2,362.775
• APN 0605: V-22 Initial Spares	2.602	10.729	-	-	-	4.799	2.265	-	-	145.364	953.476
• RDTE BA04 0401318F: CV-22 USAF BA05	19.741	46.705	-	-	-	-	-	-	-	-	150.602
• RDTE 1160421BB: CV-22 SOCOM	-	-	-	-	-	-	-	-	-	-	523.802
• RDTE 1160403BB: CV-22 Special Operations, Aviation Systems	1.673	2.817	0.182	-	0.182	-	-	-	-	-	93.797
• PDW 1000CV2200: CV-22 Special Operations, Modification	126.021	108.599	25.578	-	25.578	19.703	16.123	13.226	13.480	Continuing	Continuing
• RDTE BA07 0401318F: CV-22 USAF BA07	-	-	38.719	-	38.719	26.422	15.914	14.443	14.718	Continuing	Continuing

**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

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604262N / V-22A	Project (Number/Name) 1425 / V-22
<p>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.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>Milestone Reviews.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy	Date: March 2014
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Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604262N / V-22A	Project (Number/Name) 1425 / V-22
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Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Hardware Dev Airframe	SS/CPAF	Bell Boeing : Ridley Park, PA	3,850.758	-		-		-		-		-	-	3,850.758	3,850.765
MV-22 Award Fee (BLK C)	SS/CPAF	Bell Boeing : Ridley Park, PA	212.167	-		-		-		-		-	-	212.167	212.167
MV-22 Hardware Dev Airframe:Instrumented A/C	SS/FPIF	Bell Boeing : Ridley Park, PA	21.110	4.674	Mar 2013	-		4.029	Nov 2014	-		4.029	-	29.813	29.813
MV-22 Hardware Development Airframe	SS/CPIF	Bell Boeing : Ridley Park, PA	0.000	23.635	Jan 2013	24.176	Jan 2014	33.759	Jan 2015	-		33.759	148.809	230.379	230.379
MV-22 Hardware Dev Propulsion	SS/CPIF	Rolls-Royce Corp. : Indianapolis, IN	196.137	0.163	Jan 2013	0.300	Jan 2014	0.306	Jan 2015	-		0.306	1.282	198.188	198.188
MV-22 Dev Digital Interoperability	WR	NAWCWD : China Lake, CA	0.000	-		-		4.700	Jan 2015	-		4.700	18.800	23.500	-
Prior Year Prod Dev	Various	Various : Various	1,015.617	-		-		-		-		-	-	1,015.617	-
<b>Subtotal</b>			5,295.789	28.472		24.476		42.794		-		42.794	168.891	5,560.422	-

**Remarks**

Begin MV-22 Digital Interoperability efforts in FY15.  
Award Fee earned was seventy-six percent of the available award fee pool.

Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MV-22 Govt Engineering Sppt	WR	NAWCAD : Pax River, MD	1,101.632	0.999	Nov 2012	1.686	Nov 2013	1.710	Nov 2014	-		1.710	23.096	1,129.123	-
Prior Year Support	Various	Various : Various	189.718	-		-		-		-		-	-	189.718	-
<b>Subtotal</b>			1,291.350	0.999		1.686		1.710		-		1.710	23.096	1,318.841	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>													<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604262N / V-22A				<b>Project (Number/Name)</b> 1425 / V-22					

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
MV-22 Dev Test & Evaluation	WR	NAWCAD : Pax River, MD	997.697	9.669	Nov 2012	8.931	Nov 2013	9.055	Nov 2014	-		9.055	36.821	1,062.173	-
MV-22 Operational Test & Evaluation	WR	OT&E Force : Norfolk, VA	45.924	2.576	Dec 2012	4.709	Dec 2013	4.774	Dec 2014	-		4.774	15.594	73.577	-
Prior Year T & E	Various	Various : Various	48.200	-		-		-		-		-	-	48.200	-
<b>Subtotal</b>			1,091.821	12.245		13.640		13.829		-		13.829	52.415	1,183.950	-

<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
MV-22 Engineering Tech Sppt	Various	Various : Various	1,046.123	0.311	Nov 2012	0.484	Nov 2013	0.309	Nov 2014	-		0.309	5.466	1,052.693	-
MV-22 Management Sppt Svc	Various	Various : Various	154.868	0.675	Nov 2012	0.641	Nov 2013	0.575	Nov 2014	-		0.575	4.913	161.672	-
MV-22 Program Mgmt Support	WR	NAWCAD : Pax River, MD	56.545	1.385	Nov 2012	1.865	Nov 2013	1.764	Nov 2014	-		1.764	8.616	70.175	-
MV-22 Travel	WR	NAWCAD : Pax River, MD	15.787	0.207	Jan 2013	0.292	Jan 2014	0.268	Jan 2015	-		0.268	3.829	20.383	-
Prior Year Mgmt	Various	Various : Various	41.087	-		-		-		-		-	-	41.087	-
<b>Subtotal</b>			1,314.410	2.578		3.282		2.916		-		2.916	22.824	1,346.010	-

			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			8,993.370	44.294		43.084		61.249		-		61.249	267.226	9,409.223	-

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Navy</b>	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604262N / V-22A	<b>Project (Number/Name)</b> 1425 / V-22
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V-22	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>Acquisition Milestones</b>																												
<b>Engineering Milestones</b>																												
Block C Increment II & III																												
<b>Systems Development</b>																												
<b>Test &amp; Evaluation</b>																												
Development Test	Flight Test/Integrated Test																											
Operational Evaluation			OT-IIIJ ▼				OT-C1 ▼				OT-IIIK ▼								OT-IIIL ▼									
<b>Production Milestones</b>																												
Deliveries											IT A/C ◆																	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604262N / V-22A	<b>Project (Number/Name)</b> 1425 / V-22	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b>V-22</b>				
Test & Evaluation: Development Test: Development Flight Test / Integrated Test (IT-IIID) & Continuous software sustainment developmental testing	1	2013	4	2019
Test & Evaluation: Operational Evaluation: Operational Testing (OT-IIIJ)	3	2013	3	2013
Test & Evaluation: Operational Evaluation: Operational Testing (OT-C1)	3	2014	3	2014
Test & Evaluation: Operational Evaluation: Operational Testing (OT-IIIK)	3	2015	3	2015
Test & Evaluation: Operational Evaluation: Operational Testing (OT-IIIL)	3	2017	3	2017
Production Milestones: Deliveries: Instrumented Test Aircraft Delivery	2	2015	2	2015

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b>					<b>R-1 Program Element (Number/Name)</b>							
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					PE 0604264N / Air Crew Systems Development							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	92.412	2.437	9.151	15.014	-	15.014	13.408	12.796	5.557	5.685	Continuing	Continuing
0606: Aircrew System Development	92.412	2.437	9.151	15.014	-	15.014	13.408	12.796	5.557	5.685	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## **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, 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 PDR, CDR and TRR 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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	2.717	11.401	16.316	-	16.316
Current President's Budget	2.437	9.151	15.014	-	15.014
Total Adjustments	-0.280	-2.250	-1.302	-	-1.302
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.250			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.036	-			
• Rate/Misc Adjustments	-	-	-1.302	-	-1.302

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy				<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>				<b>R-1 Program Element (Number/Name)</b> PE 0604264N / <i>Air Crew Systems Development</i>			
<ul style="list-style-type: none"> <li>• Congressional General Reductions Adjustments</li> </ul>				-0.244	-	-	-
<p><b><u>Change Summary Explanation</u></b></p> <p>Schedule:</p> <p>1. Acquisition Milestones:</p> <p>A. Laser Eye Protection - Milestone C, IOC and FRP delayed due to extended revision of threat requirement.</p> <p>B. Electronic Knee Board (EKB) - Post Milestone B and Milestone C were deleted as MDA has approved initial configuration. IOC changed to EOC for initial configuration. FOC delayed to support 64-Bit configuration.</p> <p>2. Production Milestones:</p> <p>A. Aircrew Endurance (AE) - Full Rate Production (FRP) 3 and FRP 4 removed because FRP 2 production will complete the procurement of all assets. IOC shifted one quarter due to production delays.</p> <p>B. Laser Eye Protection - LRIP and FRP contract awards changed to align with milestone decisions.</p> <p>3. Deliveries:</p> <p>A. AE - FRP 3 and FRP 4 removed because FRP 2 production will complete the procurement of all assets. FRP 2 quantity changed from 1790 to 3541 to meet inventory objective.</p> <p>B. Laser Eye Protection - FRP 1 quantity updated from 305 to 461 and FRP 5 quantity updated from 1588 to 1124.</p> <p>C. EKB - FRP 2 quantity updated from 1736 to 2236 to meet initial inventory objective. FRP 3 and FRP 4 deliveries were added in FY18 and FY19.</p> <p>4. Contract Awards:</p> <p>A. EKB - FRP 3 and FRP 4 contract awards added to FY18 and FY19.</p> <p>5. Test and Evaluation:</p> <p>A. EKB - Renamed the test event from Developmental Test to Integrated Test to more accurately reflect the type of testing that will be conducted.</p> <p>6. System Development:</p> <p>A. EKB - PDR and CDR were deleted as MDA has approved initial configuration. Design Review was added to reflect next configuration plans.</p> <p>Technical: N/A</p>							



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0606: Aircrew System Development	92.412	2.437	9.151	15.014	-	15.014	13.408	12.796	5.557	5.685	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
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 PDR, CDR and TRR events.												
A. Mission Description and Budget Item Justification												
AIRCREW SYSTEMS: Aircrew Endurance (AE), Laser Eye Protection (LEP), Enhanced Visual Acuity (EVA), and Aircrew Systems (AS).												
Under the above projects, AE includes Survival Vests & Armor, Universal Camouflage, Waste Management, Hydration, Cooling and Clothing Systems. LEP includes Laser Eye Protection for noncorrective and corrective lens, Multi-Wavelength Spectacles, and Laser Eye Protection Improvement Program (LEPIP). EVA includes enhanced visibility in degraded visual environment technology. AS includes State of the Art (SOA) and Survival Systems.												
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.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Aircrew System Development									1.869	5.752	9.990	
									Articles: -	-	-	
Description: AE includes Survival Vests & Armor, Universal Camouflage, Waste Management, Hydration Cooling and Clothing Systems. LEP includes LEP Spectacles (both Self Protection and Multi-Wavelength), step-in visor and LEPIP. EVA includes enhanced visability in degraded visual environment technology. AS includes SOA.												
FY 2013 Accomplishments:												
AE: Development of new outer jacket system for inclement weather conditions												
SOA: Continue a yearly evaluation and authorization of the survival and clothing items. Identification, testing and approval of Commercial Off-the-Shelf items (COTS) that provide upgrade performance, fill capability gaps, improve aircrew performance, safety and enhance survivability.												
FY 2014 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy							Date: March 2014				
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 2013	FY 2014	FY 2015		
LEP: Continue research & development for next increment of threat spectacles. EVA: Continue Technology Development. 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 performance, safety and enhance survivability.  <b>FY 2015 Plans:</b> LEP: Continue research & development for next increment of threat spectacles. EVA: Continue development. 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 items (COTS) items that provide upgrade performance, fill capability gaps, improve aircrew performance, safety and enhance survivability.											
<b>Title:</b> Aircraft Systems Development							0.568	3.399	5.024		
<b>Articles:</b>							-	-	-		
<b>Description:</b> Aircraft Systems include studies for Advance Crash Protection, Crashworthy Troop Seats, State of the Art (SOA), and Electronic Knee Board (EKB).  <b>FY 2013 Accomplishments:</b> SOA: Continue a yearly evaluation and authorization of Advance Crash Protection, EKB and other aircraft systems items. Identification, testing and approval of COTS items that provide upgraded performance, fill capability gaps, improve aircrew performance, safety and enhance survivability.  <b>FY 2014 Plans:</b> EKB - Conduct development, design reviews, and Authorization to Work.  <b>FY 2015 Plans:</b> EKB: Continue development, complete design review, conduct integrated testing, and Authorizations to Work.											
Accomplishments/Planned Programs Subtotals							2.437	9.151	15.014		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/4244: Aviation Life Support	37.327	29.670	-	-	-	-	-	-	-	-	318.439

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014	
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604264N / Air Crew Systems Development				Project (Number/Name) 0606 / Aircrew System Development			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN/0575: Aviation Life Support Mods	2.347	6.267	-	-	-	-	-	-	-	-	27.110
• OPN/4268: Aviation Support Equipment	-	-	30.762	-	30.762	39.089	41.404	44.806	45.684	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											
Aircrew Endurance: Initial Operational Capability (IOC).											
Electronic Knee Board: Performance Metrics to include Design Review, EOC and FOC.											
Enhanced Visual Acuity: Performance Metrics to include PDR, CDR, MS B, MS C and IOC.											

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy											Date: March 2014																	
Appropriation/Budget Activity 1319 / 5									R-1 Program Element (Number/Name) PE 0604264N / Air Crew Systems Development					Project (Number/Name) 0606 / Aircrew System Development														
Aircrew Endurance	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
Milestones				IOC ▲																								
System Development																												
Reviews																												
Production Milestones																												
Contract Awards		AE Vest FRP1 ●		AE Vest FRP 2 ●																								
Deliveries																												
	AE Vest LRIP (OPN) Qty 2124			FRP 1 Qty 3453			FRP 2 Qty 3541																					
2015PB - 0604264N - 0606																												

2015PB - 0604264N - 0606



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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604264N / Air Crew Systems  
Development

Project (Number/Name)

0606 / Aircrew System Development

Electronic Knee Board	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
Milestones															EOC ▲												FOC ▲	
System Development																												
Reviews																												
Test and Evaluation																												
IT																												
Production Milestones																												
Contract Awards															FRP 1 ●			FRP 2 ●			FRP 3 ●					FRP 4 ●		
Deliveries																FRP 1 Qty 1736			FRP 2 Qty 2236			FRP 3 Qty 1160					FRP 4 Qty 1160	

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PE 0604264N: *Air Crew Systems Development*  
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Enhanced Visual Acuity	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones						Post MS B ▲																	MS C ▲				IOC ▲	
System Development									PDR ■	CDR ■		TRR ■					SVR/PRR ■											
Test and Evaluation																DT								OT				
Production Milestones																							LRIP 1 ●				LRIP 2 ●	
Deliveries																							LRIP 1 (OPN)				LRIP 2 (OPN)	

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604269N / EA-18 Squadrons							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	1,793.181	11.769	11.138	18.730	-	18.730	33.968	47.507	80.148	56.757	57.892	2,111.090
3063: EA-18G Development	1,793.181	11.769	11.138	18.730	-	18.730	33.968	47.507	80.148	56.757	57.892	2,111.090
MDAP/MAIS Code: 378												
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
The EA-18G Development program is no longer a Major Defense Acquisition Program due to the nature of the current requirements of the program. Flight Plan Engineering / System Configuration Set Development & Integration is a new start program for the EA-18G beginning in FY15.												
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 accomodate 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.												
B. Program Change Summary (\$ in Millions)				FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total				
Previous President's Budget				13.009	11.138	19.563	-	19.563				
Current President's Budget				11.769	11.138	18.730	-	18.730				
Total Adjustments				-1.240	-	-0.833	-	-0.833				
• Congressional General Reductions				-	-							
• Congressional Directed Reductions				-	-							
• Congressional Rescissions				-	-							
• Congressional Adds				-	-							
• Congressional Directed Transfers				-	-							
• Reprogrammings				-	-							
• SBIR/STTR Transfer				-0.132	-							
• Program Adjustments				-	-	-0.146	-	-0.146				
• Rate/Misc Adjustments				0.001	-	-0.687	-	-0.687				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0604269N / EA-18 Squadrons			
• Congressional General Reductions Adjustments		-1.109	-	-	-
<u>Change Summary Explanation</u> Technical: Not applicable.					
Schedule: FRP delivery end date moved from 3Q13 to 1Q17, updated to reflect current EA-18G program of record.					
The System Configuration Set (SCS) schedule has had multiple changes due to issues discovered during developmental and operational test requiring additional development time. Specific changes include earlier start for 29C development from 3Q15 to 2Q14; earlier start for 31C development from 3Q17 to 1Q16; 25X Integration Testing end delay from 2Q13 to 1Q14; 27C Integration Testing start earlier from 1Q15 to 2Q14; H14 Integration Testing ending 3Q18 vice 4Q17; H14 Operational Testing start delay from 1Q18 to 4Q18 ending 2Q19 vice 3Q18; H14 Fleet Release from 4Q18 to 4Q19. H10+ specific to IRST for 3Q16 release.					
Also, includes a naming convention change in regards to SCS builds 27, 29 & 31. Initially all "X" labeled builds to include Block I Super Hornets, now 27, 29, & 31 will no longer include Super Hornets thus going back to a "C" SCS label designation to include only legacy A-D aircraft.					
Jamming Techniques Optimization and Obsolescence Redesign extended to 4Q19.					
Flight Plan Engineering / System Configuration Set Development and Integration is a new start EA-18G program beginning in FY15.					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3063: EA-18G Development	1,793.181	11.769	11.138	18.730	-	18.730	33.968	47.507	80.148	56.757	57.892	2,111.090
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
Flight Plan Engineering / System Configuration Set Development and Integration is a new start program beginning in FY15.												
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 (AEA) 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 2013	FY 2014	FY 2015	
Title: EA-18G Design and Avionics Integration  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 2013 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 (JATO) teams. Funded JATO efforts have been significantly reduced from prior years to support the development of software related capabilities.  FY 2014 Plans: 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 (JATO) teams. Funded JATO 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 (JATO) teams.									2.370	0.450	0.450	
									-	-	-	
Title: EA-18G Software Development									7.348	8.088	15.700	
Articles:									-	-	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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 2013	FY 2014	FY 2015
<p><b>Description:</b> 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.</p> <p><b>FY 2013 Accomplishments:</b> Funded software development efforts have been significantly increased to support the expanded development requirements of software related capabilities. FY13 funds will continue System Configuration Set (SCS) block software development and integration for the EA-18G, specifically SCS builds 25X, 27X, H10 and H12.</p> <p><b>FY 2014 Plans:</b> 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 (SCS) block software development and integration for the EA-18G, specifically SCS builds 25X, 27X, H10 and H12.</p> <p><b>FY 2015 Plans:</b> Continue System Configuration Set (SCS) block software development and integration for the EA-18G, specifically SCS builds 25X, 27C, H10 and H12.</p>					
<p><b>Title:</b> EA-18G Developmental &amp; Operational Testing</p> <p><b>Articles:</b></p> <p><b>Description:</b> Funding will be utilized to support required test phases of the EA-18G.</p> <p><b>FY 2013 Accomplishments:</b> Perform operational test of EA-18G avionics upgrades and System Configuration Set block software updates that were deferred from FY12.</p> <p><b>FY 2014 Plans:</b> Continued operational test of EA-18G avionics upgrades and System Configuration Set block software updates.</p> <p><b>FY 2015 Plans:</b> 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).</p>			2.051 -	2.500 -	1.500 -
<p><b>Title:</b> EA-18G Flight Plan Engineering / System Configuration Set Development and Integration</p> <p><b>Articles:</b></p>			- -	- -	1.000 -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014	
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604269N / EA-18 Squadrons	Project (Number/Name) 3063 / EA-18G Development
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p><b>Description:</b> 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.</p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b> 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 (DTP-N) 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 (TTNT) internet protocol capability and Time Difference Of Arrival (TDOA) in support of Integrated Capability Package-3.</p>			
<p><b>Title:</b> EA-18G Obsolescence Redesign</p> <p><b>Articles:</b></p> <p><b>Description:</b> Develop and test design modifications to address obsolescence issues.</p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b> Develop and test design modifications to hardware components and software systems in response to EA-18G weapon system and ancillary equipment obsolescence issues.</p> <p><b>FY 2015 Plans:</b> Develop and test design modifications to hardware components and software systems in response to EA-18G weapon system and ancillary equipment obsolescence issues.</p>		- -	0.100 -
<b>Accomplishments/Planned Programs Subtotals</b>		11.769	11.138

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy								<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604269N / EA-18 Squadrons				<b>Project (Number/Name)</b> 3063 / EA-18G Development			

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN/014300: EA-18G	939.723	2,001.787	44.941	-	44.941	-	-	-	-	-	10,618.482
• APN/05250: F-18 Series (OSIP 011-10)	6.665	23.212	26.344	-	26.344	16.278	15.613	56.069	146.667	219.459	521.845
• RDTEN/1662: F/ A-18 Improvement	112.030	128.032	67.471	-	67.471	53.348	39.387	50.824	72.869	Continuing	Continuing

**Remarks**

**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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering (System Configuration Set / Software)	WR	NAWCAD : Pax River, MD	30.396	0.409	Nov 2012	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering (SCS/SW)	WR	NAWCWD : China Lake, CA	80.696	2.117	Nov 2012	1.389	Nov 2013	4.814	Nov 2014	-		4.814	Continuing	Continuing	Continuing
Systems Engineering (JATO/SCS/SW)	WR	NAWCWD : Pt. Mugu, CA	57.782	5.451	Nov 2012	5.336	Nov 2013	9.512	Nov 2014	-		9.512	Continuing	Continuing	Continuing
Systems Engineering (JATO)	WR	NSWC Det : Crane, IN	14.262	0.631	Jul 2013	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering (JATO)	WR	Naval Research Laboratory : Washington, DC	2.022	0.500	Feb 2013	0.200	Feb 2014	0.200	Feb 2015	-		0.200	Continuing	Continuing	Continuing
Systems Engineering (JATO)	WR	NAVSEASYS COM : Washington, DC	4.314	0.500	Mar 2013	0.250	Feb 2014	0.250	Feb 2015	-		0.250	Continuing	Continuing	Continuing
Prior Year Dev cost no longer funded in FYDP	Various	Various : Various	1,078.974	-		-		-		-		-	-	1,078.974	-
Subtotal			1,268.446	9.608		7.175		14.776		-		14.776	-	-	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	-		0.080	Continuing	Continuing	Continuing
Prior Year Support cost no longer funded in FYDP	Various	Various : Various	235.789	-		-		-		-		-	-	235.789	-
Subtotal			235.789	-		0.100		0.080		-		0.080	-	-	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date: March 2014</b>			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604269N / EA-18 Squadrons						<b>Project (Number/Name)</b> 3063 / EA-18G Development			

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Integration & Operational Testing	WR	Various : Various	111.707	0.318	Jul 2013	0.700	Jul 2014	1.500	Jul 2015	-		1.500	Continuing	Continuing	Continuing
AIM-120 Test Asset	MIPR	USAF : Eglin AFB, FL	0.000	-		1.800	Jul 2014	-		-		-	-	1.800	-
AIM-9X Test Assets	C/CPFF	Raytheon : Tuscon, AZ	0.000	1.033	Aug 2013	-		-		-		-	-	1.033	1.033
Prior Year T&E cost no longer funded in FYDP	Various	Various : Various	106.400	-		-		-		-		-	-	106.400	-
<b>Subtotal</b>			218.107	1.351		2.500		1.500		-		1.500	-	-	-

**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.

<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management Support (Seaport-CSS)	C/CPFF	Wyle Lab : Pax River, MD	12.533	0.190	Nov 2012	0.616	Nov 2013	0.616	Nov 2014	-		0.616	1.073	15.028	15.028
Government Engineering Support	WR	NAWCAD : Pax River, MD	32.097	0.218	Nov 2012	0.420	Nov 2013	0.425	Nov 2014	-		0.425	Continuing	Continuing	Continuing
Program Management Support	WR	NAWCAD : Pax River, MD	22.313	0.352	Nov 2012	0.277	Nov 2013	0.283	Nov 2014	-		0.283	Continuing	Continuing	Continuing
Travel	WR	Various : Various	2.555	0.050	Nov 2012	0.050	Nov 2013	0.050	Nov 2014	-		0.050	Continuing	Continuing	Continuing
Flight Plan Engineering / System Configuration Set Development & Integration	WR	NAWCAD : Pax River, MD	0.000	-		-		0.700	Nov 2014	-		0.700	Continuing	Continuing	Continuing
Flight Plan Engineering / System Configuration Set Development & Integration	WR	NAWCWD : China Lake, CA	0.000	-		-		0.300	Nov 2014	-		0.300	Continuing	Continuing	Continuing
Prior Year Mgmt cost no longer funded in FYDP	Various	Various : Various	1.341	-		-		-		-		-	-	1.341	-



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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>													<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604269N / EA-18 Squadrons				<b>Project (Number/Name)</b> 3063 / EA-18G Development					
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Subtotal</b>			70.839	0.810		1.363		2.374		-		2.374	-	-	-
<b>Remarks</b> Flight Plan Engineering / System Configuration Set Development & Integration is a new start program beginning in FY15.															
			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			1,793.181	11.769		11.138		18.730		-		18.730	-	-	-
<b>Remarks</b>															

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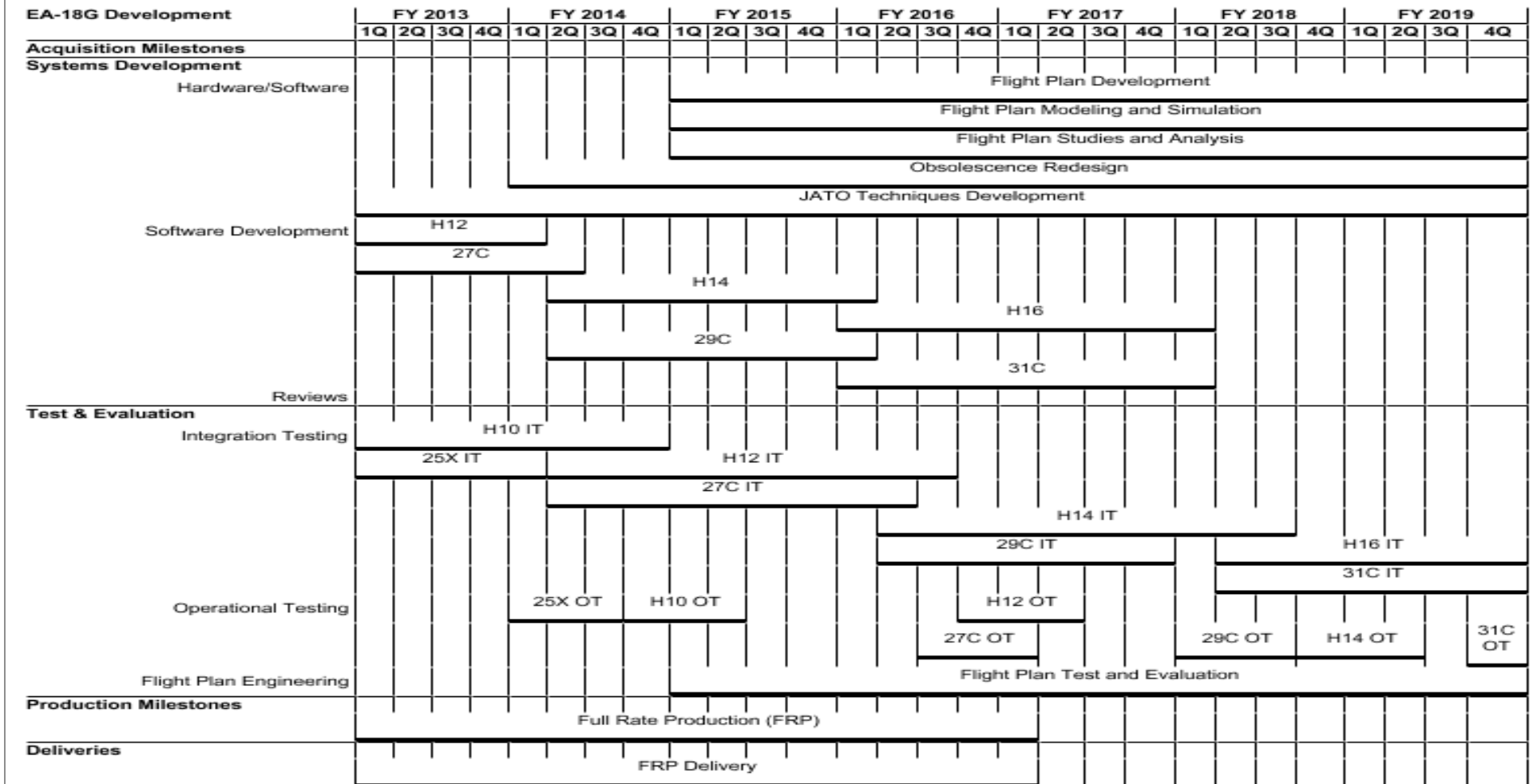
**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**  
1319 / 5

**R-1 Program Element (Number/Name)**  
PE 0604269N / EA-18 Squadrons

**Project (Number/Name)**  
3063 / EA-18G Development



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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy															Date: March 2014						
Appropriation/Budget Activity										R-1 Program Element (Number/Name)					Project (Number/Name)						
1319 / 5										PE 0604269N / EA-18 Squadrons					3063 / EA-18G Development						
SCS Block Fleet Release										25X		H10		27C		H12		29C		H14	
2015PB - 0604269N - 3063										▼		▼		▼		▼		▼		▼	

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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>EA-18G Development</b>				
Systems Development: Hardware/Software: Flight Plan Development	1	2015	4	2019
Systems Development: Hardware/Software: Flight Plan Modeling and Simulation	1	2015	4	2019
Systems Development: Hardware/Software: Flight Plan Studies and Analysis	1	2015	4	2019
Systems Development: Hardware/Software: Obsolescence Redesign Development and Testing	1	2014	4	2019
Systems Development: Hardware/Software: JATO Techniques Development	1	2013	4	2019
Systems Development: Software Development: H12 Software Development	1	2013	1	2014
Systems Development: Software Development: 27C Software Development	1	2013	2	2014
Systems Development: Software Development: H14 Software Development	2	2014	1	2016
Systems Development: Software Development: H16 Software Development	1	2016	1	2018
Systems Development: Software Development: 29C Software Development	2	2014	1	2016
Systems Development: Software Development: 31C Software Development	1	2016	1	2018
Test & Evaluation: Integration Testing: H10 Integration Testing	1	2013	4	2014
Test & Evaluation: Integration Testing: H12 Integration Testing	2	2014	3	2016
Test & Evaluation: Integration Testing: 25X Integration Testing	1	2013	1	2014
Test & Evaluation: Integration Testing: 27C Integration Testing	2	2014	2	2016
Test & Evaluation: Integration Testing: H14 Integration Testing	2	2016	3	2018
Test & Evaluation: Integration Testing: H16 Integration Testing	2	2018	4	2019
Test & Evaluation: Integration Testing: 29C Integration Testing	2	2016	4	2017
Test & Evaluation: Integration Testing: 31C Integration Testing	2	2018	4	2019
Test & Evaluation: Operational Testing: H10 Operational Testing	4	2014	2	2015
Test & Evaluation: Operational Testing: H12 Operational Testing	4	2016	2	2017

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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

## Appropriation/Budget Activity

1319 / 5

## R-1 Program Element (Number/Name)

PE 0604269N / EA-18 Squadrons

## Project (Number/Name)

3063 / EA-18G Development

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test & Evaluation: Operational Testing: 25X Operational Testing	1	2014	3	2014
Test & Evaluation: Operational Testing: 27C Operational Testing	3	2016	1	2017
Test & Evaluation: Operational Testing: H14 Operational Testing	4	2018	2	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	2019
Production Milestones: Full Rate Production	1	2013	1	2017
Deliveries: FRP Delivery	1	2013	1	2017
Deliveries: SCS Block Fleet Release: H10 Fleet Release	4	2015	4	2015
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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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>					<b>R-1 Program Element (Number/Name)</b> PE 0604270N / <i>Electronic Warfare (EW) Dev</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	864.510	46.851	34.964	28.742	-	28.742	23.292	20.506	20.480	21.917	Continuing	Continuing
0556: <i>EW Counter Response</i>	409.287	18.298	19.739	15.782	-	15.782	15.542	16.439	16.602	17.957	Continuing	Continuing
1742.: <i>EW Technical Development and T&amp;E</i>	27.057	1.630	1.352	1.152	-	1.152	1.642	1.665	1.596	1.626	Continuing	Continuing
2175: <i>Tactical Air Electronic Warfare</i>	428.166	26.923	13.873	11.808	-	11.808	6.108	2.402	2.282	2.334	-	493.896

**MDAP/MAIS Code:** 418

# The FY 2015 OCO Request will be submitted at a later date.

**Note**

Note: The Cost to Complete on Exhibit R2 and R2a for project unit 2175 should be \$4.104M. R-3 Exhibit reflects the correct Cost to Complete and Total Cost.

**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><u>B. Program Change Summary (\$ in Millions)</u></b>	<b><u>FY 2013</u></b>	<b><u>FY 2014</u></b>	<b><u>FY 2015 Base</u></b>	<b><u>FY 2015 OCO</u></b>	<b><u>FY 2015 Total</u></b>
Previous President's Budget	51.304	34.964	35.819	-	35.819
Current President's Budget	46.851	34.964	28.742	-	28.742
Total Adjustments	-4.453	-	-7.077	-	-7.077
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.073	-			
• SBIR/STTR Transfer	-0.631	-			
• Program Adjustments	-	-	-0.810	-	-0.810

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		PE 0604270N / Electronic Warfare (EW) Dev			
• Rate/Misc Adjustments	0.001	-	-6.267	-	-6.267
• Congressional General Reductions Adjustments	-3.750	-	-	-	-
Change Summary Explanation					
Technical: Not Applicable.					
Schedule:					
Project Unit 0556 / EW COUNTER RESPONSE: Due to delays in analysis and reporting of operational test, fleet release of EA-6B ICAP III Block 5 delayed from 2nd quarter FY13 to 4th quarter FY13.					
Project Unit 2175 / TACTICAL AIR EW:					
IDECM Block 4 (IB-4): IB-4 Initial Operational Capability (IOC) moved from 3rd Qtr FY 2014 to 2nd Qtr FY 2015 due to delays in operational testing completion. IB-4 Developmental Testing (DT) Flights completion changed from 2nd Qtr FY 2013 to 1st Qtr FY 2014 due to delays with Software Integration. IB-4 Operational Testing (OT) Flights changed from 2nd Qtr FY 2013 through 1st Qtr FY 2014 to 3rd Qtr FY 2014 through 1st Qtr FY 2015 pending completion of DT. Verification of Correction of Deficiencies (VCD) DT Flight changed from 2nd Qtr FY 2016 through 3rd Qtr FY 2016 to 4th Qtr FY 2016 through 3rd Qtr FY 2017 due to pending completion of Software Improvement OT. VCD OT Flight changed from 2nd Qtr FY 2017 through 3rd Qtr FY 2017 to 4th Qtr FY 2017 through 3rd Qtr FY 2018 due to the changed completion of IDECM IB-4 VCD DT.					
ALQ-214 Software Improvement: ALQ-214 SW Improvement IOC moved from 4th Qtr FY 2015 to 4th Qtr 2016. ALQ-214 SW Improvement Developmental Testing Lab/Ground completion changed from 4th Qtr FY 2014 to 3rd Qtr FY 2015 due to delays with Software Integration. ALQ-214 SW Improvement Development Testing (DT)/Operational Testing (OT) Flights changed from 2nd Qtr FY 2014 through 4th Qtr FY 2014 to 1st Qtr FY 2015 through 3rd Qtr FY 2015. ALQ-214 SW Improvement OT Flights changed from 1st Qtr FY 2015 through 3rd Qtr FY 2015 to 2nd Qtr FY 2016 through 3rd Qtr FY 2016 pending completion Software Improvement Developmental Testing.					



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 0556 / <i>EW Counter Response</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0556: <i>EW Counter Response</i>	409.287	18.298	19.739	15.782	-	15.782	15.542	16.439	16.602	17.957	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
<b>A. Mission Description and Budget Item Justification</b>												
<p>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.</p> <p>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 low band 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 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.</p> <p>The EA-6B Improved Capability (ICAP) III test aircraft will continue to serve as a test platform during government test and evaluation of Multi Functional Information Distribution Systems/Link-16, Low Band Transmitter, and other EW improvements. A requirement exists to allow the EA-6B ICAP III to participate in various coordinated targeting scenarios such as Network Centric Warfare, Force Net, Improved Suppression of Enemy Air Defenses/Destruction of Enemy Air Defenses, and other strategic and theatre-based DOD networks and strategies. Likewise, the ICAP III system shall be matured to enable the fusion and correlation of both organic and non-organic threat information to improve present sensor and targeting information to the theatre commander via coordinated efforts between other airborne, ground and ship-based operations. A method of implementing this requirement is to include the EA-6B on the Link-16 EW Network. Incorporation of the Link-16 message set into the EA-6B and participation of the ICAP III within the Network Centric Warfare arena improves the Strike Group Commander's situational awareness. All efforts and system upgrades include the conversion of and transition from the Tactical EA-6B Mission Planning System to the Joint Mission Planning System, including development of EA-6B Unique Planning Modules.</p> <p>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 Jeneration 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.</p>												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 0556 / <i>EW Counter Response</i>		
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 2013	FY 2014	FY 2015
Title: ICAP III UPDATE		3.814	4.504	1.940
Articles:		-	-	-
FY 2013 Accomplishments: Completed and delivered EA-6B Improved Capability (ICAP) III Block 5 to the fleet. Successful software development program for ICAP III Block 6. Began first phase of Integrated Test and Evaluation for ICAP III Block 6.				
FY 2014 Plans: Continue development, integration, and enhancement of 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 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.				
Title: MISSION PLANNING		2.003	2.405	1.100
Articles:		-	-	-
FY 2013 Accomplishments: Developed all elements of the Mission Planning Environment (MPE) including EA-6B Unique Planning Component (UPC), Electronic Tactical Information & Report Management System (ETIRMS), and Electronic Warfare Database System (EWDS). Mission Planning Environment will continue the development of an upgraded Joint Mission Planning System (JMPS) operating framework to transition from legacy Windows XP platform to a Windows 7 platform. Addressed issues related to Microsoft Operating System (OS) obsolescence, as well as provided for Information Assurance (IA) sustainment.				
FY 2014 Plans: Continue development of all elements of the mission planning environment including UPCs, EA-6B Tactical Information & Report Management System and Electronic Warfare Development System. Mission Planning Environment will continue development of an upgrade operating framework and transition from a Windows XP platform to a Windows 7 platform. New framework 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				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	Project (Number/Name) 0556 / <i>EW Counter Response</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
Warfare Database System (EWDS), to conclude ICAP III Block 7 effort started in FY2014. 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.				
Title: JAMMER TECHNIQUES OPTIMIZATION (JATO)		10.222	10.994	11.242
Articles:		-	-	-
FY 2013 Accomplishments: Provide 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 2014 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 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.)				
Increase in funding in FY2015 is due to increased flight and ground testing against adversary systems and transition to single-stream funding. In prior years, JATO was funded by multiple resource sponsors and project units. In FY15, all funding sources have been consolidated.				
Title: AIRBORNE ELECTRONIC ATTACK EXPENDABLE (AEAE)		2.259	1.836	1.500

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW)</i> Dev		Project (Number/Name) 0556 / <i>EW Counter Response</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Articles:</b>			-	-	-
<p><b>FY 2013 Accomplishments:</b> Develop Instrumented Measurement Vehicles for carrier suitability and airborne flight test and evaluation. Characterize vibration and shock forces associated with F/A-18EF carrier catapult take-offs and arrested landings. Develop accurate mathematical models for wind tunnel simulation and test. Perform wind tunnel safe-separation and transition-to-flight tests for vehicle risk analysis and risk mitigation. Develop F/A-18EF AEAE Unique Planning Component for integration into the F/A-18EF Joint Mission Planning System Mission Planning Environment and H12 Software Configuration (SCS). Develop and evaluate Electronic Warfare payloads for integration into AEAE platform. Integrate standard payload interface into the vehicle baseline and develop documentation in support of the Joint Capabilities Integration and Development System (JCIDS) process to include a Capabilities Development Document (CDD).</p> <p><b>FY 2014 Plans:</b> Continue development of Instrumented Measurement Vehicles for carrier suitability and airborne flight test and evaluation. Characterize vibration and shock forces associated with F/A-18EF carrier catapult take-offs and arrested landings. Develop accurate mathematical models for wind tunnel simulation and test. Perform wind tunnel safe-separation and transition-to-flight tests for vehicle risk analysis and risk mitigation. Develop F/A-18E AEAE Unique Planning Component for integration into the F/A-18EF Joint Mission Planning System Mission Planning Environment and H12 SCS. Develop and evaluate Electronic Warfare payloads for integration into AEAE platform. Integrate standard payload interface into the vehicle baseline and develop documentation in support of the JCIDS process to include a CDD.</p> <p><b>FY 2015 Plans:</b> 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</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW)</i> Dev				Project (Number/Name) 0556 / <i>EW Counter Response</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
(WDL) requirements analysis and evaluate WDL integration. Develop, prototype, test, and evaluate AEAE containers for carrier transport and storage suitability.												
Accomplishments/Planned Programs Subtotals										18.298	19.739	15.782
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• APN/05110: <i>EA-6 Series</i>	25.288	17.477	10.993	-	10.993	9.903	5.037	3.762	0.431	-	3,405.967	
• APN/05130: <i>AEA Systems</i>	42.310	44.802	34.768	-	34.768	20.074	39.176	38.974	39.131	204.599	575.800	
Remarks												
D. Acquisition Strategy												
<p>The Improved Capability (ICAP) III contract, an Engineering Manufacturing Development Cost Plus Incentive Fee/Award Fee basic contract with two Fixed Price Incentive production options, was awarded to a Northrop Grumman team in March 1998 following Milestone II after full and open competition. The contract was changed to a Cost Plus Award Fee contract in FY 1999. Low Rate Initial Production contract award was completed in FY 2003. A Milestone III Navy Program Decision Meeting was held on 23 September 2005. The Acquisition Decision Memorandum was signed by Assistant Secretary of the Navy for Research Development Acquisition on 21 November 2005. A Firm Fixed Price Full Rate Production (FRP) contract for Lot 2, 4 ALQ-218 systems, was awarded in March 2006. The FRP Lot 3 contract for 7 ALQ-218 systems was awarded 11 April 2008. The FRP Lot 4 contract for 9 ALQ-218 systems was awarded in August 2008.</p>												
E. Performance Metrics												
<ol style="list-style-type: none"> <li>1. Successful completion in the development of ICAP III Block 6 software for the Operational Flight Plan (OFP).</li> <li>2. Successful completion of ICAP III Block 6 development and testing.</li> <li>3. Jammer Techniques Optimization development counters enemy radar systems and communication systems to provide techniques to protect allied forces.</li> <li>4. Airborne Electronic Attack Expendable continues risk reduction and system development.</li> <li>5. Completion of Initial Systems Engineering Technical Review (SETR) events for Block 7 Development including System Requirement Review, Preliminary and Critical Design Reviews.</li> </ol>												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW)</i> Dev				Project (Number/Name) 0556 / <i>EW Counter Response</i>					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HDW Develop - ICAP III	C/FFP	Various : Various	260.704	0.500	Dec 2012	0.500	Dec 2013	0.400	Dec 2014	-		0.400	-	262.104	262.104
Systems Engineering NRL	WR	Naval Research Lab : Maryland	4.779	2.293	Dec 2012	1.200	Dec 2013	1.550	Dec 2014	-		1.550	Continuing	Continuing	Continuing
Systems Engineering NAWCAD	WR	NAWCAD : Patuxent River, MD	20.023	2.191	Nov 2012	2.664	Nov 2013	1.740	Nov 2014	-		1.740	Continuing	Continuing	Continuing
Systems Eng/BLK Update	WR	NAWCWD : Point Mugu, CA	58.959	7.866	Nov 2012	9.617	Nov 2013	7.678	Nov 2014	-		7.678	Continuing	Continuing	Continuing
Systems Engineering NSWC	WR	NSWC Det : Crane, IN	9.013	0.918	Dec 2012	1.107	Dec 2013	0.536	Dec 2014	-		0.536	Continuing	Continuing	Continuing
Systems Engineering VAR	WR	Various : Various	13.887	0.448	Dec 2012	0.563	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			368.408	14.216		15.651		11.904		-		11.904	-	-	-
Remarks															
Cost growth in excess of OSD approved inflation indices between FY14 and FY15 for Systems Engineering NRL is due to consolidation of the funding for the JATO program into Project Unit 0556.															
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support - JATO	SS/FP	Johns Hopkins Univ : Maryland	24.677	2.600	Dec 2012	2.719	Dec 2013	3.428	Dec 2014	-		3.428	16.630	50.054	50.094
Eng & Tech Srvc (Non FFRDC)	Various	Various : Various	13.039	1.334	Dec 2012	1.219	Dec 2013	0.400	Dec 2014	-		0.400	Continuing	Continuing	Continuing
Prior year Support costs no longer funded in the FYDP	Various	Various : Various	2.256	-		-		-		-		-	-	2.256	-
Subtotal			39.972	3.934		3.938		3.828		-		3.828	-	-	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Navy													<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				<b>Project (Number/Name)</b> 0556 / <i>EW Counter Response</i>					
<b>Support (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Remarks</b> Cost growth in excess of OSD approved inflation indices between FY14 and FY15 for Development Support - JATO is due to consolidation of the funding for the JATO program into Project Unit 0556.															
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management Support	WR	Various : Various	0.907	0.148	Dec 2012	0.150	Dec 2013	0.050	Dec 2014	-		0.050	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.907	0.148		0.150		0.050		-		0.050	-	-	-
			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			409.287	18.298		19.739		15.782		-		15.782	-	-	-
<b>Remarks</b>															

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**

1319 / 5

**R-1 Program Element (Number/Name)**

PE 0604270N / *Electronic Warfare (EW)*

*Dev*

**Project (Number/Name)**

0556 / *EW Counter Response*

EW Counter Response	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>Acquisition Milestones</b>																												
Milestones				Fleet Release - ICAP III BLOCK 5 ▼				Fleet Release - ICAP III BLOCK 6 ▼							Fleet Release - ICAP III BLOCK 7 ▼													
<b>Systems Development</b>																												
Hardware Development																												
Software Development																												
Reviews			JATO ESC ■				JATO ESC ■				JATO ESC ■				JATO ESC ■				JATO ESC ■				JATO ESC ■				JATO ESC ■	
<b>Test &amp; Evaluation</b>																												
Technical Evaluation																												
Operational Evaluation			ICAP III Block 6 DT/OT												ICAP III Block 7 DT/OT													
<b>Production Milestones</b>																												
Contract Awards																												
<b>Deliveries</b>																												

2015DON - 0604270N - 0556



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604270N / <i>Electronic Warfare (EW)</i> Dev	<b>Project (Number/Name)</b> 0556 / <i>EW Counter Response</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>EW Counter Response</i></b>				
Acquisition Milestones: Milestones: Fleet Release - ICAP III BLOCK 5	4	2013	4	2013
Acquisition Milestones: Milestones: Fleet Release - ICAP III BLOCK 6	4	2014	4	2014
Acquisition Milestones: Milestones: Fleet Release - ICAP III BLOCK 7	3	2016	3	2016
Systems Development: Reviews: JATO Executive Steering Committee 2013	3	2013	3	2013
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
Test & Evaluation: Operational Evaluation: ICAP III Block 6 DT/OT	2	2013	3	2014
Test & Evaluation: Operational Evaluation: ICAP III Block 7 DT/OT	2	2015	1	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 1742. / <i>EW Technical Development and T&amp;E</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1742.: <i>EW Technical Development and T&amp;E</i>	27.057	1.630	1.352	1.152	-	1.152	1.642	1.665	1.596	1.626	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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.												
Project Unit 1742 EW Technical Development and Test and Evaluation (T&E) 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 2013	FY 2014	FY 2015	
Title: Electronic Warfare Technical Development Studies and Test & Evaluation									-	1.352	1.152	
									Articles: -	-	-	
Description: This project funds efforts that focus on the quick reaction prototyping of tactical information and electronic warfare systems.												
FY 2013 Accomplishments: Continue studies and vulnerability analysis on emerging/changing threats/targets for EW programs.												
FY 2014 Plans: Continue studies and vulnerability analysis on emerging/changing threats/targets for EW programs.												
FY 2015 Plans:												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	<b>Project (Number/Name)</b> 1742. / <i>EW Technical Development and T&amp;E</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
Continue studies and vulnerability analysis on emerging/changing threats/targets for EW programs.			
<b>Title:</b> EW Technical Development Studies & Analysis  <b>FY 2013 Accomplishments:</b> Continued studies and vulnerability analysis on emerging/changing threats/targets for EW programs.  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> N/A		<b>Articles:</b> 1.500 -	- -
<b>Title:</b> EW Technical Development/Program Management  <b>FY 2013 Accomplishments:</b> Continued funding necessary travel expenses and training to support the Research & Development projects.  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> N/A		<b>Articles:</b> 0.130 -	- -
<b>Accomplishments/Planned Programs Subtotals</b>		1.630	1.352
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
BSO 60: Development of classified prototypes and special capabilities. The Navy Cyber Warfare Development Group (NCWDG) (formerly known as the Navy Information Operations Command (NIOC) Suitland) is granted streamlined acquisition authority for the development of classified prototypes and special capabilities under the DASN(C4I).			
<b>E. Performance Metrics</b>			
BSO 60: Research, assess and develop EW/IW capabilities.			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	<b>Project (Number/Name)</b> 1742. / <i>EW Technical Development and T&amp;E</i>
The NCWDG serves as the Program Management Office of the EW Technical Development and Information Warfare (IW) program. As such, NCWDG is tasked as the Navy's principal technical agent to research, assess, and develop EW/IW capabilities.		

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date: March 2014</b>			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604270N / <i>Electronic Warfare (EW) Dev</i>						<b>Project (Number/Name)</b> 1742. / <i>EW Technical Development and T&amp;E</i>			
<b>Product Development (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Primary Hardware Development	C/CPFF	Classified : Various	3.604	-		-		-		-		-	-	3.604	-
Aircraft Integration	WR	NAWC CL : China Lake, CA	1.600	-		-		-		-		-	-	1.600	-
<b>Subtotal</b>			5.204	-		-		-		-		-	-	5.204	-
<b>Support (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Studies and Analysis	Various	Classified : Various	0.000	-		1.140	Oct 2013	0.997	Oct 2014	-		0.997	Continuing	Continuing	Continuing
Development Support	C/CPFF	Classified : Various	2.987	-		-		-		-		-	-	2.987	-
Software Development	C/CPFF	Classified : Various	3.944	-		-		-		-		-	-	3.944	-
Studies & Analyses	Various	Classified : Various	9.513	1.500	Nov 2012	-		-		-		-	-	11.013	-
<b>Subtotal</b>			16.444	1.500		1.140		0.997		-		0.997	-	-	-
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Developmental Test & Evaluation	WR	NRL : Washington, DC	2.890	-		-		-		-		-	-	2.890	-
<b>Subtotal</b>			2.890	-		-		-		-		-	-	2.890	-
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management Personnel	Various	Classified : Various	0.000	-		0.100	Oct 2013	0.070	Oct 2014	-		0.070	-	0.170	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				<b>Project (Number/Name)</b> 1742. / <i>EW Technical Development and T&amp;E</i>					

Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	NCWDG : Washington, DC	0.000	-		0.112	Oct 2013	0.085	Oct 2014	-		0.085	-	0.197	-
Program Management	Various	Classified : Various	0.990	0.084	Oct 2012	-		-		-		-	-	1.074	-
Travel	WR	NCWDG : Washington DC	1.503	0.046	Oct 2012	-		-		-		-	-	1.549	-
Acquisition Workforce Fund - 2009	Various	Various : Various	0.026	-		-		-		-		-	-	0.026	-
<b>Subtotal</b>			2.519	0.130		0.212		0.155		-		0.155	-	3.016	-

**Remarks**  
Provides for official travel and training in direct support of Research & Development projects.

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	27.057	1.630	1.352	1.152	-	1.152	-	-	-

**Remarks**

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PE 0604270N: *Electronic Warfare (EW) Dev*  
Navy

**Volume 3 - 263**

**Project (Number/Name)**  
1742. I EW Technical Development and  
T&E

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	<b>Project (Number/Name)</b> 1742. / <i>EW Technical Development and T&amp;E</i>	

## Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 1742.L60</b>				
BSO 60: Vulnerability Analysis Discovery: Vulnerability Analysis Discovery	1	2014	4	2019
ELECTRONIC WARFARE: Vulnerability Analysis Discovery: VAD 1 2013	1	2013	1	2013
ELECTRONIC WARFARE: Vulnerability Analysis Discovery: VAD 2 2013	2	2013	2	2013
ELECTRONIC WARFARE: Vulnerability Analysis Discovery: VAD 3 2013	3	2013	3	2013
ELECTRONIC WARFARE: Vulnerability Analysis Discovery: VAD 4 2013	4	2013	4	2013



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2175: <i>Tactical Air Electronic Warfare</i>	428.166	26.923	13.873	11.808	-	11.808	6.108	2.402	2.282	2.334	-	493.896
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 FY2011. IB-3 Initial Operational Capability (IOC) achieved 4th Qtr FY2011.												
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 2013	FY 2014	FY 2015	
Title: Tactical Air EW									26.923	13.873	11.808	
									Articles: -	-	-	
FY 2013 Accomplishments:												
The Integrated Defensive Electronic Countermeasures (IDECM) Block 4, ALQ-214 Engineering Change Proposal (ECP) engineering effort continued into FY 2013. IDECM Block 4 In-Process Review (IPR) 4 was conducted 3rd quarter FY 2013. The												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
ALQ-214 Software Improvement effort continued to develop and integrate the ALQ-214 with Digital Radio Frequency Memory deny-delay, technique capability. Successfully completed Software Improvement Design Review 2 in 1st quarter FY 2013. <b>FY 2014 Plans:</b> The IDECM Block 4 ALQ-214 ECP engineering effort will conclude in FY 2014. Flight testing for the ALQ-214-ECP will continue and is scheduled to be completed. The ALQ-214 Software Improvement contract will continue into FY 2014 and will include engineering and logistics support. The IDECM Block 4 IPR 5 was completed in 2nd Quarter FY 2014. <b>FY 2015 Plans:</b> The IDECM Block 4 In-Process Review (IPR) 6 is planned for the 2nd quarter FY 2015. The ALQ-214 Software Improvement Contract will continue into FY 2015 and will include software improvement and include flight testing.												
Accomplishments/Planned Programs Subtotals										26.923	13.873	11.808
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• APN/0576 004-12: <i>Common On-Board Jammer</i>	53.638	72.291	96.711	-	96.711	122.679	47.214	48.294	37.424	86.469	603.904	
• PANMC/0182: <i>Airborne Expendable CM</i>	18.466	20.076	21.574	-	21.574	21.933	22.372	24.996	25.485	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 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 FRP 5 Contract in 2nd Qtr FY 2015.												
IDECM Block 4: Successfully conduct In-Process Review 5 (Production Cut-In 3) in 2nd Qtr FY 2014. Successfully award FRP 11 Contract in 2nd Qtr FY 2014.												
ALQ-214 Software Improvement: Successfully achieve Initial Operational Capability (IOC) in 4th Qtr FY 2016.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aircraft Integration -IDECM Boeing	Various	Various : Various	7.269	-		0.800	Mar 2014	0.800	Mar 2015	-		0.800	3.202	12.071	12.071
Primary Hdw Dev - IDECM ITT	SS/FFP	ITT : Clifton, NJ	111.932	4.192	Jun 2013	-		-		-		-	-	116.124	116.124
Systems Eng - IDECM	SS/CPFF	Various : Various	62.809	2.081	Mar 2013	1.425	Mar 2014	1.037	Mar 2015	-		1.037	1.190	68.542	68.542
Prior Year Prod Dev costs no longer funded in FYDP	Various	Various : Various	119.050	-		-		-		-		-	-	119.050	-
Subtotal			301.060	6.273		2.225		1.837		-		1.837	4.392	315.787	-
Remarks															
Due to delays in Flight Testing, the Aircraft Integration effort was moved to the right.															
Decrease in funding to Systems Eng in Product Development applied to Software Development Support.															
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Log Supt- IDECM	WR	NAWCAD : Pax River, MD	0.000	-		0.113	Dec 2013	0.116	Dec 2014	-		0.116	0.465	0.694	-
Software Dev-ALQ-214 SW Dev	SS/CPFF	ITT : Clifton, NJ	17.395	4.267	Jun 2013	0.338	Dec 2013	-		-		-	-	22.000	22.000
Software Dev-ALQ-214 SW Dev	SS/CPFF	Various : Various	0.000	1.098	Apr 2013	-		-		-		-	-	1.098	1.098
Engineering Support	WR	Various : Various	0.000	-		4.092	Dec 2013	2.908	Dec 2014	-		2.908	4.219	11.219	-
Prior Year Support costs no longer funded in FYDP	Various	Various : Various	8.925	-		-		-		-		-	-	8.925	-
Studies and Analysis	SS/CR	Johns Hopkins : Baltimore, MD	0.000	0.500	Sep 2013	-		-		-		-	-	0.500	0.500
Subtotal			26.320	5.865		4.543		3.024		-		3.024	4.684	44.436	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW) Dev</i>				Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>					
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks															
Due to the Enterprise Cost Management Framework (ECMF) initiative, beginning in FY 2014 Engineering Support Funding moved from the Management Services section to the Support Section to better capture the type of work being performed.															
Decrease in funding to Systems Eng in Product Development applied to Software Development Support.															
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval Supt ALQ-214 SW Imp	WR	Various : Various	0.000	-		2.356	Dec 2013	5.458	Dec 2014	-		5.458	1.888	9.702	-
Oper Test & Eval ALQ-214 SW Imp	WR	Various : Various	0.000	-		-		-		-		-	2.311	2.311	-
Development Flight Test - IDECM	WR	Various : Various	4.120	0.805	Dec 2012	-		-		-		-	-	4.925	-
Development Flight Test- IDECM	WR	NAWCWD : China Lake, CA	8.646	5.250	Dec 2012	-		-		-		-	-	13.896	-
Oper Test & Eval IDECM	WR	NAWCWD : China Lake, CA	0.000	-		3.287	Dec 2013	-		-		-	-	3.287	-
Eng Test & Eval IDECM	WR	Various : Various	0.000	-		0.850	Dec 2013	0.928	Dec 2014	-		0.928	2.926	4.704	-
Eng & Tech Srvcs (Non-FFRDC)	SS/CPFF	Various : Various	0.000	-		0.517	Dec 2013	0.476	Dec 2014	-		0.476	0.762	1.755	1.755
Prior Year T&E costs no longer funded in FYDP	Various	Various : Various	7.186	-		-		-		-		-	-	7.186	-
Subtotal			19.952	6.055		7.010		6.862		-		6.862	7.887	47.766	-
Remarks															
Due to the Enterprise Cost Management Framework (ECMF) initiative, beginning in FY 2014 Eng Test & Eval IDECM and Eng & Tech Srvcs (Non-FFRDC) funding moved from Management Services section to the Test and Evaluation Section to better capture the type of work being performed.															

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604270N / <i>Electronic Warfare (EW) Dev</i>	<b>Project (Number/Name)</b> 2175 / <i>Tactical Air Electronic Warfare</i>
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Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mgt & Prof Supt Svcs- IDECM (Non-FFRDC)	SS/CPFF	Amelex : California, MD	0.809	0.374	Dec 2012	-		-		-		-	-	1.183	1.183
Travel	Allot	NAWCAD : Pax River, MD	0.548	0.062	Oct 2012	0.095	Oct 2013	0.085	Oct 2014	-		0.085	0.267	1.057	-
Eng/Log Supt - IDECM NAWCAD	WR	NAWCAD : Pax River, MD	3.567	1.630	Dec 2012	-		-		-		-	-	5.197	-
Eng/Log Supt - IDECM	WR	Various : Various	8.367	4.906	Dec 2012	-		-		-		-	-	13.273	-
Eng & Tech Svcs (Non-FFRDC) Pax	SS/CPFF	Various : Various	0.000	0.800	Dec 2012	-		-		-		-	-	0.800	0.800
Eng & Tech Svcs (Non-FFRDC) NRL	SS/CPFF	Alaire Tech : Lorton, VA	0.729	0.258	Dec 2012	-		-		-		-	-	0.987	0.987
Eng & Tech Svcs (Non-FFRDC)	SS/CPFF	Various : Various	1.033	0.700	Dec 2012	-		-		-		-	-	1.733	1.733
Prior Year Mgmt costs no longer funded in FYDP	Various	Various : Various	65.781	-		-		-		-		-	-	65.781	-
<b>Subtotal</b>			80.834	8.730		0.095		0.085		-		0.085	0.267	90.011	-

**Remarks**

Due to the Enterprise Cost Management Framework (ECMF) initiative, beginning in FY 2014 Engineering Support funding and Eng Test & Eval/ Eng & Tech Svcs (Non FFRDC) funding moved from Management Services section to the Support Section and the Test and Evaluation Section to better capture the type of work being performed.

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	428.166	26.923	13.873	11.808	-	11.808	17.230	498.000	-

**Remarks**

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

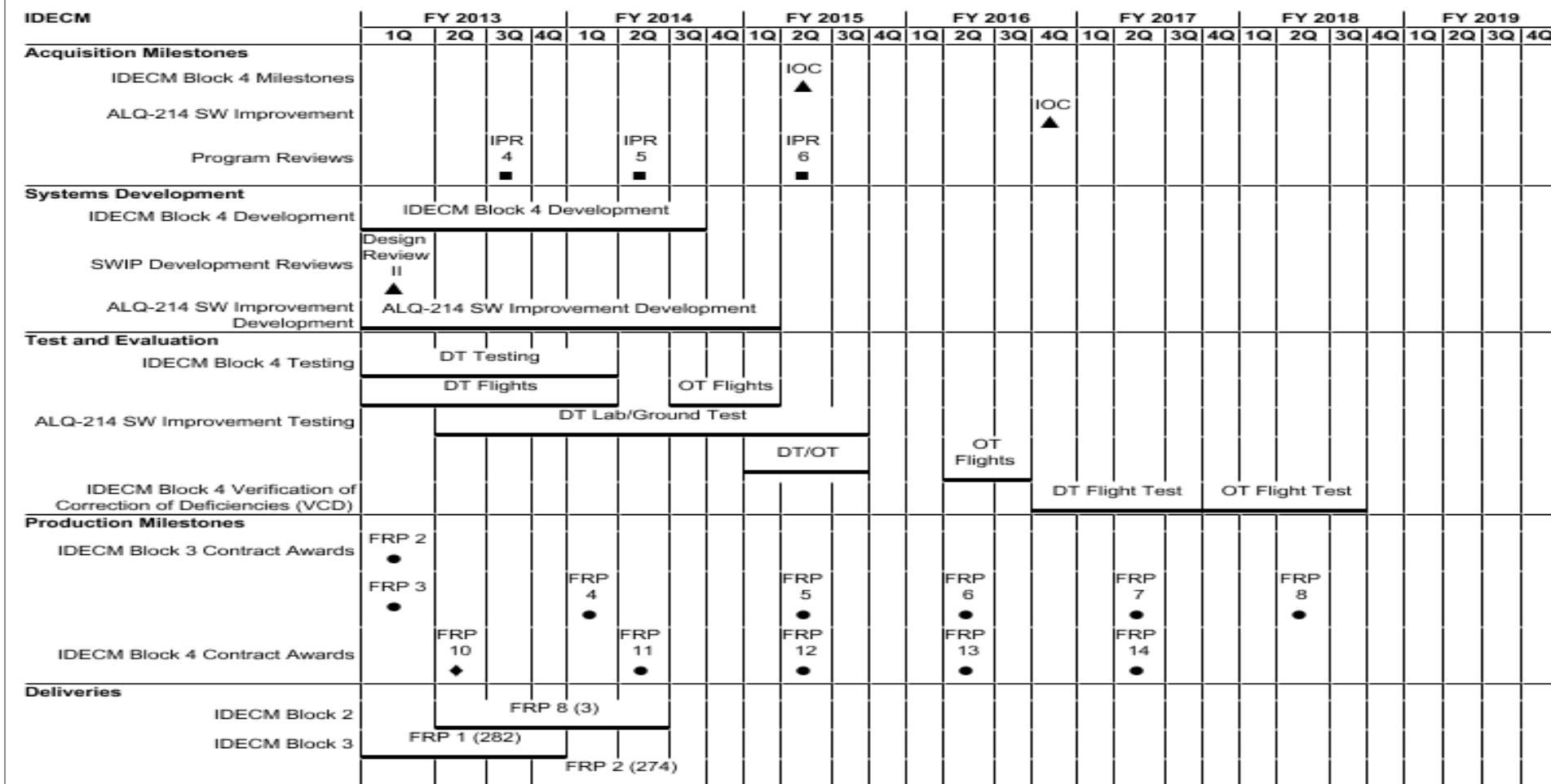
R-1 Program Element (Number/Name)

PE 0604270N / *Electronic Warfare (EW)*

Dev

Project (Number/Name)

2175 / *Tactical Air Electronic Warfare*



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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy										Date: March 2014																																		
Appropriation/Budget Activity										R-1 Program Element (Number/Name)										Project (Number/Name)																								
1319 / 5										PE 0604270N / Electronic Warfare (EW) Dev										2175 / Tactical Air Electronic Warfare																								
IDECM Block 4										FRP 3 (269)																																		
															FRP 4 (262)																													
																				FRP 5 (283)																								
																									FRP 6 (285)																			
																														FRP 7 (289)														
															FRP 9 (7)																				FRP 8 (330)									
																				FRP 10 (17)																								
																									FRP 11 (25)																			
																														FRP 12 (37)														
																																			FRP 13 (50)									
																																								FRP 14 (14)				

2015PB - 0604270N - 2175 IDECM Block 4 is an ECP to Block 2

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604270N / <i>Electronic Warfare (EW)</i> Dev	<b>Project (Number/Name)</b> 2175 / <i>Tactical Air Electronic Warfare</i>	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>IDECM</b>				
Acquisition Milestones: IDECM Block 4 Milestones: IDECM Block 4 IOC	2	2015	2	2015
Acquisition Milestones: ALQ-214 SW Improvement: ALQ-214 SW Improvement (IOC)	4	2016	4	2016
Acquisition Milestones: Program Reviews: IDECM Block 4 In-Process Review (IPR) 4	3	2013	3	2013
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	2	2015	2	2015
Systems Development: IDECM Block 4 Development: IDECM Block 4 Development	1	2013	3	2014
Systems Development: SWIP Development Reviews: ALQ-214 SW Improvement Development Design Review 2	1	2013	1	2013
Systems Development: ALQ-214 SW Improvement Development: ALQ-214 SW Improvement Development	1	2013	1	2015
Test and Evaluation: IDECM Block 4 Testing: IDECM Block 4 Development Testing (DT)	1	2013	1	2014
Test and Evaluation: IDECM Block 4 Testing: IDECM Block 4 Development Testing Flights	1	2013	1	2014
Test and Evaluation: IDECM Block 4 Testing: IDECM Block 4 Operational Testing Flights	3	2014	1	2015
Test and Evaluation: ALQ-214 SW Improvement Testing: ALQ-214 SW Improvement Development Testing (DT) Lab/Ground	2	2013	3	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



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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014			
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW)</i> Dev		Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>			
			Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year		
Test and Evaluation: IDECM Block 4 Verification of Correction of Deficiencies (VCD): IDECM Block 4 Verification of Correction of Deficiencies DT (VCD)	4	2016	3	2017		
Test and Evaluation: IDECM Block 4 Verification of Correction of Deficiencies (VCD): IDECM Block 4 Verification of Correction of Deficiencies OT(VCD)	4	2017	3	2018		
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 2	1	2013	1	2013		
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 3	1	2013	1	2013		
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	2	2015	2	2015		
Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 6	2	2016	2	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 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 10	2	2013	2	2013		
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	2	2015	2	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		
Deliveries: IDECM Block 2: IDECM Block 2 FRP 8 Deliveries (3)	2	2013	2	2014		

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604270N / <i>Electronic Warfare (EW)</i> Dev		Project (Number/Name) 2175 / <i>Tactical Air Electronic Warfare</i>	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
Deliveries: IDECM Block 3: IDECM Block 3 FRP 1 Deliveries (282)		1	2013	4	2013
Deliveries: IDECM Block 3: IDECM Block 3 FRP 2 Deliveries (274)		4	2013	3	2014
Deliveries: IDECM Block 3: IDECM Block 3 FRP 3 Deliveries (269)		3	2014	3	2015
Deliveries: IDECM Block 3: IDECM Block 3 FRP 4 Deliveries (262)		3	2015	3	2016
Deliveries: IDECM Block 3: IDECM Block 3 FRP 5 Deliveries (283)		3	2016	3	2017
Deliveries: IDECM Block 3: IDECM Block 3 FRP 6 Deliveries (285)		3	2017	3	2018
Deliveries: IDECM Block 3: IDECM Block 3 FRP 7 Deliveries (289)		3	2018	3	2019
Deliveries: IDECM Block 3: IDECM Block 3 FRP 8 Deliveries (330)		3	2019	4	2019
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 (37)		2	2017	2	2018
Deliveries: IDECM Block 4: IDECM Block 4 FRP 13 Deliveries (50)		2	2018	2	2019
Deliveries: IDECM Block 4: IDECM Block 4 FRP 14 Deliveries (14)		2	2019	4	2019

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	155.760	46.203	94.235	388.086	-	388.086	582.061	614.600	415.879	276.749	Continuing	Continuing
3300: Presidential Helicopter VXX	155.760	46.203	94.235	388.086	-	388.086	582.061	614.600	415.879	276.749	Continuing	Continuing

**MDAP/MAIS Code:** P429

# The FY 2015 OCO Request will be submitted at a later date.

**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 VXX program is the replacement helicopter for the VH-3D and VH-60N. An Acquisition Strategy has been approved. 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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	61.163	94.238	369.653	-	369.653
Current President's Budget	46.203	94.235	388.086	-	388.086
Total Adjustments	-14.960	-0.003	18.433	-	18.433
• Congressional General Reductions	-	-0.003			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.676	-			
• Program Adjustments	-	-	22.679	-	22.679
• Rate/Misc Adjustments	-0.001	-	-4.246	-	-4.246
• Congressional General Reductions Adjustments	-4.283	-	-	-	-
• Congressional Directed Reductions Adjustments	-10.000	-	-	-	-

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0604273N / (U) <i>Executive Helo Development</i>
<b><u>Change Summary Explanation</u></b> Technical: Not applicable.  Schedule: 1. The VXX acquisition strategy and timelines include MS B in 2Q FY2014 and resulting contract award in 3Q FY2014. 2. Comms, Cockpit, and Adv Cap Engineering was replaced by Hardware Development to reflect the approved acquisition strategy through 3Q FY2014. 3. Engineering and Manufacturing Development (EMD) begins 3Q FY2014 and track through FY2020. 4. Test and Evaluation (Test Planning and Documentation (DT/OT/LFTE)/LFTE events) has been revised to Test Planning and Documentation (DT/OT/LFTE)/T&E/LFTE Events and extended to FY2020 to support EMD phase activities. 5. The Preliminary Design Review is scheduled for 4Q FY2015 and the Critical Design Review is scheduled for 4Q FY2016. 6. 2Q FY2018 details the delivery of EDM aircraft #1 7. 4Q FY2018 details the delivery of EDM aircraft #2 8. 2Q FY2019 - 1Q FY2020 details the deliveries of the System Demonstration Test Article (SDTA) aircraft. 9. MS C scheduled for 2Q FY2019.  Cost: 1. FY2015 budget has revised FY2013 and FY2014 funding allocations within the cost categories to more accurately reflect the efforts directly related to those categories.		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604273N / (U)Executive Helo Development				Project (Number/Name) 3300 / Presidential Helicopter VXX			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3300: Presidential Helicopter VXX	155.760	46.203	94.235	388.086	-	388.086	582.061	614.600	415.879	276.749	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 VXX will replace 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. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
Title: Product Development  Articles:  FY 2013 Accomplishments: Provided Government VXX systems engineering support to accomplish technical activities to include trade studies and risk reduction efforts.  FY 2014 Plans: Funding provided to accomplish technical activities that include engineering support for Mission Communications System technical reviews and fabrication, development/review of documentation for VXX technical and programmatic reviews, source selection activities and EMD contract award and execution tasks.  FY 2015 Plans: Execute 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. 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.										28.587	81.728	375.419
										-	-	-
Title: Test and Evaluation  Articles:  FY 2013 Accomplishments:										2.136	2.562	2.545
										-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy							Date: March 2014				
Appropriation/Budget Activity 1319 / 5			R-1 Program Element (Number/Name) PE 0604273N I (U)Executive Helo Development			Project (Number/Name) 3300 I Presidential Helicopter VXX					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2013	FY 2014	FY 2015		
Supported VXX test and evaluation planning and documentation.											
FY 2014 Plans: Funding provided to support VXX DT/OT/LFT&E test planning and documentation, performing T&E/LFT&E events, development/ review of documentation for VXX technical and programmatic reviews, source selection activities, and EMD contract award and execution tasks.											
FY 2015 Plans: Support of VXX DT/OT/LFT&E test and evaluation planning and documentation. Perform T&E/LFT&E events.											
Title: Program Management and Support							15.480	9.945	10.122		
Articles:							-	-	-		
FY 2013 Accomplishments: Prepared for the Engineering and Manufacturing Development Phase funded activities of the proposed material solutions, including: reducing technology risk, determining and maturing the appropriate set of technologies, and demonstrating technology on prototypes.											
FY 2014 Plans: Funding provided to support program management and logistics tasks for VXX technical and programmatic reviews, development/ review of documentation, source selection activities and EMD contract award and execution tasks.											
FY 2015 Plans: Execute 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.											
Accomplishments/Planned Programs Subtotals							46.203	94.235	388.086		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN/04550: VH-XX Executive Helo	-	-	-	-	-	-	-	-	795.564	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
The Acquisition Strategy has been approved and the pre-Engineering and Manufacturing Development (pre-EMD) Review was successfully completed in March 2013. The MS B review is planned for 2Q FY2014.											

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604273N / (U)Executive Helo Development	Project (Number/Name) 3300 / Presidential Helicopter VXX

E. Performance Metrics

Major Defense Acquisition Program performance metrics will be provided upon program Acquisition Category (ACAT) designation. ACAT designation will occur with the MS B approval.

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

Date: March 2014

Appropriation/Budget Activity

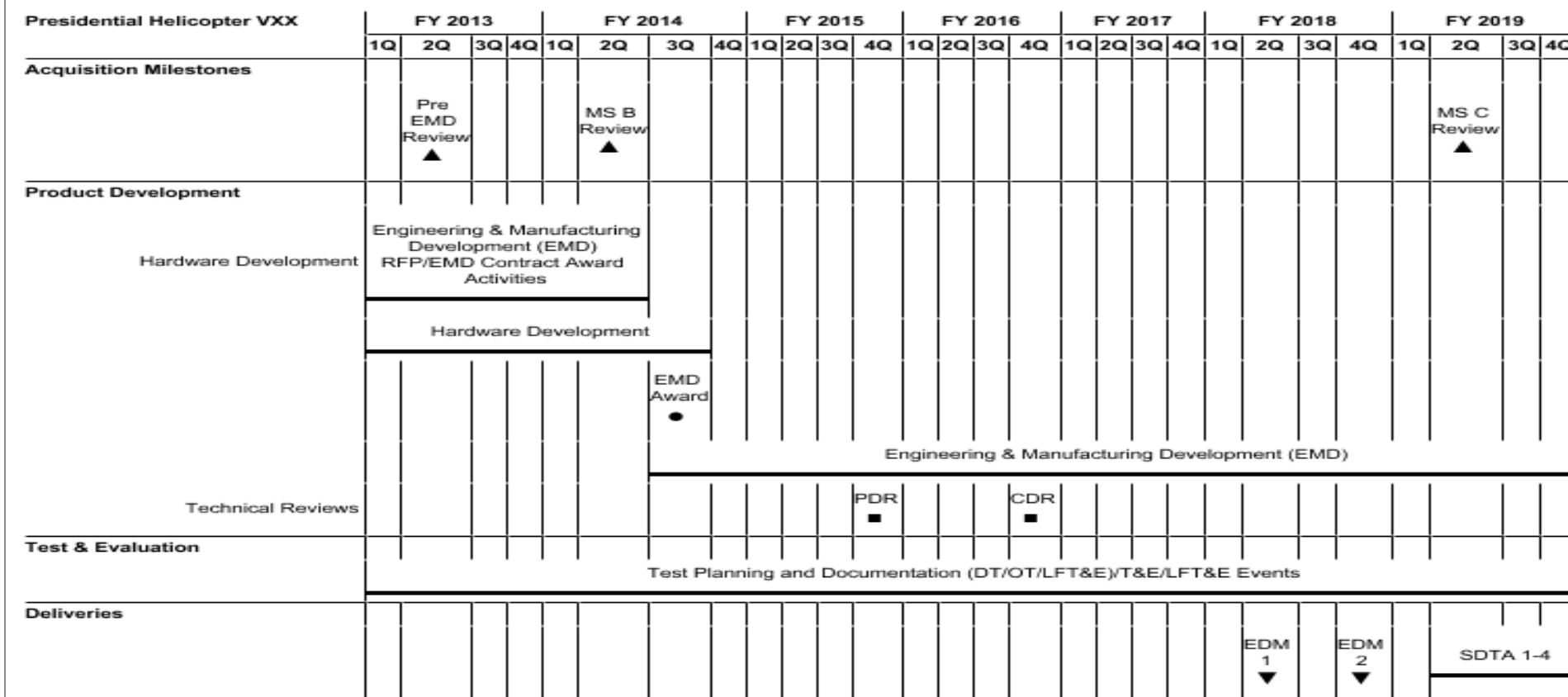
1319 / 5

R-1 Program Element (Number/Name)

PE 0604273N / (U)Executive Helo Development

Project (Number/Name)

3300 / Presidential Helicopter VXX



2015PB - 0604273N - 3300



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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	350.277	153.369	157.796	246.856	-	246.856	471.805	509.078	562.830	328.539	1,263.333	4,043.883
0557: Next Generation Jammer	350.277	153.369	157.796	246.856	-	246.856	453.805	493.078	550.830	303.539	262.629	2,972.179
3380: Next Generation Jammer Inc II	0.000	-	-	-	-	-	18.000	16.000	12.000	25.000	1,000.704	1,071.704
MDAP/MAIS Code: P445												

# The FY 2015 OCO Request will be submitted at a later date.

## A. Mission Description and Budget Item Justification

This project develops new technology in a Next Generation Jammer (NGJ) capability system, with increased electronic radiation power generation to replace the existing ALQ-99 Tactical Jamming System. NGJ is required to keep pace with threat weapons systems advances and continuous expansion of the Airborne Electronic Attack (AEA) mission area. NGJ capabilities will address AEA capability gaps, AEA sufficiency gaps, and address ALQ-99 shortfalls in scalability, flexibility, supportability, interoperability, availability, and capability. NGJ will utilize an adaptable, modular, and open architecture philosophy to combat the increasing capability gap and enable future growth at a reduced operational and sustainment cost.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	187.024	257.796	328.746	-	328.746
Current President's Budget	153.369	157.796	246.856	-	246.856
Total Adjustments	-33.655	-100.000	-81.890	-	-81.890
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-100.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-5.068	-			
• Program Adjustments	-	-	-0.707	-	-0.707
• Rate/Misc Adjustments	0.001	-	-81.183	-	-81.183
• Congressional General Reductions Adjustments	-8.588	-	-	-	-
• Congressional Directed Reductions Adjustments	-20.000	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0604274N / Next Generation Jammer (NGJ)	
<u>Change Summary Explanation</u> Technical: Not applicable.  Schedule: Schedule has shifted by six to nine months due to Technology Development (TD) Award protest. TD Award occurred in 4th Qtr 2013, while protest delayed commencement of the TD period of performance to early 2nd Qtr 2014. Major Milestone Shifts: Milestone B from 3rd Qtr FY15 to 2nd Qtr FY16. Milestone C from 2nd Qtr FY18 to 2nd Qtr FY19.		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0557: Next Generation Jammer	350.277	153.369	157.796	246.856	-	246.856	453.805	493.078	550.830	303.539	262.629	2,972.179
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
This project develops new technology in a Next Generation Jammer (NGJ) capability required to replace the existing ALQ-99 Tactical Jamming System. NGJ is required to keep pace with threat weapons systems advances and continuous expansion of the Airborne Electronic Attack (AEA) mission area. NGJ capabilities will address AEA capability gaps, AEA sufficiency gaps and address ALQ-99 shortfalls in scalability, flexibility, supportability, interoperability, availability, and capability. NGJ will utilize an adaptable, modular, and open architecture philosophy to combat the increasing capability gap and enable future growth at a reduced operational sustainment cost.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
Title: Next Generation Jammer  Articles:  FY 2013 Accomplishments: Completed Technology Maturation efforts and achieved Milestone A decision. Award Technology Development contracts.  FY 2014 Plans: Plans moved to new accomplishment - Next Generation Jammer Primary Hardware Development.  FY 2015 Plans: N/A										152.719	-	-
										-	-	-
Title: Next Generation Jammer Primary Hardware Development  Articles:  FY 2013 Accomplishments: N/A  FY 2014 Plans: Continue Technology Development Efforts in support of Milestone B decision. Perform concept exploration activities necessary to prepare for a NGJ Increment 2 Technology Development phase including technology studies, breadboard/demonstrator development and testing in laboratory and relevant environments.  FY 2015 Plans:										-	43.055	123.691
										-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014	
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 2013	FY 2014	FY 2015
Continue Technology Development phase and continue development of Pod Prime Hardware.				
Title: Capability Development Document (CDD)  FY 2013 Accomplishments: Obtained CDD approval.  FY 2014 Plans: N/A  FY 2015 Plans: N/A		Articles: 0.650 -	- -	- -
Title: Next Generation Jammer Systems Engineering  FY 2013 Accomplishments: N/A  FY 2014 Plans: Perform System Engineering efforts in support of continued Next Generation Jammer Increment 1 development and Increment 2 Concept Exploration.  FY 2015 Plans: Perform System Engineering efforts in support of continued Next Generation Jammer Increment 1 development and Increment 2 Concept Exploration.		Articles: - -	52.273 -	53.405 -
Title: Next Generation Jammer Aircraft Integration  FY 2013 Accomplishments: N/A  FY 2014 Plans: Perform Aircraft/Software Integration efforts to support Next Generation platform integration and meet IOC.  FY 2015 Plans: Perform Aircraft/Software Integration efforts to support Next Generation platform integration and meet IOC.		Articles: - -	57.960 -	65.703 -
Title: Next Generation Jammer Support & Management Services		Articles: - -	4.508 -	4.057 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy							<b>Date:</b> March 2014				
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604274N / <i>Next Generation Jammer (NGJ)</i>			<b>Project (Number/Name)</b> 0557 / <i>Next Generation Jammer</i>				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											
							<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>		
<b><i>FY 2013 Accomplishments:</i></b> N/A											
<b><i>FY 2014 Plans:</i></b> Provide Support and Management Services associated with the Next Generation Jammer Program.											
<b><i>FY 2015 Plans:</i></b> Provide Support and Management Services associated with the Next Generation Jammer Program.											
<b>Accomplishments/Planned Programs Subtotals</b>							153.369	157.796	246.856		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• MCN/00620258: <i>Next Generation Jammer</i>	-	-	-	-	-	4.400	-	-	-	-	4.400
• APN/0591: <i>Next Generation Jammer</i>	-	-	-	-	-	-	6.174	218.046	462.289	3,328.979	4,015.488
• APN/0605: <i>Spares and Repair Parts</i>	-	-	-	-	-	-	-	28.735	36.385	274.100	339.220
<b>Remarks</b>											
<b>D. Acquisition Strategy</b> Next Generation Jammer is designated a Pre-Major Defense Acquisition Program (MDAP), with Pre-MDAP Program Number 445, and activity will focus on technology development strategies in preparation for Milestone B in FY16.											
<b>E. Performance Metrics</b> To obtain sufficient technology demonstration to obtain favorable Milestone B decisions for continued program development.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development- Technology Development/Engineering Manufacturing Development	C/CPIF	Raytheon : El segundo, CA	0.000	60.000	Jul 2013	43.055	Mar 2014	123.691	Nov 2014	-		123.691	1,110.565	1,337.311	1,337.311
Primary Hardware Development- Technology Maturation	C/CPFF	ITT : Clifton, NJ	61.199	1.475	Dec 2012	-		-		-		-	-	62.674	62.674
Primary Hardware Development- Technology Maturation	C/CPFF	BAE : Nashua, NH	62.345	-		-		-		-		-	-	62.345	62.345
Primary Hardware Development- Technology Maturation	C/CPFF	Raytheon : El Segundo, CA	60.687	2.600	Dec 2012	-		-		-		-	-	63.287	63.287
Primary Hardware Development- Technology Maturation	C/CPFF	Northrop Grumman : Bethpage, NY	60.676	1.521	Dec 2012	-		-		-		-	-	62.197	62.197
Primary Hardware Development	SS/CPFF	Northrop Grumman Space & Mission Systems Corp. : Herndon, VA	1.765	-		-		-		-		-	-	1.765	1.765
Systems Engineering	WR	NAWCAD : Patuxent River, MD	28.689	15.638	Dec 2012	19.380	Nov 2013	19.649	Nov 2014	-		19.649	236.605	319.961	-
Systems Engineering	WR	NAWCWD : Pt. Mugu, CA	13.427	13.210	Dec 2012	11.837	Nov 2013	12.002	Nov 2014	-		12.002	143.724	194.200	-
Systems Engineering	WR	NSWC Crane : Crane, IN	12.291	4.381	Dec 2012	6.000	Nov 2013	6.224	Nov 2014	-		6.224	76.639	105.535	-
Systems Engineering	WR	NSWC Dahlgren : Dahlgren, VA	1.097	0.846	Dec 2012	0.870	Nov 2013	0.903	Nov 2014	-		0.903	14.163	17.879	-
Systems Engineering	SS/CPFF	Johns Hopkins University Applied Physics Lab : Laurel, MD	10.238	3.455	Aug 2013	5.930	Nov 2013	6.108	Nov 2014	-		6.108	20.526	46.257	46.257

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	Naval Research Laboratory : Washington, DC	0.729	0.775	Dec 2012	0.803	Nov 2013	0.842	Nov 2014	-		0.842	5.158	8.307	-
Systems Engineering	Various	Various : Various	9.349	6.004	Apr 2013	7.453	Nov 2013	7.677	Nov 2014	-		7.677	34.601	65.084	-
Aircraft Integration	WR	NAWCWD : China Lake, CA	3.624	3.168	Dec 2012	14.824	Nov 2013	25.194	Nov 2014	-		25.194	138.397	185.207	-
Aircraft Integration- Loads Aircraft	Various	The Boeing Company : St. Louis, MO	0.000	10.343	May 2013	7.990	Dec 2013	4.080	Dec 2014	-		4.080	-	22.413	22.413
Aircraft Integration	SS/FFP	Harris Corporation : Palm Bay, FL	4.609	6.099	Mar 2013	-		-		-		-	-	10.708	10.708
Aircraft Integration	TBD	The Boeing Company : St. Louis, MO	0.000	10.000	Jul 2013	13.846	Dec 2013	19.754	Dec 2014	-		19.754	120.200	163.800	163.800
Software Integration- Systems Integration Lab	SS/FFP	Northrop Grumman : Bethpage, NY	1.682	8.094	Aug 2013	12.900	Jul 2014	4.475	Jul 2015	-		4.475	15.600	42.751	42.751
Software Integration	TBD	NAWCWD : Pt. Mugu, CA	0.000	-		8.400	Dec 2013	12.200	Dec 2014	-		12.200	132.300	152.900	-
SBIR Assessment	SS/FFP	Various : Various	1.995	-		-		-		-		-	-	1.995	1.995
Subtotal			334.402	147.609		153.288		242.799		-		242.799	2,048.478	2,926.576	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Eng& Tech Svc (Non FFRDC)	SS/FFP	NSMA : Arlington, VA	4.255	0.430	Sep 2013	0.400	Jun 2014	0.350	Jun 2015	-		0.350	-	5.435	5.435
Eng& Tech Svc (Non FFRDC)	Various	Various : Various	6.429	2.229	Dec 2012	1.993	Dec 2013	1.803	Dec 2014	-		1.803	9.847	22.301	22.301
Studies & Analysis (Non- FFRDC)	SS/CPFF	Mantech Systems Engineering Corp. : Fairfax, VA	1.571	0.750	Dec 2012	0.582	Dec 2013	-		-		-	-	2.903	2.903

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604274N / Next Generation Jammer (NGJ)				Project (Number/Name) 0557 / Next Generation Jammer					
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Analysis (Non-FFRDC)	Various	Various : Various	3.153	2.070	Nov 2012	1.281	Dec 2013	1.677	Nov 2014	-		1.677	4.323	12.504	12.504
Subtotal			15.408	5.479		4.256		3.830		-		3.830	14.170	43.143	43.143
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	Various : Various	0.400	0.206	Dec 2012	0.185	Dec 2013	0.167	Dec 2014	-		0.167	0.933	1.891	-
Travel	WR	Various : Various	0.067	0.075	Dec 2012	0.067	Oct 2013	0.060	Oct 2014	-		0.060	0.300	0.569	-
Subtotal			0.467	0.281		0.252		0.227		-		0.227	1.233	2.460	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			350.277	153.369		157.796		246.856		-		246.856	2,063.881	2,972.179	-
Remarks															



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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**

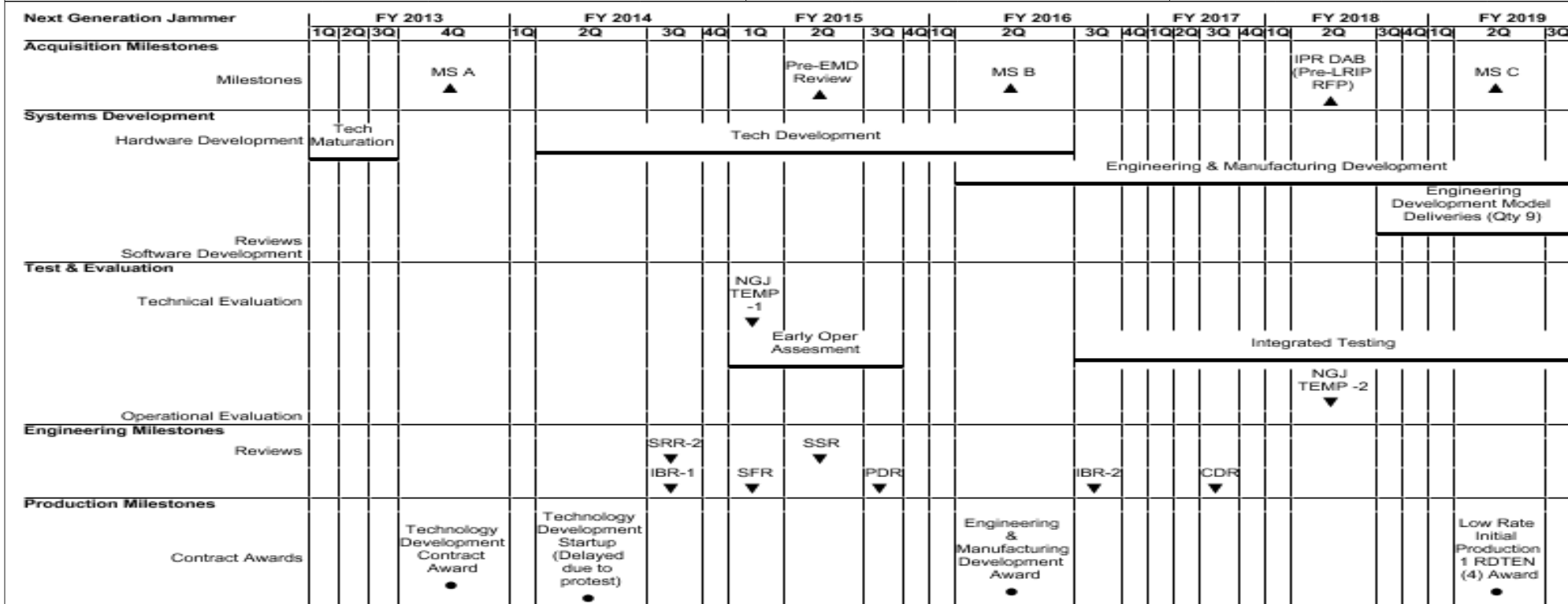
1319 / 5

**R-1 Program Element (Number/Name)**

PE 0604274N / Next Generation Jammer (NGJ)

**Project (Number/Name)**

0557 / Next Generation Jammer



2015PB - 0604274N - 0557

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
1319 / 5	PE 0604274N / Next Generation Jammer (NGJ)	0557 / Next Generation Jammer

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604274N / <i>Next Generation Jammer</i> (NGJ)	<b>Project (Number/Name)</b> 0557 / <i>Next Generation Jammer</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>Next Generation Jammer</i></b>				
Acquisition Milestones: Milestones: Milestone A	4	2013	4	2013
Acquisition Milestones: Milestones: Milestone B	2	2016	2	2016
Acquisition Milestones: Milestones: IPR DAB 2-LRIP Pre-RFP Release	2	2018	2	2018
Acquisition Milestones: Milestones: Milestone C	2	2019	2	2019
Acquisition Milestones: Milestones: Pre-EMD Review	2	2015	2	2015
Systems Development: Hardware Development: Technology Maturation	1	2013	3	2013
Systems Development: Hardware Development: Technology Development	2	2014	2	2016
Systems Development: Hardware Development: Engineering & Manufacturing Development	2	2016	4	2019
Systems Development: Hardware Development: Engineering Development Model Deliveries	3	2018	3	2019
Test & Evaluation: Technical Evaluation: NGJ Test & Evaluation Master Plan -1	1	2015	1	2015
Test & Evaluation: Technical Evaluation: Early Operational Assesment	1	2015	3	2015
Test & Evaluation: Technical Evaluation: Integrated Testing	3	2016	3	2019
Test & Evaluation: Technical Evaluation: NGJ Test & Evaluation Master Plan -2	2	2018	2	2018
Engineering Milestones: Reviews: Software Specification Review	2	2015	2	2015
Engineering Milestones: Reviews: System Readiness Review-2	3	2014	3	2014
Engineering Milestones: Reviews: Integrated Baseline Review-1	3	2014	3	2014
Engineering Milestones: Reviews: System Functional Review	1	2015	1	2015
Engineering Milestones: Reviews: Preliminary Design Review	3	2015	3	2015
Engineering Milestones: Reviews: Integrated Baseline Review-2	3	2016	3	2016
Engineering Milestones: Reviews: Critical Design Review	3	2017	3	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014		
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
Production Milestones: Contract Awards: Technology Development Contract Award		4	2013	4	2013
Production Milestones: Contract Awards: Technology Development Startup		2	2014	2	2014
Production Milestones: Contract Awards: Engineering & Manufacturing Development Contract Award		2	2016	2	2016
Production Milestones: Contract Awards: Low Rate Initial Production 1 RDTEN Contract Award		2	2019	2	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3380: Next Generation Jammer Inc II	-	-	-	-	-	-	18.000	16.000	12.000	25.000	1,000.704	1,071.704
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
The NGJ Increment 2 (Inc 2) Development Project Unit addresses the mission need for a robust 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 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". This incremental developmental approach allows for the development and fielding of the most critical capability first, with further capabilities (e.g. Inc 2 and Inc 3) incrementally developed and fielded in order of priority.												
B. Accomplishments/Planned Programs (\$ in Millions)												
N/A												
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.												
E. Performance Metrics												
Utilize studies and prototyping efforts to obtain sufficient information to develop system requirements prior to Milestone A and initiation of the Technology Development phase.												

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PE 0604274N: *Next Generation Jammer (NGJ)*  
Navy

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**R-1 Program Element (Number/Name)**  
PE 0604274N / *Next Generation Jammer (NGJ)*

3380 / Next Generation Jammer Inc II

(NGJ)

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2015PB - 0604274N - 3380

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604274N / <i>Next Generation Jammer (NGJ)</i>	<b>Project (Number/Name)</b> 3380 / <i>Next Generation Jammer Inc II</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Next Generation Jammer Inc 2</i></b>				
Acquisition Milestones: Milestone A	3	2019	3	2019
Contracting Milestones: Concept Exploration Activity (CEA) Award	2	2016	2	2016
Contracting Milestones: Concept Exploration Activity (CEA)	2	2016	3	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604280N / JT Tact Radio Sys (JTRS)							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	3,891.252	197.819	3.259	7.106	-	7.106	6.183	1.732	-	-	-	4,107.351
3020: MIDS/JTRS	511.399	41.658	-	-	-	-	-	-	-	-	-	553.057
3073: AMF JTRS	1,445.995	8.946	3.259	-	-	-	-	-	-	-	-	1,458.200
3075: HMS JTRS	772.767	86.766	-	-	-	-	-	-	-	-	-	859.533
3076: JTRS Network Enterprise Domain (JNED)	1,156.704	56.983	-	-	-	-	-	-	-	-	-	1,213.687
3078: Digital Modular Radio	4.387	3.466	-	7.106	-	7.106	6.183	1.732	-	-	-	22.874
MDAP/MAIS Code: Other MDAP/MAIS Code(s): 554, 421, 385, 284												
# The FY 2015 OCO Request will be submitted at a later date.												
Note In FY13, Program Element (PE) 0604280N represents the total JTRS RDT&E Budget (includes Multifunctional Information Distribution System (MIDS), Airborne and Maritime/Fixed Station (AMF) JTRS, Handheld/Manpack/Small Form Fit (HMS) JTRS, and JTRS Network Enterprise Domain (JNED) and Digital Modular Radios (DMR)).  In FY14-19, Program Element (PE) 0604280N no longer includes funding associated with the JTRS Programs. In accordance with the Acquisition Decision Memorandum (ADM) dated 11 July 2012, the JTRS Programs of Record (PORs) transitioned to a Military Department-managed program. AMF JTRS and HMS JTRS transitioned to the Army and can be found under PE 0604280A and MIDS transitioned to the Navy under PE 0205604N. The Joint Tactical Networks (JTN) (formally known as JNED) continues to remain under a joint budget strategy in the three Services in the Army PE 0605030A, the Navy PE 0605030N, and the Air Force PE 0605030F.												
A. Mission Description and Budget Item Justification Digital Modular Radio (DMR) is the Navy's technical solution for Mobile User Objective System (MUOS). In the prior years, funds previously identified for JTRS AMF were realigned to support the development of the DMR MUOS. The DMR AN/USC-61(C), is the first software defined radio to 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.												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		PE 0604280N / JT Tact Radio Sys (JTRS)			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	337.480	3.302	-	-	-
Current President's Budget	197.819	3.259	7.106	-	7.106
Total Adjustments	-139.661	-0.043	7.106	-	7.106
• Congressional General Reductions	-	-0.043			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-50.000	-			
• SBIR/STTR Transfer	-7.633	-			
• Rate/Misc Adjustments	-0.002	-	7.106	-	7.106
• Congressional Recision Adjustments	-11.500	-	-	-	-
• Congressional General Reductions	-0.526	-	-	-	-
Adjustments					
• Congressional Directed Reductions	-70.000	-	-	-	-
Adjustments					
 <b>Change Summary Explanation</b>					
Digital Modular Radio (DMR) realigned OPN to RDTE for Mobile User Objective System (MUOS) in FY15.					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604280N / JT Tact Radio Sys (JTRS)				Project (Number/Name) 3020 / MIDS/JTRS			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3020: MIDS/JTRS	511.399	41.658	-	-	-	-	-	-	-	-	-	553.057
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 554												
# The FY 2015 OCO Request will be submitted at a later date.												
<b>Note</b> In FY12-FY13, Project No. 3020 represents the total Multifunctional Information Distribution System (MIDS) RDT&E budget for those years. All references to MIDS funding includes funding for both MIDS-LVT and MIDS JTRS.  In FY14-19, Program Element (PE) 0604280N no longer includes funding associated with the JTRS Programs. In accordance with the ADM dated 11 July 2012, the JTRS Programs of Record (PORs) transitioned to a Military Department-managed program. MIDS transitioned to the Navy under PE 0205604N.												
<b>A. Mission Description and Budget Item Justification</b> JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 Megahertz (MHz) to 2 Gigahertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS products are hardware-configurable and software-programmable radio systems that provide increased interoperability, flexibility and adaptability to support varied mission requirements.  MIDS-Low Volume Terminal (LVT) is a jam-resistant, secure, digital (voice and data) information distribution system enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The technical objective of the MIDS JTRS program is to transform the MIDS-LVT into a four-channel, Software Communications Architecture (SCA) compliant JTRS, while maintaining current Link-16 and tactical air navigation system (TACAN) functionality. MIDS JTRS is designed to be plug-and-play interchangeable for U.S. Navy and U.S. Air Force platforms that use MIDS-LVT, while accommodating future technologies and capabilities. Improvements such as Link-16 frequency remapping and programmable crypto are also realized in the MIDS JTRS design. The MIDS JTRS core terminal includes three 2 MHz to 2 GHz programmable channels that allow the warfighter to use multiple waveforms in development by JNED. Total core terminal program requirements include: terminal development, F/A-18 Level 0 integration, software hosting (operating environment/waveforms) and production transition. MIDS JTRS will also provide Concurrent Multi-Netting-4 (CMN-4) and Tactical Targeting Network Technology (TTNT). CMN-4 consists of two capabilities, Concurrent Multi-Netting (CMN) and Concurrent Contention Reception (CCR). CMN is the ability of a Link 16 Terminal to receive multiple messages, each in different Link 16 nets, within the same Link 16 time slot. CCR is the ability of a Link 16 Terminal to receive multiple messages in the same Link 16 net within the same Link 16 time slots. These capabilities provide Joint Airborne Network-Tactical Edge (JAN-TE) functionality to run advanced mission applications in a cross-platform/cross-domain tactical network enterprise and the ability to simultaneously participate in four Link-16 Nets.												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy							Date: March 2014				
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604280N / JT Tact Radio Sys (JTRS)			Project (Number/Name) 3020 / MIDS/JTRS				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>		
<b>Title:</b> MIDS/JTRS							41.658	-	-		
<b>Articles:</b>							-	-	-		
<b>FY 2013 Accomplishments:</b> Delivered MIDS JTRS Crypto Modernization (CM) capability. Awarded the development, design and implementation of four (4) nets Concurrent Multi-Netting with Concurrent Contention Receive (CCR) for MIDS JTRS. Began specification development/technical analysis for Tactical Targeting Network Technology (TTNT) for MIDS JTRS Naval Integrated Fire Control Counter Air (NIFC-CA) and From the Air Advanced Tactical Data Links (FTA ATDL). Assumed responsibility of the TTNT waveform development. Continued on Block Upgrade 2 (BU2) development to include Frequency Remapping (FR), a required Department of Transportation (DOT) mandate to enable the continued use of MIDS Link-16 to remap at least 14 of its 51 data transmission and receipt time slots to frequencies which do not interfere with current and planned Federal Aviation Administration (FAA) safety of flight systems. Began development of Enhanced Throughput (ET) capabilities for MIDS-LVT under BU2. Continued MIDS systems engineering, COMSEC, IA and program management support.											
<b>FY 2014 Plans:</b> In FY14, Program Element (PE) 0604280N no longer includes funding associated with the JTRS Programs. In accordance with the ADM dated 11 July 2012, the JTRS Program of Records (PORs) transitioned to a Military Department-managed program. MIDS transitioned to the Navy under PE 0205604N.											
<b>FY 2015 Plans:</b> N/A											
<b>Accomplishments/Planned Programs Subtotals</b>							41.658	-	-		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• APN/0143: EA-18G	8.401	-	-	-	-	-	-	-	-	-	32.208
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
MIDS JTRS development was initiated as a major modification to the MIDS-LVT using an Engineering Change Proposal to the existing production contracts. Development efforts included the Phase 2B Core terminal. The U.S. prime contractors from the MIDS-LVT program, Data Link Solutions (DLS) and ViaSat Inc., cooperatively designed and developed the Core terminal. Each prime contractor built and qualified Production Verification Terminals. The U.S. implemented a continuous competition strategy between DLS and ViaSat that will be maintained throughout the MIDS JTRS production phase. This strategy was successfully used on MIDS-LVT production. The FY14 budget supports development and implementation of Crypto Modernization, Frequency Remapping, and Enhanced Throughput											

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604280N / JT Tact Radio Sys (JTRS)	Project (Number/Name) 3020 / MIDS/JTRS
capabilities for the MIDS-LVT terminal as well as the initial development to incorporate Concurrent Multi-Netting-4 (CMN-4) and Tactical Targeting Network Technology (TTNT) into MIDS JTRS. MIDS JTRS also takes over the responsibility of developing the TTNT waveform.		
<b>E. Performance Metrics</b> <p>The JTRS programs are employing mature, software-defined radio technologies and developing more than 10 million lines of code as part of the Increment 1 baseline. Early on, a JTRS enterprise software metrics requirements effort established a baseline of standard software metrics which are monitored on each JTRS contract involving software development. Example metrics are: the number of requirements and the number of use cases required for design are estimated during the requirement and design phase and analyzed for trend-actual vs. scheduled; the software lines of code (SLOC) counts are used to determine progress during the coding phase; and the execution of test cases as well as trouble reports are monitored during the integration and test phase. Further, a software complexity product metric is collected which demonstrates the testability of the code and is an important criterion for software certification. These software metrics are used to quantify the quality and progress of each software product's development over time. Additionally, MIDS employs Earned Value Metrics to monitor contract performance on its Prime Development Contracts, as required.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3073: AMF JTRS	1,445.995	8.946	3.259	-	-	-	-	-	-	-	-	1,458.200
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 421												
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
In FY13, Project No. 3073 represents the total Airborne Maritime/Fixed Station Joint Tactical Radio Systems (AMF JTRS) RDTE budget for those years. In FY14, RDTE funding for AMF JTRS transitions to Army Program Element (PE) 605380A.												
In FY13-FY14, Project No. 3073 includes funding associated with system and shipboard integration planning/design and OPEVAL planning and coordination of Mobile User Objective Systems (MUOS) terminals on Navy platforms and shore locations.												
In FY15, the Digital Modular Radio (DMR) program, funded here under Project 3073, is transitioning to Project 3078.												
A. Mission Description and Budget Item Justification												
The Airborne and Maritime/Fixed Station Joint Tactical Radio System (AMF JTRS) radios are software programmable, multi-band, multi-mode, mobile ad hoc networking radios, providing simultaneous voice, data, and video communications. The radios will operate in networks supporting the Common Operational Picture, situational awareness, and interoperability of Mission Command (MC) systems throughout the battlefield. AMF JTRS must ensure the Warfighter's ability to communicate both horizontally and vertically via voice and data within all mission areas and Combat Operational Environments. AMF JTRS helps close capability gaps by extending data networking to company and below echelons, enabling network services to the platform and connecting Army Aviation platforms to Army ground and Joint air network domains. Per Milestone Decision Authority (MDA) direction, the redefined AMF JTRS Program will procure radios as Non-Developmental Items (NDI).												
AMF JTRS will operate networking waveforms and select waveforms that are widely deployed by Joint Forces today, enable interoperability between different types of platforms, and transport operational and MC information through the tactical network to joint network member nodes. The system will also reach back to access Global Information Grid (GIG) services, where required. The need for interoperable systems, including common waveforms, software applications, and network operations is critical to the mobile tactical network capability. AMF JTRS is relevant to the Joint Functional Concept (Net-Centric Environment), Joint Integrating Concept (Net-Centric Operational Environment), Joint Operating Concept (Major Combat Operations, Stability Operations), and JTRS Concept of Operations (Tactical Wireless Joint Networks). AMF JTRS shall support and enhance three principal Warfighter outcomes: Information Superiority, Joint Force Interoperability, and Networking.												
Digital Modular Radio (DMR) is the Navy's technical solution for Mobile User Objective System (MUOS). Funds previously identified for JTRS AMF were realigned to support the development of DMR MUOS. 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												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604280N / JT Tact Radio Sys (JTRS)	Project (Number/Name) 3073 / AMF JTRS		
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 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 2013	FY 2014	FY 2015
<b>Title:</b> AMF JTRS  <b>Articles:</b>			8.218	-	-
			-	-	-
<b>FY 2013 Accomplishments:</b> Continued development and issue of Request for Proposals (RFP). Completed market research. Continued preparation of contract documents, as well as Source Selection for Link 16 and a networking waveform capability in Army Aviation platforms (e.g. Apache, Black Hawk, and Chinook). Set up government lab facilities and equipment to support Source Selection. Fund external agencies (e.g., Army Test and Evaluation Command [ATEC], Joint Interoperability Test Command [JITC], and Training and Doctrine Command [TRADOC]) to support program test & evaluation and requirements efforts. Complete closeout of current SDD Prime contract.					
<b>FY 2014 Plans:</b> The FY14 plan is contained in Army PE 0605380A.					
<b>FY 2015 Plans:</b> N/A					
<b>Title:</b> DMR Mobile Users Objective System (MUOS)  <b>Articles:</b>			0.728	3.259	-
			-	-	-
<b>Description:</b> Formerly included in JTRS AMF for Navy integration and porting efforts.					
<b>FY 2013 Accomplishments:</b> Researched a technical solution for the Navy's MUOS requirement.					
<b>FY 2014 Plans:</b> Development efforts on the technical solution for Navy's MUOS requirement including integration and porting the MUOS waveform into the DMR. Complete HFDAG development, testing, and evaluation efforts.					
<b>FY 2015 Plans:</b>					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
N/A												
Accomplishments/Planned Programs Subtotals										8.946	3.259	-
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• RDTEA/0605380A: AMF JTRS	-	33.219	7.000	-	7.000	12.536	-	-	-	-	52.755	
• OPA/B90110: JTRS (AMF)	-	-	-	-	-	15.536	18.600	19.000	20.000	-	73.136	
Remarks												
D. Acquisition Strategy												
AMF JTRS underwent a program restructure in accordance with Milestone Decision Authority (MDA) direction. The program is revising its material solution strategy to leverage commercially available Non-Developmental Item (NDI) tactical radios in order to rapidly deliver AMF JTRS capabilities to the warfighter. The strategy will support a concept in which NDI radios can be selected from the vendor base and tailored to platform needs. The current strategy is to procure two variations of NDI radios for Airborne platforms. Maritime/Fixed Station sites will not be part of the revised procurement.												
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.												



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604280N / JT Tact Radio Sys (JTRS)				Project (Number/Name) 3075 / HMS JTRS			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3075: HMS JTRS	772.767	86.766	-	-	-	-	-	-	-	-	-	859.533
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 385												
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
In FY14-19, Program Element (PE) 0604280N no longer includes funding associated with the JTRS Programs. In accordance with the Acquisition Decision Memorandum (ADM) dated 11 July 2012, the JTRS Program of Records (PORs) transitioned to a Military Department-managed program. Handheld/Manpack/Small Form Fit (HMS) JTRS is now associated with Program Executive Office Command, Control and Communications-Tactical (PEO C3T) under Project Manager Tactical Radios (PM TR) PE 0604280A.												
A. Mission Description and Budget Item Justification												
JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for JointVision 2020. The JTRS products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 Megahertz (MHz) to 2 Gigahertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS products are hardware-configurable and software-programmable radio systems that provide increased interoperability, flexibility and adaptability to support varied mission requirements.												
HMS provides the capability to meet Joint Ground Mounted, Dismounted & Embedded Radio Requirements. Increment 1, Phase 1 developed Small-Form-Fit (SFF) SFF-A, SFF-D and AN/PRC-154 Rifleman Radio running Soldier Radio Waveform (SRW) for use in a sensitive but unclassified environment (Type 2). Increment 1, Phase 2 will develop the 2 Channel Manpack and SFF-B. Phase 2 radios are all Type 1 compliant for use in a classified environment running Satellite Communications (SATCOM), Soldier Radio Waveform (SRW), Mobile User Objective System (MUOS), and Single Channel Ground to Air Radio System (SINCGARS) waveforms.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: HMS JTRS									86.766	-	-	
									Articles: -	-	-	
FY 2013 Accomplishments:												
Participated in Phase 2 Customer Test Event for Manpack radio; Participated in a Customer Test event for the AN/PRC154 and AN/PRC154A; Continued to redesign of SFF-B capabilities; Tested redesigned SFF-B in a radio-specific development test and combined vendor development test; Continued MUOS porting and testing activities to include Public Key Information (PKI) updates on the Manpack; Participated in multiple MUOS Risk Reduction test events with the satellite system; Completed SFF-B												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604280N / JT Tact Radio Sys (JTRS)				Project (Number/Name) 3075 / HMS JTRS				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
CDT and all related development efforts; Obtained Information; Assurance certification for the SFF-B; Began work on additional software capabilities including over the air management and the Wideband Networking Waveform (WNW); Provided technical and engineering support for development efforts.												
FY 2014 Plans: In FY14-19, Program Element (PE) 0604280N no longer includes funding associated with the JTRS Programs. In accordance with the ADM dated 11 July 2012, the JTRS Programs of Record (PORs) transitioned to a Military Department-managed program. HMS JTRS transitioned to the Army and can be found under PE 0604280A.												
FY 2015 Plans: N/A												
Accomplishments/Planned Programs Subtotals										86.766	-	-
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN/3057: COMMUNICATION ITEMS UNDER \$5M	3.300	-	-	-	-	-	-	-	-	-	3.300	
• RDTEA/0604280A: HMS JTRS	-	31.826	6.523	-	6.523	4.615	-	-	-	-	42.964	
Remarks												
D. Acquisition Strategy												
This project supports completion of the HMS Engineering and Manufacturing Development phase efforts and execution of the HMS acquisition strategy to procure modified non-developmental items (NDI) through full and open competition open to all potential industry partners. The HMS Program received Milestone (MS) C approval on 17 June 2011. The HMS modified NDI acquisition strategy will deliver NSA certified capabilities. Following full and open competition, qualified NDI Rifleman and Manpack radios will require operationally-relevant testing to inform a FRP decision and to support fielding to Capability Set (CS) units. The contract will be Firm Fixed Price (FFP). The minimum set of waveforms to be supported on the HMS Manpack include: SATCOM, SRW, MUOS, and SINCGARS waveforms.												
E. Performance Metrics												
HMS employs mature, software-defined radio technology. JTRS enterprise software metrics requirements established a baseline of standard software metrics which are monitored on the HMS contract. Further, a software complexity product metric is collected which demonstrates the testability of the code and is an important criterion for software certification. These software metrics are used to quantify the quality and progress of each software product's development over time. Additionally, HMS employs Earned Value Metrics to monitor contract performance on the Prime Development Contract.												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604280N / JT Tact Radio Sys (JTRS)				Project (Number/Name) 3076 / JTRS Network Enterprise Domain (JNED)			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3076: JTRS Network Enterprise Domain (JNED)	1,156.704	56.983	-	-	-	-	-	-	-	-	-	1,213.687
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 284												
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
In FY 2013 and Prior Years, Project No. 3076 represents the total Joint Tactical Radio System Network Enterprise Domain (JNED) RDT&E budget.												
In FY 2014 funding resides in PE 0605030A represents the total Joint Tactical Networking Center (JTNC) Budget (formally known as JNED).												
In FY15-19, Program Element (PE) 0604280N no longer includes funding associated with the JTRS Programs. In accordance with the ADM dated 11 July 2012, the JTRS Programs of Record (PORs) transitioned to Military Department-managed programs. The continuing Joint Tactical Networking Center (JTNC) (formally known as JNED) will remain under a joint budget strategy in the three Services in PEs (Army PE 0605030A, the Navy PE 0605030N, and the Air Force PE 0605030F). As part of the JTRS joint program budget strategy, each Military Department (MILDEP) budgets for approximately one-third of the total program RDT&E funds. Prior to the year of execution, the funding is consolidated in the Army PE.												
The Joint Tactical Networking Center (JTNC) provides the DoD centralized management, development and sustainment of joint waveform and network management applications.												
A. Mission Description and Budget Item Justification												
Joint Tactical Networking Center (JTNC) will provide interoperable, secure Joint Tactical Networking applications capable of operating in a variety of radio solutions to maintain and sustain an affordable, government-controlled open architecture, in support of Combatant Commanders', Services' and Coalition mission network requirements.												
JTN is responsible for the continuous development, delivery, and maintenance of networking waveforms and modified legacy radio waveforms that are Software Communications Architecture (SCA) compliant. SCA compliant waveforms enable interoperability and support Net-Centric operational warfare at sea, air and on the ground. Networking waveforms extend the Global Information Grid (GIG) to the first tactical mile and to the warfighter.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Mobile User Objective System (MUOS)									6.317	-	-	
									Articles: -	-	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604280N / JT Tact Radio Sys (JTRS)	Project (Number/Name) 3076 / JTRS Network Enterprise Domain (JNED)		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
<p><b>Description:</b> Mobile User Objective System (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. MUOS offers secure streaming video, netted communications, and voice/data in real time to provide essential connectivity. The JTN program will modify this waveform, making it compatible and certifiable with DoD security requirements while enabling porting to tactical radio sets. MUOS is currently being ported by 7 vendors on 7 different platforms.</p> <p><b>FY 2013 Accomplishments:</b> Completed development of MUOS v3.1 in 1Q FY13. Began Software In Service Support for the MUOS waveform.</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b> N/A</p>				
<p><b>Title:</b> Soldier Radio Waveform (SRW)</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Soldier Radio Waveform (SRW) will operate on tactical radio sets to provide a networked battlefield communications capability for power disadvantaged users engaged in land combat operations and will support voice, data, and video communications on the immediate battlefield. These forces include vehicles, rotary wing, dismounted soldiers, munitions, sensors, and unmanned air vehicles (UAV). Functional software applications will use SRW enabled JTR sets over Internet Protocol (IP) capable networks and sub-networks. SRW will be interoperable with higher throughput, IP-based network waveforms, such as Wideband Networking Waveform. As applicable, these IP-based networking waveforms will enable information exchanges through the GIG to the soldier and provide entirely new capabilities for battlefield communications and information sharing. SRW is currently ported on 19 different platforms with 11 different vendors.</p> <p><b>FY 2013 Accomplishments:</b> Continued Software In Service Support for the SRW waveform.</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b> N/A</p>		7.147 -	- -	- -
<p><b>Title:</b> JTRS Enterprise Network Manager (JENM)</p> <p style="text-align: right;"><b>Articles:</b></p>		10.101 -	- -	- -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604280N / JT Tact Radio Sys (JTRS)		<b>Project (Number/Name)</b> 3076 / JTRS Network Enterprise Domain (JNED)	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p><b>Description:</b> TRS Enterprise Network Manager (JENM) provides consolidated communications planning, network configuration, network activation, position reporting, fault management, security management, and network health and status reporting needed to establish and maintain a mobile wireless network comprised of JTN network waveforms. JENM can interface with other external network managers, mission planning systems, network planning systems, key management systems, and spectrum planning systems. JENM is considered a mission essential system and a critical element within the JTN configuration management tool kit.</p> <p><b>FY 2013 Accomplishments:</b> Completed development and performed Functional Qualification Test (FQT) for JENM Phase 2 enhancement effort in 1Q FY13. Continued Software In Service Support for Network Services and Network Managers. Continued to provide JTN technical support, including waveform development, systems engineering, spectrum allocation, system security engineering, problem resolution and support of Software Communications Architecture (SCA) activities.</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b> N/A</p>					
<p><b>Title:</b> Wideband Networking Waveform (WNW)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Wideband Networking Waveform (WNW) is a high data rate Mobile Adhoc NETworking (MANET) waveform application that provides the mid tier tactical internet backbone and connects tactical forces across the battle sphere. WNW will provide high throughput, dynamically adaptable connectivity for the exchange of Internet Protocol (IP) based voice, data, and video traffic. WNW will feature two signals-in-space (SiS), which are the Orthogonal Frequency Division Multiplexing (OFDM) and Anti-Jam (AJ). WNW will support network nodes on mobile, airborne, and maritime platforms. WNW includes networking services, security, High Assurance IP Equipment (HAIPE) capabilities, red black switching, and internal routing of other WNW signals. WNW is currently ported on 7 platforms with 7 different vendors.</p> <p><b>FY 2013 Accomplishments:</b> Continued Software In Service Support for the WNW waveform.</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b></p>			0.440 -	- -	- -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604280N / JT Tact Radio Sys (JTRS)	Project (Number/Name) 3076 / JTRS Network Enterprise Domain (JNED)		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
N/A					
<p><b>Title:</b> Joint Airborne Networking -Tactical Edge (JAN-TE)</p> <p><b>Articles:</b></p> <p><b>Description:</b> Joint Airborne Networking - Tactical Edge (JAN-TE) will operate on JTRS airborne sets to provide a networked tactical communications capability for tactical aircraft. JAN-TE will provide increased throughput, highly responsive connectivity, and ad hoc mobile networking for fighters engaged in air operations. This networking waveform is uniquely designed and engineered for highly maneuverable, fast moving aircraft for rapidly establishing networks to share high value data communications. USD(AT&amp;L) directed that the development of the JAN-TE waveform be discontinued after Critical Design Review in October 2008, but allowed the Navy and/or Air Force to continue funding its development independently, if desired. In FY2011, the Navy began to budget and execute funding for continuation of JAN-TE's development.</p> <p><b>FY 2013 Accomplishments:</b> Continued support of the JAN-TE waveform.</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b> N/A</p>			0.477 -	- -	- -
<p><b>Title:</b> Legacy Radio Waveforms</p> <p><b>Articles:</b></p> <p><b>Description:</b> Legacy Radio Waveforms Management: Includes the continued development, incremental upgrades, and software efficiencies of legacy software and other related activities (Information Repository &amp; Software Communications Architecture compliant (SCA)) to support the legacy waveform integration into hardware solutions in the field.</p> <p><b>FY 2013 Accomplishments:</b> Continued to support waveform integration, test and evaluation to include hardware and Software Waveform Certification Process (SCA compliance testing) to meet program requirements. Continued JTN program management office support. Continued Software In Service Support for Legacy waveforms.</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b></p>			32.501 -	- -	- -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604280N / JT Tact Radio Sys (JTRS)				<b>Project (Number/Name)</b> 3076 / JTRS Network Enterprise Domain (JNED)				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>										<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
N/A												
<b>Accomplishments/Planned Programs Subtotals</b>										56.983	-	-
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
• RDTEA/0605030A: JTN	-	68.148	19.909	-	19.909	21.788	26.849	25.000	25.025	Continuing	Continuing	
• RDTEN/0605030N: JTN	-	-	15.075	-	15.075	12.481	12.578	12.949	13.264	-	66.347	
• RDTEF/0605030F: JTN	-	-	20.088	-	20.088	22.346	22.255	22.656	23.064	-	110.409	
<b>Remarks</b>												
<b>D. Acquisition Strategy</b>												
<p>Joint Tactical Networks (JTN) is responsible for common core activities including developing and updating the SCA compliant legacy and networking waveforms that operate on multiple hardware sets and in all operational environments that support network-centric operational warfare, as well as common networking services (interface standards, network managers, etc). Waveform developments (upgrading, developing, and maintaining) will generally be procured through full and open contract competitions. The JTN program is developing waveforms and Cryptographic Equipment Applications (CEAs) for use within the software-defined radio community.</p>												
<b>E. Performance Metrics</b>												
<p>The Joint Tactical Networks (JTN) program is employing mature, software-defined radio technologies and have developed more than 10 million lines of code as part of the Increment 1 baseline. Early on, a JTN enterprise software metrics requirements effort established a baseline of standard software metrics which are monitored on each JTN contract involving software development. Example metrics are: the number of requirements and the number of use cases required for design are estimated during the requirement and design phase and analyzed for trend-actual vs. scheduled; the software lines of code (SLOC) counts are used to determine progress during the coding phase; and the execution of test cases as well as trouble reports are monitored during the integration and test phase. Further, a software complexity product metric is collected which demonstrates the testability of the code and is an important criterion for software certification. These software metrics are used to quantify the quality and progress of each software product's development over time. Additionally, JTN employs Earned Value Metrics to monitor contract performance on its Prime Development Contracts.</p>												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3078: Digital Modular Radio	4.387	3.466	-	7.106	-	7.106	6.183	1.732	-	-	-	22.874
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
In FY15, the Digital Modular Radio (DMR) program, previously funded under Project 3073, is transitioning to Project 3078. FY16-17 adds funding for the development of DMR High Frequency Automatic Link Establishment (HF ALE).												
A. Mission Description and Budget Item Justification												
Digital Modular Radio (DMR) is the Navy's technical solution for Mobile User Objective System (MUOS). Funds previously identified for JTRS AMF were realigned to support the development of DMR MUOS. 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 of the Integrated Waveform (IW), the 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. Funding in FY16-17 is to provide DMR with HF Automatic Link Establishment (ALE) Generation 3.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: DMR									3.466	-	7.106	
									Articles: -	-	-	
Description: Overall program efforts include investigation of emerging technologies through study, development and associated testing for feasibility of program insertion.												
FY 2013 Accomplishments:												
Continued DMR Integrated Waveform (IW) capability development, testing, integration and logistics efforts. Supported management and system engineering efforts towards completing IW System Requirements Review (SRR). Initiated efforts in												



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
support of IW design reviews. Continued effort on development of technical solution for Navy's MUOS requirement including integration and porting the MUOS waveform into the DMR.												
FY 2014 Plans: N/A												
FY 2015 Plans: Continue the development of the MUOS and IW capability for the DMR including system engineering, software development, testing, design reviews, integration, porting and logistics efforts and support acquisition documentation development. Continue HFDAG development and test & evaluation efforts.												
Accomplishments/Planned Programs Subtotals										3.466	-	7.106
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN/3010: DMR OPN, PE:0303109N	-	-	14.410	-	14.410	32.324	39.273	55.308	66.363	-	207.678	
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.												

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Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Navy

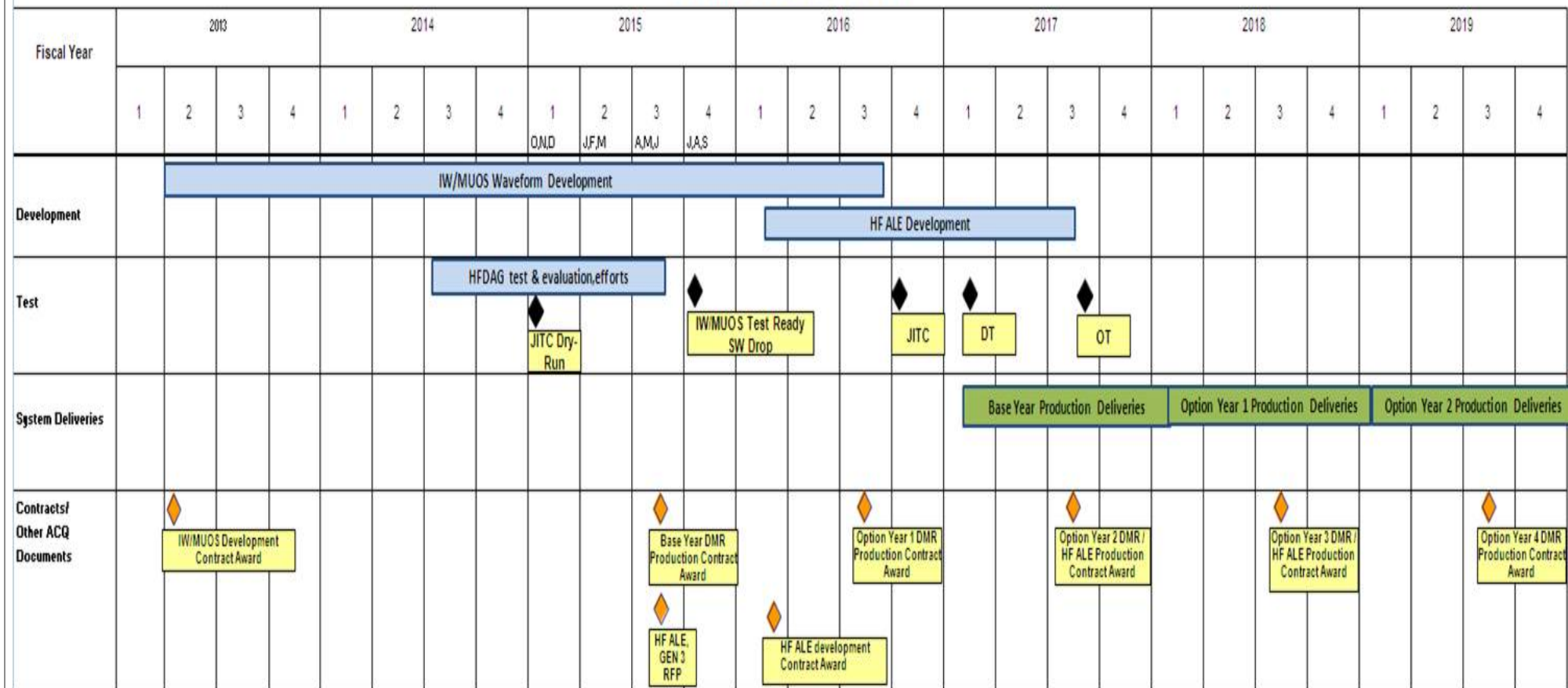
Date: March 2014

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

## DMR Schedule



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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b>					<b>R-1 Program Element (Number/Name)</b>							
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					PE 0604307N / Surface Combatant Cmbt Sys Eng							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	2,692.405	232.441	206.298	189.112	-	189.112	300.374	206.348	210.919	243.710	Continuing	Continuing
1447: Surf Combatant Combat System Imp	2,692.405	232.441	202.528	180.118	-	180.118	295.121	203.567	208.802	241.550	Continuing	Continuing
3357: Aegis Training Improvement Program	0.000	-	3.770	8.994	-	8.994	5.253	2.781	2.117	2.160	Continuing	Continuing

**MDAP/MAIS Code:** 180

# The FY 2015 OCO Request will be submitted at a later date.

**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: fiber optics, distributed architecture, and high performance computing, all of which require corresponding AEGIS Weapon System (AWS) and ACS changes.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	260.616	240.298	204.919	-	204.919
Current President's Budget	232.441	206.298	189.112	-	189.112
Total Adjustments	-28.175	-34.000	-15.807	-	-15.807
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-34.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-5.871	-			
• Program Adjustments	-	-	-14.457	-	-14.457
• Rate/Misc Adjustments	0.001	-	-1.350	-	-1.350
• Congressional General Reductions Adjustments	-22.305	-	-	-	-

**Change Summary Explanation**

FY13 Congressional General Reduction (Sequestration and Congressional rescissions).

FY14 Congressional Reduction (Excess Funding and Schedule Delay)

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PE 0604307N: *Surface Combatant Cmbt Sys Eng*  
Navy

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1447: Surf Combatant Combat System Imp	2,692.405	232.441	202.528	180.118	-	180.118	295.121	203.567	208.802	241.550	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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 DDG 51-78, BL 6 on DDG 79-90, and BL 7 on DDG 91-112.

The AEGIS Modernization Baselines will provide new technology to replace aging military equipment, extend service life, and maintain 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 CG 59-73 and DDG 51-78. AEGIS BL 9 will also be introduced on the new construction destroyers, starting with DDG 113.

AEGIS Advanced Capability Build (ACB) 16 and Technical Insertion (TI) 16 will provide warfighter upgrades to AEGIS Destroyers to include the latest Computing Power (TI-16), improved Ballistic Missile Defense (BMD) capabilities, SEWIP BLK II, MH-60R Integration, IFF Mode 5/S, SPQ-9B, Total Ship Training Capability (TSTC), and other capabilities to address future emerging threats. Future 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 DDGs. In addition, Fleet Firing events were reconstituted to validate AEGIS Combat System updates, performance and fleet proficiency.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> AEGIS DEVELOPMENT SUPPORT	28.954	46.582	34.870
<b>Articles:</b>	-	-	-
<b>FY 2013 Accomplishments:</b>			
Provided AEGIS development support for the following: Combat System Engineering Development Site (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 COTS issue resolution to support AEGIS Ships and address computer program modification to enable integration of			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
replacements parts. AEGIS development support in FY13 is primarily for AEGIS BL 9A/C/D, AEGIS AMIIP BL's (6.3, 7.1, 8.1), AEGIS BL 7.2, and future combat system development efforts.  <b>FY 2014 Plans:</b> Plan to provide 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. 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 replacement parts. AEGIS development support in FY14 is primarily for AEGIS BL 9C/D, AEGIS BL 7.2, AEGIS ACB16, and future combat system development efforts. Increase Fleet Firing events to validate AEGIS Combat System updates and enhancements.  <b>FY 2015 Plans:</b> Plan to provide 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. 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 is primarily for AEGIS BL 9D, AEGIS BL 6.3, AEGIS BL 7.2, AEGIS ACB16, and future combat system development efforts.				
Title: TECHNOLOGY INSERTION 12  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> Provided systems engineering support to ACB12 developed and integrated capabilities related to technology insertion TI-12. Provided computer program development efforts related to AEGIS ACB12 to address hardware integration of Common Display Architecture Display System (CDADS), Secure Voice System (SVS), and LRADDs. Provided testing and integration of AEGIS ACB12 capabilities and supported Build 11 Mission Readiness Assessment (MRA). Executed AEGIS Weapon System demonstration to support system level testing.  <b>FY 2014 Plans:</b>		1.473 -	0.900 -	0.404 -

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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 2013	FY 2014	FY 2015
Continue systems engineering support to ACB12 developed and integrated capabilities related to technology insertion TI-12. Continue computer program development efforts related to AEGIS ACB12. Continue testing and integration of AEGIS ACB12 capabilities and support Build 13 Mission Readiness Assessment (MRA).				
FY 2015 Plans: Continue systems engineering support to ACB12 developed and integrated capabilities related to technology insertion TI-12.				
Title: ADVANCED CAPABILITY BUILD 12 (BL 9A/C)		115.500	54.900	5.722
Articles:		-	-	-
FY 2013 Accomplishments: Provided system engineering to support Build 11 MRA, B/L 9A/C Demonstration, and underway test events on CG 62, CG 60, and DDG 53. Supported ACB 12 system engineering to develop and integrate increased capabilities. Executed computer program development efforts related to AEGIS B/L 9A/C. Executed testing and integration of AEGIS ACB 12 identified capabilities. Provided additional Post-availability Underway testing events to evaluate and correct B/L 9A/C Computer Program. Provided additional Combat System procurement (MMSP) to support AEGIS ACB 12 development and integration efforts.				
FY 2014 Plans: Continue to provide systems engineering, integration, and test support to AEGIS BL 9A/C. Support build 13 MRA and computer program updates to support AEGIS combat system and weapon system certification efforts and Combat System Ship Qualification Trials (CSSQTs) for CG 62, CG 60, DDG 53, initial installation, check-out and availability testing for DDG 65, DDG 52 and CG 59 and BL 9A Operational Testing. Complete procurement of AEGIS warfare system elements to support AEGIS ACB 12 development and integration efforts.				
FY 2015 Plans: Continue to provide systems engineering, integration, and test support to AEGIS BL 9A/C. Support installation, checkout and availability testing on DDG 51 and CG 71 and installation, check-out and at-sea testing for BL 9C test ship (DDG 53) and DDG 52 and DDG 65 Combat System Ship Qualification Trials. Provide computer program updates to support AEGIS combat system and warfare system certification efforts.				
Title: ADVANCED CAPABILITY BUILD 12 (BL 9D)		34.440	33.370	18.000
Articles:		-	-	-
FY 2013 Accomplishments: Conducted Computer Program Increment Review (CPIR) # 5 in JAN 2013 and CPIR #6 (APR 2013). Conducted BL 9 NC IAMD DDG Integrated Baseline Review (IBR) in MAR 2013.				
FY 2014 Plans:				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>		<b>Project (Number/Name)</b> 1447 / <i>Surf Combatant Combat System Imp</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Provide system engineering, integration, and test to support AEGIS BL 9 NC IAMD DDG. Integrate BL 9 NC IAMD DDG and BMD 5.0 CU programs; Execute Builds 14, 15, 16, 17, & 18 Computer Program Development and ET&E; Conduct Software System Safety Technical Review Panel (SSSTRP) Updates; Support Production Hardware Acceptance Test Procedure (ATP); Support Continuous Joint Assessment of Maintainability (CJAM), Jamming Exercise (JAMEX), System Functional Tests (SFTs), Mission Readiness Assessment and endurance testing.					
<b>FY 2015 Plans:</b> Provide continued engineering support to AEGIS BL 9 NC IAMD DDG [BL 9.C1.0.0.1E (formerly BL 9D)] integrating BMD 5.0 CU programs for Joint Assessment of Maintainability (JAM), safety milestones Software System Safety Technical Review Panel (SSSTRP) and Weapons Systems Explosive Safety Review Board (WSESRB), Engineering Assessment, At-Sea engineering, Navy Link Certification testing, test events on DDG 53 that provide Objective Quality Evidence toward BL.C1.0.0.1E certification, Computer Program Change Request (CPCR) corrections that mature the computer program, installation support for AEGIS Light-Off (ALO) on DDG 113 & 115, and AEGIS Combat System (ACS) element integration.					
<b>Title:</b> NAVAL INTEGRATED FIRE CONTROL-COUNTER AIR			8.826	-	-
<b>Articles:</b>			-	-	-
<b>FY 2013 Accomplishments:</b> Supported NIFC-CA development and integration within the AEGIS ACB12 combat system configuration. Maintained White Sands Missile Range (WSMR) site to support NIFC-CA and SM6 integration within the AEGIS ACB12 combat system. Supported NIFC-CA test events at WSMR and evaluate test results. Supported NIFC-CA at-sea test 1.					
<b>FY 2014 Plans:</b> N/A					
<b>FY 2015 Plans:</b> N/A					
<b>Title:</b> AEGIS BASELINE 7.2			18.500	22.900	6.400
<b>Articles:</b>			-	-	-
<b>FY 2013 Accomplishments:</b> Developed production engineering change proposals. Conducted In-Process Review (IPR) No 4. Continued computer program development. Continued developmental program test and integration efforts. Initiated Navy Performance Testing, and interoperability testing in conjunction with Accelerated Midterm Interoperability Improvement Project program. Initiated					



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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 2013	FY 2014	FY 2015
program Certification Assessments. Conducted initial BL 7.2 WSESRB / SSSTRP. Continued Virginia site upgrades to support development and test efforts, and initiated Work Package and Technical Documentation development.				
FY 2014 Plans: Conduct IPR No 5. Complete computer program development, Navy Performance testing, Certification Assessments, and Work Package and Technical Documentation development. Conduct Navy Link test, Joint Link test, Integrated Logistic Support Certification, deployment Software System Safety Technical Review Panel/ Weapon System Explosive Safety Review Board, Combat System Certification Panel, and Warfare System Installation Assessments.				
FY 2015 Plans: Perform BL 7.2 installation on lead ship. Support Lead Ship underway assessment and provide Computer Program updates as required to address Combat System deficiencies identified during underway assessment events.				
Title: FUTURE COMBAT SYSTEM DEVELOPMENT AND INTEGRATION		18.448	14.131	51.938
Articles:		-	-	-
FY 2013 Accomplishments: Conducted Air Missile Defense Radar (AMDR) Combat System Integration IPR #2; developed draft AMDR Combat System Interface Requirement Specifications (IRSs); developed requirements to support SRR/SFR for Combat System Simulator for Early Combat System Integration and Test required for AMDR MS C.				
FY 2014 Plans: Conduct AMDR CS Integration IPR #3; complete AMDR Combat System IRSs; support AMDR CDR; execute Combat System Interface Support Equipment (CSISE) SRR/SFR; conduct detailed design and software development for CSISE to support early Combat System Integration and Test required for AMDR MS C.				
FY 2015 Plans: Provide management and systems engineering support for critical AMDR and AEGIS program milestones to include: the conduct of AMDR/Combat System Integration Integrated Production Review (IPR) #4; artifact review and feedback for TI Next Preliminary Design review (PDR); development and planning for ACB Next System Requirements Review (SRR). 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; support for all test related planning efforts and milestones.				
Title: ACCELERATED MID-TERM INTEROPERABILITY IMPROVEMENT PLAN (AMIIP)		6.300	1.900	-
Articles:		-	-	-
FY 2013 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
Conducted Engineering Assessment No. 4. Identified and made corrections in AEGIS and Ship Gridlock System (SGS) Auto Correlator (AC) computer programs based on Trident Warrior test results. Conducted Multi-Site test event No. 3 with analysis, and certify for fielding the AEGIS Combat Systems computer programs 6.3.3.0, 7.1R.1.0, and 8.1.2.0. <b>FY 2014 Plans:</b> Continue to support AEGIS Weapon System computer programs 6.3.3.0, 7.1R.1.0, and 8.1.2.0.throughout installation and test period. Evaluate and resolve 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. <b>FY 2015 Plans:</b> N/A				
Title: ADVANCED CAPABILITY BUILD 16  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> N/A  <b>FY 2014 Plans:</b> Provide program management and system engineering support to ACB 16/TI 16 program development. Prepare for and conduct the government led ACB 16 System Requirements Review (SRR) scheduled for November 2013. Complete development of ACB 16 System Spec (A-Spec), System Subsystem Description Document (SSDD) and other SRR required artifacts, coordinate Navy Review Teams and lead the ACB 16 SRR. Conduct post-SRR clean-up activities and prepare for System Functional Review (SFR). Work with CSEA to refine requirements and system architecture. Review CSEA developed artifacts for SFR (March 2014) and participate in the SFR. Work with the CSEA in requirements and architecture decomposition in preparation for a first quarter FY 15 PDR. Continue system engineering, equipment development and test, and procurement activities for TI 16.  <b>FY 2015 Plans:</b> Provide continued program management and system engineering support to BL 9.C2.0.0.2E (ACB 16/TI 16) program development. Prepare for and conduct BL 9.C2.0.0.2E Preliminary Design Review (PDR) scheduled for first quarter FY15 and Critical Design Review (CDR) fourth quarter FY15. Development and review of Allocated Baseline subsystem, hardware, and interface specifications. Development of BL 9.C2.0.0.2E Computer Program Build 1. Complete the development of TI-16 Hardware configuration and execute OE development.		- -  <		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• R&D 0604501N: Multi Mission Signal Processor	12.602	14.795	9.669	-	9.669	13.522	13.853	14.167	14.557	Continuing	Continuing	
• SCN 2122: DDG 51	4,497.011	2,085.115	2,934.598	-	2,934.598	3,276.756	3,312.269	3,354.739	3,337.383	Continuing	Continuing	
• OPN 0960: CG Modernization	80.868	10.539	-	-	-	-	87.990	113.260	106.778	Continuing	Continuing	
• OPN 5246: AEGIS Support Equipment	74.527	59.757	-	-	-	-	-	-	-	Continuing	Continuing	
• OPN 0900: DDG Modernization	407.707	285.994	338.569	-	338.569	427.258	491.224	719.671	669.440	Continuing	Continuing	
• R&D 0604378N PU 3159: NIFC-CA	35.872	21.413	15.263	-	15.263	26.167	21.647	17.319	17.647	Continuing	Continuing	
• OPN 5231: Ship Missile Support Equipment (AEGIS Support Equipment)	-	-	67.592	-	67.592	62.495	39.125	33.306	33.941	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 Equipment (GFE) deliverable to the Production Test Center for equipment test and check out. Future Combat System delivery will be provided in ACBs and Technology Insertions (TIs) using the Combat System Engineering Agent (CSEA) contract. Additional modifications to the existing contracts will address B/L 9D completion and Future Combat System engineering efforts related to AMDR Integration.												
E. Performance Metrics												
Combat system development efforts will complete major development milestones.												
Major Milestones for ACB12 (B/L 9A/C):												
Completed C9A/C Demonstration first quarter of FY13.												
Advanced Capability Build 12 DDG 53 Combat System Ships Qualification Trial third quarter of FY14.												
Advanced Capability Build 12 CG 62 Combat System Ships Qualification Trial fourth quarter of FY14.												
9A Computer Program Acceptance Panel/Combat System Certification Panel fourth quarter of FY14.												
9A Warfare Certification first quarter of FY15.												
9C Computer Program Acceptance Panel/Combat System Certification Panel fourth quarter of FY15.												
9C Warfare Certification fourth quarter of FY15.												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	<b>Project (Number/Name)</b> 1447 / <i>Surf Combatant Combat System Imp</i>
<p>Major Milestones for B/L 9D:</p> <p>Completed CPIR No. 5 in second quarter of FY13.</p> <p>Completed CPIR No. 6 in third quarter of FY13.</p> <p>In-Progress Review (IPR) in second quarter of FY14.</p> <p>Engineering Evaluation in fourth quarter of FY14.</p> <p>DDG 115 AEGIS Light-Off (ALO) in second quarter of FY15.</p> <p>Major Milestones for Aegis Baseline 7.2 (formerly 7.1R Backfit):</p> <p>IPR No. 4 Status Update in fourth quarter of FY13.</p> <p>IPR No. 5 Status Update in second quarter of FY14.</p> <p>AEGIS 7.2 ILS Certification in second quarter of FY14.</p> <p>Combat System Certification Panel in fourth quarter of FY14.</p> <p>Warfare System Installation Assessment in fourth quarter of FY14.</p> <p>Initial Installation on lead ship in fourth quarter of FY14.</p> <p>Underway Assessment on lead ship in second quarter of FY15.</p> <p>Major Milestones for Accelerated Mid Term Interoperability Improvement Plan (AMIIP):</p> <p>Completed MST No. 3 (now MST FY13-1) in first quarter of FY13.</p> <p>Completed MST FY13-2 in second quarter of FY13.</p> <p>Completed Baseline 6.3.3, 7.1R.1, 8.1.2 Combat System Certification in second quarter of FY13.</p> <p>Completed Baseline 6.3.3, 7.1R.1, 8.1.2 Warfare System Certification in third quarter of FY13.</p> <p>Major Milestones for Naval Integrated Fire Control - Counter Air (NIFC-CA):</p> <p>White Sands Missile Range (WSMR) #1 second quarter of FY13.</p> <p>At-Sea Test #1 fourth quarter of FY13.</p> <p>White Sands Missile Range (WSMR) #2 first quarter of FY14.</p> <p>At-Sea Test #2 third quarter of FY14.</p> <p>Major Milestones for Advanced Capability Build - 16 (ACB16):</p> <p>In Progress Review #1 fourth quarter FY13.</p> <p>System Requirements Review (SRR) first quarter FY14.</p> <p>System Functional Review (SFR) second quarter FY14.</p> <p>Preliminary Design Review (PDR) first quarter FY15.</p> <p>Critical Design Review (CDR) fourth quarter FY15.</p>		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	<b>Project (Number/Name)</b> 1447 / <i>Surf Combatant Combat System Imp</i>
<p>Test Readiness Review (TRR) fourth quater FY16.  Deomonstraton Test (DEMO) second quarter FY17.  AEGIS Light-Off (ALO) second quarter FY18.  Combat System Ship Qualification Test (CSSQT) thrid quarter FY19.</p> <p>Major Milestones for Future Combat System Development:  Contract Award (CA) second quarter FY13.  Combat System In Progress Review #2 (IPR) fourth quarter FY13.  Combat System In Progress Review #3 (IPR) fourth quarter FY14.  System Requirements Review (SRR) second quarter FY16.  System Functional Review (SFR) third quarter FY16.  Preliminary Design Review (PDR) second quarter FY17.  Critical Design Review (CDR) second quarter FY18.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/CPAF	Lockheed Martin : Moorestown, NJ	1,778.707	138.277	Oct 2012	120.230	Oct 2013	107.114	Oct 2014	-		107.114	Continuing	Continuing	Continuing
Systems Engineering	SS/CPFF	APL : Baltimore, MD	51.315	9.548	Oct 2012	6.854	Oct 2013	7.398	Oct 2014	-		7.398	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Dahlgren, VA	308.791	39.173	Oct 2012	29.980	Oct 2013	30.316	Oct 2014	-		30.316	Continuing	Continuing	Continuing
Systems Engineering	SS/CPAF	BAE Systems : Rockville, MD	40.194	4.177	Oct 2012	4.294	Oct 2013	3.237	Oct 2014	-		3.237	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Port Hueneme, CA	56.963	6.346	Oct 2012	6.600	Oct 2013	4.941	Oct 2014	-		4.941	Continuing	Continuing	Continuing
Systems Engineering	WR	NWAS : Corona, CA	27.791	1.118	Oct 2012	1.157	Oct 2013	0.866	Oct 2014	-		0.866	Continuing	Continuing	Continuing
Systems Engineering	WR	SPAWAR : San Diego, CA	9.769	0.794	Oct 2012	0.814	Oct 2013	0.615	Oct 2014	-		0.615	Continuing	Continuing	Continuing
Systems Engineering	WR	Various : Various	113.389	17.234	Oct 2012	16.334	Oct 2013	13.355	Oct 2014	-		13.355	Continuing	Continuing	Continuing
Award fees	SS/CPAF	Lockheed Martin : Moorestown, NJ	209.089	8.230	Oct 2012	8.498	Oct 2013	6.432	Oct 2014	-		6.432	Continuing	Continuing	Continuing
Award fees	SS/CPAF	BAE Systems : Rockville, MD	2.155	0.161	Oct 2012	0.163	Oct 2013	0.124	Oct 2014	-		0.124	Continuing	Continuing	Continuing
Award fees	SS/CPAF	Alion Science : Washington DC	2.134	-	Oct 2012	-	Oct 2013	-		-		-	-	2.134	-
Award fees	WR	Various : Various	7.666	0.560	Oct 2012	0.570	Oct 2013	0.433	Oct 2014	-		0.433	Continuing	Continuing	Continuing
Subtotal			2,607.963	225.618		195.494		174.831		-		174.831	-	-	-
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	WR	Department of Interior : Boise, Idaho	38.545	1.070	Oct 2012	1.103	Oct 2013	0.830	Oct 2014	-		0.830	Continuing	Continuing	Continuing

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date: March 2014</b>			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>						<b>Project (Number/Name)</b> 1447 / <i>Surf Combatant Combat System Imp</i>			
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Test and Evaluation	WR	NAVAIR : Pax River, MD	12.241	0.758	Oct 2012	0.777	Oct 2013	0.587	Oct 2014	-		0.587	Continuing	Continuing	Continuing
<b>Subtotal</b>			50.786	1.828		1.880		1.417		-		1.417	-	-	-
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management Support	SS/CPAF	Alion Science : Washington DC	23.951	1.873	Oct 2012	1.936	Oct 2013	1.451	Oct 2014	-		1.451	Continuing	Continuing	Continuing
Program Management Support	SS/CPAF	SAIC : Mclean, VA	8.798	3.122	Oct 2012	3.218	Oct 2013	2.419	Oct 2014	-		2.419	Continuing	Continuing	Continuing
DAWDF	Various	Various : Various	0.907	-		-		-		-		-	-	0.907	-
<b>Subtotal</b>			33.656	4.995		5.154		3.870		-		3.870	-	-	-
			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			2,692.405	232.441		202.528		180.118		-		180.118	-	-	-
<b>Remarks</b>															

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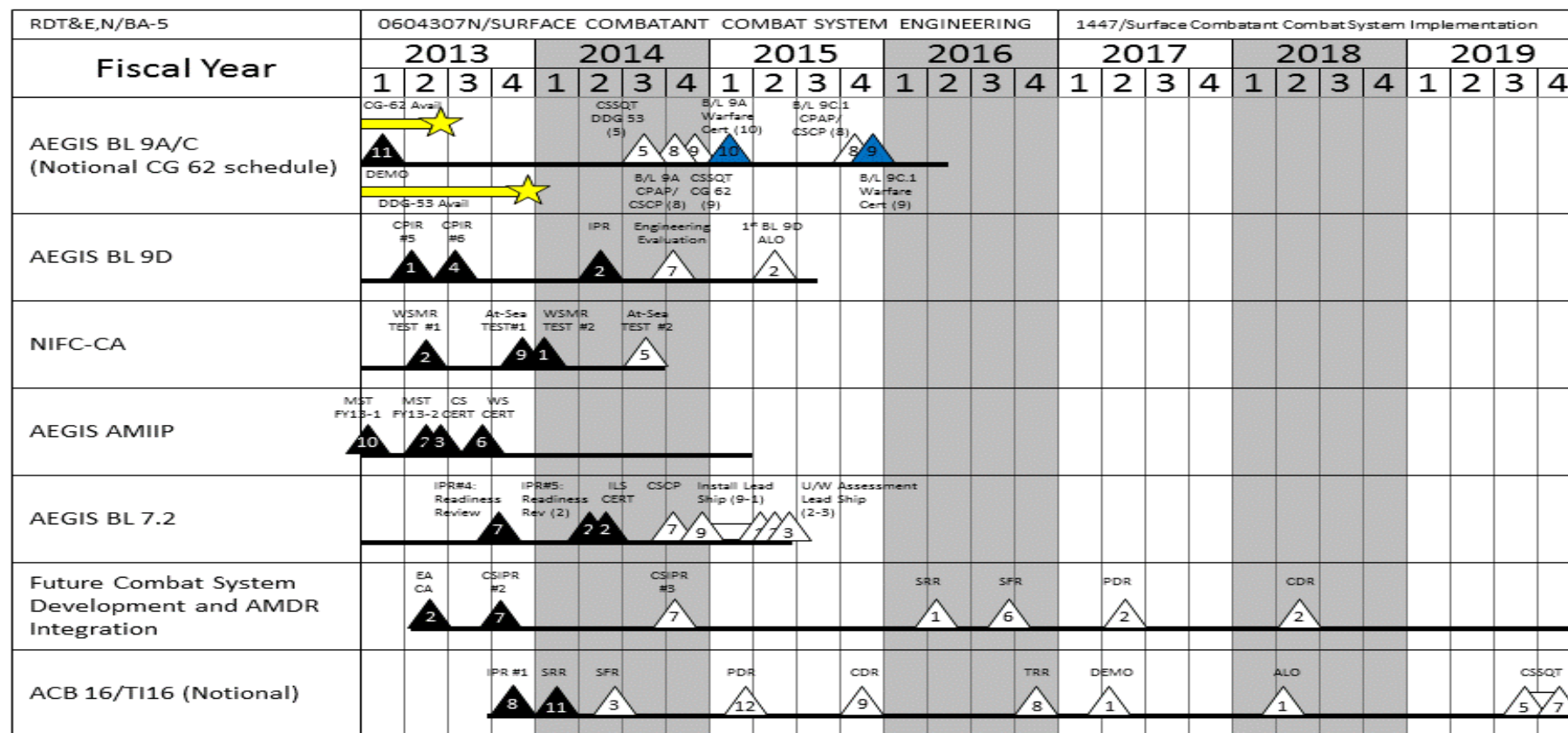
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy

Date: March 2014

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





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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	<b>Project (Number/Name)</b> 1447 / <i>Surf Combatant Combat System Imp</i>	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 1447</b>				
ADVANCED CAPABILITY BUILD 12 9 A/C DEMONSTRATION	1	2013	1	2013
ADVANCED CAPABILITY BUILD 12 COMBAT SYSTEM SHIPS QUALIFICATION TRIAL (DDG 53)	3	2014	4	2014
ADVANCED CAPABILITY BUILD 12 COMBAT SYSTEM SHIPS QUALIFICATION TRIAL (CG 62)	4	2014	4	2014
ADVANCED CAPABILITY BUILD 12 9A COMPUTER PROGRAM ACCEPTANCE PANEL/COMBAT SYSTEMS CERTIFICATION PANEL	4	2014	4	2014
ADVANCED CAPABILITY BUILD 12 9A WARFARE CERTIFICATION	1	2015	1	2015
ADVANCED CAPABILITY BUILD 12 9C.1 COMPUTER PROGRAM ACCEPTANCE PANEL/COMBAT SYSTEMS CERTIFICATION PANEL	4	2015	4	2015
ADVANCED CAPABILITY BUILD 12 9C.1 WARFARE CERTIFICATION	4	2015	4	2015
ADVANCED CAPABILITY BUILD 12 B/L 9D COMPUTER PROGRAM INCREMENT REVIEW #5	2	2013	2	2013
ADVANCED CAPABILITY BUILD 12 B/L 9D COMPUTER PROGRAM INCREMENT REVIEW #6	3	2013	3	2013
ADVANCED CAPABILITY BUILD 12 B/L 9D IN PROGRESS REVIEW	2	2014	2	2014
ADVANCED CAPABILITY BUILD 12 B/L 9D ENGINEERING EVALUATION	4	2014	4	2014
ADVANCED CAPABILITY BUILD 12 B/L 9D DDG 113 ALO	2	2015	2	2015
NIFC-CA WSMR TEST #1	2	2013	2	2013
NIFC-CA AT-SEA TEST #1	4	2013	4	2013
NIFC-CA WSMR TEST #2	1	2014	1	2014
NIFC-CA AT-SEA TEST #2	3	2014	3	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014		
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
ACCELERATED MID-TERM INTEROPERABILITY IMPROVEMENT PROJECT MULTI-SITE TEST (MST) #3 (now MST FY13-1)		1	2013	1	2013
ACCELERATED MID-TERM INTEROPERABILITY IMPROVEMENT PROJECT MST FY13-2		2	2013	2	2013
ACCELERATED MID-TERM INTEROPERABILITY IMPROVEMENT PROJECT BL 6.3.3, 7.1R.1, 8.1.2 COMBAT SYSTEM CERTIFICATION		2	2013	2	2013
ACCELERATED MID-TERM INTEROPERABILITY IMPROVEMENT PROJECT BL 6.3.3, 7.1R.1, 8.1.2 WARFARE SYSTEM CERTIFICATION		3	2013	3	2013
AEGIS 7.2 BACKFIT IN-PROCESS REVIEW #4		4	2013	4	2013
AEGIS 7.2 BACKFIT IN-PROCESS REVIEW #5		2	2014	2	2014
AEGIS 7.2 ILS CERTIFICATION		2	2014	2	2014
AEGIS 7.2 COMBAT SYSTEM CERTIFICATION PANEL		4	2014	4	2014
AEGIS 7.2 WARFARE SYSTEM INSTALLATION ASSESSMENT ON LEAD SHIP		4	2014	4	2014
AEGIS 7.2 INITIAL INSTALLATION ON LEAD SHIP		4	2014	2	2015
AEGIS 7.2 UNDERWAY ASSESSMENT ON LEAD SHIP		2	2015	2	2015
FUTURE COMBAT SYSTEM DEVELOPMENT AND INTEGRATION SYSTEM COMBAT SYSTEM ENGINEERING AGENT CONTRACT AWARD		2	2013	2	2013
FUTURE COMBAT SYSTEM DEVELOPMENT AND INTEGRATION IN-PROGRESS REVIEW NO. 2		4	2013	4	2013
FUTURE COMBAT SYSTEM DEVELOPMENT AND INTEGRATION IN-PROGRESS REVIEW #3		4	2014	4	2014
FUTURE COMBAT SYSTEM DEVELOPMENT AND INTEGRATION SYSTEM REQUIREMENTS REVIEW		2	2016	2	2016
FUTURE COMBAT SYSTEM DEVELOPMENT AND INTEGRATION SYSTEM FUNCTIONAL REVIEW		3	2016	3	2016
FUTURE COMBAT SYSTEM DEVELOPMENT AND INTEGRATION PRELIMINARY DESIGN REVIEW		2	2017	2	2017

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	<b>Project (Number/Name)</b> 1447 / <i>Surf Combatant Combat System Imp</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
FUTURE COMBAT SYSTEM DEVELOPMENT AND INTEGRATION CRITICAL DESIGN REVIEW	2	2018	2	2018
ADVANCED CAPABILITY BUILD 16 IN-PROGRESS REVIEW #1	4	2013	4	2013
ADVANCED CAPABILITY BUILD 16 SYSTEM REQUIREMENTS REVIEW	1	2014	1	2014
ADVANCED CAPABILITY BUILD 16 SYSTEM FUNCTIONAL REVIEW	2	2014	2	2014
ADVANCED CAPABILITY BUILD 16 PRELIMINARY DESIGN REVIEW	1	2015	1	2015
ADVANCED CAPABILITY BUILD 16 CRITICAL DESIGN REVIEW	4	2015	4	2015
ADVANCED CAPABILITY BUILD 16 TEST READINESS REVIEW	4	2016	4	2016
ADVANCED CAPABILITY BUILD 16 DEMONSTRATION	2	2017	2	2017
ADVANCED CAPABILITY BUILD 16 AEGIS LIGHT-OFF	2	2018	2	2018
ADVANCED CAPABILITY BUILD 16 CSSQT	3	2019	4	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3357: Aegis Training Improvement Program	-	-	3.770	8.994	-	8.994	5.253	2.781	2.117	2.160	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
The 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.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
<b>Title:</b> AEGIS Training Improvement and ACB 16 integration										-	3.770	8.994
										<b>Articles:</b>		
<b>Description:</b> 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.												
<b>FY 2013 Accomplishments:</b> N/A												
<b>FY 2014 Plans:</b> Support System Engineering requirements to address AEGIS ACB16 System Requirements Review (SRR) currently scheduled for the first quarter of FY14. Provides System Engineering Support to complete functional requirements allocation in support of AEGIS ACB16 System Functional Review (SFR) scheduled for the third quarter of FY14. Provide system engineering support to training improvement integration within AEGIS ACB16.												
<b>FY 2015 Plans:</b> Provide system engineering support to training improvement integration within AEGIS ACB16. 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 defined.												
Accomplishments/Planned Programs Subtotals										-	3.770	8.994

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	Project (Number/Name) 3357 / <i>Aegis Training Improvement Program</i>

**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.

System Requirements Review first quarter of FY14.

System Functional Review third quarter of FY14.

Preliminary Design Review second quarter of FY15.

Critical Design Review fourth quarter of FY15.

Test Readiness Review fourth quarter of FY16.

Advanced Capability Build 16 AEGIS Light-Off third quarter of FY17.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014				
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>				Project (Number/Name) 3357 / <i>Aegis Training Improvement Program</i>						
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Product Development	Various	Various : Various	0.000	-		1.993	Oct 2013	4.046	Oct 2014	-		4.046	Continuing	Continuing	Continuing	
Subtotal			0.000	-		1.993		4.046		-		4.046	-	-	-	
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	-		4.380	Continuing	Continuing	Continuing	
Subtotal			0.000	-		1.497		4.380		-		4.380	-	-	-	
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	-		0.406	Continuing	Continuing	Continuing	
Professional Support	C/CPAF	ALION : Washington DC	0.000	-		0.080	Nov 2013	0.162	Oct 2014	-		0.162	Continuing	Continuing	Continuing	
Subtotal			0.000	-		0.280		0.568		-		0.568	-	-	-	
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			0.000	-		3.770		8.994		-		8.994	-	-	-	
Remarks																

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

Date: March 2014

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

RDT&E,N/BA-5	0604307N/SURFACE COMBATANT COMBAT SYSTEM ENGINEERING																3357/AEGIS Training Improvement Program											
Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
	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
AEGIS Training Improvement Program (Notional)					SRR		SFR		PDR		CDR					TRR			ALO									

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604307N / <i>Surface Combatant Cmbt Sys Eng</i>	<b>Project (Number/Name)</b> 3357 / <i>Aegis Training Improvement Program</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 3357</i></b>				
System Requirements Review	1	2014	1	2014
System Functional Review	3	2014	3	2014
Preliminary Design Review	2	2015	2	2015
Critical Design Review	4	2015	4	2015
Test Readiness Review	4	2016	4	2016
Advanced Capability Build 16 AEGIS Light-off	3	2017	3	2017



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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604311N / LPD-17 Class Systems Integration							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	30.527	0.741	1.214	0.376	-	0.376	0.751	0.771	0.789	0.807	Continuing	Continuing
2283: LPD-17 Class System Integration	30.527	0.741	1.214	0.376	-	0.376	0.751	0.771	0.789	0.807	Continuing	Continuing
MDAP/MAIS Code: 542												
# The FY 2015 OCO Request will be submitted at a later date.												
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 amphibious 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 as 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. The RDT&E,N funding will be used for system engineering and integration efforts to resolve obsolescence issues facing the LPD-17 Class components, as well as develop further reductions in life cycle costs, and will integrate performance upgrades in a rapid, affordable manner. These efforts will result in well-defined specifications and drawings in system integration design packages that provide technical baselines for follow-on ship procurements. This program is funded under Engineering and Manufacturing Development because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.												
B. Program Change Summary (\$ in Millions)				FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total				
Previous President's Budget				0.824	1.214	0.830	-	0.830				
Current President's Budget				0.741	1.214	0.376	-	0.376				
Total Adjustments				-0.083	-	-0.454	-	-0.454				
• Congressional General Reductions				-	-							
• Congressional Directed Reductions				-	-							
• Congressional Rescissions				-	-							
• Congressional Adds				-	-							
• Congressional Directed Transfers				-	-							
• Reprogrammings				-	-							
• SBIR/STTR Transfer				-0.013	-							
• Rate/Misc Adjustments				-	-	-0.454	-	-0.454				
• Congressional General Reductions Adjustments				-0.070	-	-	-	-				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604311N / <i>LPD-17 Class Systems Integration</i>	
<b><u>Change Summary Explanation</u></b> FY 2013 reductions reflect Congressionally mandated sequestration and general reductions. FY 2015 reductions reflect the Department's decision to reduce contracted services and other rate/misc adjustments.		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604311N / <i>LPD-17 Class Systems Integration</i>				Project (Number/Name) <i>2283 / LPD-17 Class System Integration</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2283: <i>LPD-17 Class System Integration</i>	30.527	0.741	1.214	0.376	-	0.376	0.751	0.771	0.789	0.807	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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 amphibious 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 FY 1997 will develop further reductions in life cycle costs and will integrate performance upgrades in a rapid, affordable manner. Possible improvements include advanced sensors, advanced computers, advanced command and control software, advanced information systems technologies, and ship based logistics concepts. Cost reduction and improved performance will be accomplished through sustained modeling and simulation efforts, continued personnel reductions efforts, system performance tradeoff evaluation, and naval expeditionary warfare systems engineering. Feedback from the operational forces for integrating system configurations will be accomplished through the Naval Expeditionary Warfare Centers in Quantico, Dahlgren, China Lake, Naval Research Lab, and Little Creek, Virginia. These efforts will result in well-defined specifications and drawings in system integration design packages that provide technical baselines for follow-on ship procurements.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Systems Engineering/Integration	0.741	1.214	0.376
<b>Articles:</b>	-	-	-
<b>Description:</b> Continuing Naval Expeditionary Warfare Systems Engineering efforts and integration efforts for unique LPD 17 Class systems, including efforts to resolve obsolescence issues impacting the class.			
<b>FY 2013 Accomplishments:</b> Continued the Reliability and Obsolescence studies for shipboard network/electronics/machinery systems, and Environmental Qualification Testing (EQT) for obsolescence replacements. Tasked reliability design improvements for the Hangar Aviation Bridge Crane, Watermist, and piping chlorination systems. Conducted environmental testing of composite structure grating. Participated in SBIR projects for chlorine control sensor, and transparent armor windows. Started Integrated Voice Network (IVN) inter-system requirements studies and testing for introduction to the class.			
<b>FY 2014 Plans:</b>			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
Continue 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). Investigate 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.  FY 2015 Plans: Environmental Qualification Testing (EQT) and Information Assurance (IA) of Raytheon systems, such as Ship Wide Area Network (SWAN)/ Consolidated Afloat Networks and Enterprise Services (CANES) and machinery obsolescence issues. Hull, Mechanical, and Electrical (HM&E) reliability and obsolescence improvements for seawater systems and mission systems such as boat cranes, davits, and A/C plants.												
Accomplishments/Planned Programs Subtotals										0.741	1.214	0.376
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• SCN/5300: Completion of Prior Year Shipbuilding Programs	-	-	54.096	-	54.096	38.733	-	-	-	-	1,902.629	
• SCN/3036: LPD-17	323.757	-	12.565	-	12.565	34.054	20.800	-	-	-	17,940.219	
Remarks												
D. Acquisition Strategy												
FY13 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.												

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**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*

Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
Quarter	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
Rel. Obsolescence Studies																												
-Integrated Shipboard Electronics & EQT																												
-Future Obsol. issue resolution	▲																											
SWAN /CANES Integration					▲				▲																			
Deliveries	▲ LPD 24				▲ LPD 25								▲ LPD 26				▲ LPD 27											

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy I BA 5: System Development &amp; Demonstration (SDD)</i>					<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	114.701	28.883	24.925	71.849	-	71.849	85.349	107.275	115.170	133.521	Continuing	Continuing
1663: <i>SDB II Integration</i>	0.000	-	-	29.000	-	29.000	32.000	35.000	47.000	62.000	Continuing	Continuing
3072: <i>Small Diameter Bomb (SDB)</i>	108.283	16.577	16.565	28.916	-	28.916	41.580	63.439	63.308	67.887	62.244	468.799
3082: <i>JMM BRU</i>	6.418	12.306	8.360	13.933	-	13.933	11.769	8.836	4.862	3.634	1.461	71.579

**MDAP/MAIS Code:** 439

# The FY 2015 OCO Request will be submitted at a later date.

## **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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	31.064	46.007	53.481	-	53.481
Current President's Budget	28.883	24.925	71.849	-	71.849
Total Adjustments	-2.181	-21.082	18.368	-	18.368
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-21.082			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.626	-			
• Rate/Misc Adjustments	0.001	-	18.368	-	18.368

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy				<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy I BA 5: System Development &amp; Demonstration (SDD)</i>				<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i>			
• Congressional General Reductions Adjustments		-1.556	-	-	-	-	-
<p><b><u>Change Summary Explanation</u></b></p> <p>Technical: FY14 funding was reduced due to congressional marks for carryover and an undefined program decrease. Creation of project unit 1663, SBD II Integration, was funded to support the F/A-18 E/F SDB II integration program in FY15.</p> <p>Schedule: Due to delays in testing, Milestone C has slipped to 4Q 2015.</p>							



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604329N / Small Diameter Bomb (SDB)				Project (Number/Name) 1663 / SDB II Integration			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1663: SDB II Integration	-	-	-	29.000	-	29.000	32.000	35.000	47.000	62.000	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
<b>A. Mission Description and Budget Item Justification</b> 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 hardware and software design, development, integration and testing required to successfully integrate SDB II/JMM BRU on the F/A-18E/F. IOC is scheduled for FY2019.  FY2014 funding resides in PE 0204136N, PU 1662 F/A-18 Improvement												
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>										FY 2013	FY 2014	FY 2015
<b>Title:</b> F/A-18 Integration  <b>FY 2013 Accomplishments:</b> N/A  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> System specification and design efforts for SDB II and JMM BRU integration efforts. System configuration set software development and integration.										<b>Articles:</b> - -	- -	29.000 -
<b>Accomplishments/Planned Programs Subtotals</b>										-	-	29.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• 0204136N/1662: SDB II Integration	-	9.300	-	-	-	-	-	-	-	-	9.300	
<b>Remarks</b>												
<b>D. Acquisition Strategy</b>												
Integration of SDB II and the JMM BRU is software driven with ground and flight test requirements.												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / <i>Small Diameter Bomb (SDB)</i>	Project (Number/Name) 1663 / <i>SBD II Integration</i>

E. Performance Metrics

Earned value will be used for the contracted efforts.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604329N / Small Diameter Bomb (SDB)				Project (Number/Name) 1663 / SDB II Integration					
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
OFP Development and Support	SS/IDIQ	Boeing : St. Louis, MO	0.000	-		-		5.086	Nov 2014	-		5.086	42.575	47.661	47.661
SDB II Prime Contractor Support	SS/IDIQ	Raytheon Missile Systems : Tuscon, AZ	0.000	-		-		9.542	Nov 2014	-		9.542	16.449	25.991	25.991
JMM BRU Prime Contractor Support	SS/IDIQ	Raytheon Technical Services Company, LLC : Indianapolis, IN	0.000	-		-		8.606	Nov 2014	-		8.606	17.842	26.448	26.448
SDB II/JMM BRU Integration Support	WR	NAWC AD : Patuxent River, MD	0.000	-		-		2.000	Nov 2014	-		2.000	Continuing	Continuing	Continuing
SDB II/JMM BRU Software Support	WR	NAWC WD : China Lake, CA	0.000	-		-		3.766	Nov 2014	-		3.766	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		29.000		-		29.000	-	-	-
Remarks															
Funding for SDB II and JMM BRU Prime Contractors includes support of Super Hornet Integration efforts. FY2014 Support funding is included in PE0204136N, PU1662.															
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test	WR	NAWC AD : Patuxent River, MD	0.000	-		-		-		-		-	31.461	31.461	-
Operational Test	WR	NAWC WD : China Lake, CA	0.000	-		-		-		-		-	14.041	14.041	-
Subtotal			0.000	-		-		-		-		-	45.502	45.502	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	-		-		29.000		-		29.000	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy							Date: March 2014			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604329N / Small Diameter Bomb (SDB)			Project (Number/Name) 1663 / SBD II Integration			
	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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PE 0604329N: *Small Diameter Bomb (SDB)*  
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**Project (Number/Name)**  
1663 / SBD II Integration

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i>	<b>Project (Number/Name)</b> 1663 / <i>SDB II Integration</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 1663</b>				
F/A-18 E/F SDB II Integration: OFP Development and Integration: OFP Development and Integration	1	2015	1	2018
F/A-18 E/F SDB II Integration: Developmental Test: Developmental Test	1	2018	3	2018
F/A-18 E/F SDB II Integration: Operational Test: Operational Test	3	2018	2	2019
Initial Operating Capability: Initial Operating Capability	3	2019	3	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3072: Small Diameter Bomb (SDB)	108.283	16.577	16.565	28.916	-	28.916	41.580	63.439	63.308	67.887	62.244	468.799
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 FY2020.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: SDB II Weapon Support									15.000	11.655	8.353	
									Articles: -	-	-	
Description: Funding provides for SDB II Engineering Manufacturing and Development (EMD) efforts including weapon vendor support, test assets, and government support.												
FY 2013 Accomplishments: Continued support of EMD and integration of SDB II with F-35B and F-35C.												
FY 2014 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.												
FY 2015 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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 2013	FY 2014	FY 2015
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.											
Title: JSF Integration									1.577	4.910	20.563
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 2013 Accomplishments: Continued F-35 OFP development and coding and support fit checks with SDB II Weapon vendor (Raytheon).											
FY 2014 Plans: Continue F-35 OFP development and coding and support fit checks and testing with SDB II Weapon Vendor. Begin 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.											
Accomplishments/Planned Programs Subtotals									16.577	16.565	28.916
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTE,AF/0604329F: Small Diameter Bomb	126.485	115.000	54.000	-	54.000	18.000	64.000	15.675	15.958	3.308	1,139.654
• MPAF/0207327F: Small Diameter Bomb	1.974	42.347	71.353	-	71.353	101.961	94.770	73.458	144.985	1,329.749	1,860.597
• WPN/223800: Small Diameter Bomb	-	-	-	-	-	-	24.181	93.599	95.464	456.842	670.086
Remarks											



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604329N / <i>Small Diameter Bomb (SDB)</i>	Project (Number/Name) 3072 / <i>Small Diameter Bomb (SDB)</i>
<p><b>D. Acquisition Strategy</b></p> <p>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 &amp; 5 are included in the contract, but are Not-To-Exceed options.</p> <p>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.</p> <p><b>E. Performance Metrics</b></p> <p>Earned value management has been implemented on the EMD contract with Raytheon.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development - SDB II EMD	C/FPIF	Raytheon : Tucson, AZ	10.835	10.319	Jan 2013	6.200	Jan 2014	2.166	Jan 2015	-		2.166	95.052	124.572	124.572
Aircraft Integration - JSF	C/CPFF	Lockheed Martin : Fort Worth, TX	16.578	1.577	Jan 2014	-		11.563	Jan 2015	-		11.563	35.700	65.418	65.418
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	15.497	-		-		-		-		-	-	15.497	-
Subtotal			42.910	11.896		6.200		13.729		-		13.729	130.752	205.487	-
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.															
Primary Hardware Development to Raytheon in Tucson, AZ reflects the winning SDB II contractor and includes test assets. FY13 includes additional tasks required not included in the baseline EMD contract, such as peculiar support equipment and F35 Pit Test Support. FY14 and FY15 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 OFF, UAI software coding, nor test missions which are represented in Support and Test sections, respectively. FY 2013 through FY 2015 includes funding for risk reduction efforts including F-35 internal bay modification efforts for SDB II, adapter and strut hardware and thermal compatability analysis. FY13 contract award delayed due to contractor negotiations. FY14 planned bay modifications with Lockheed Martin have been delayed until FY15.															
Beginning FY11, funding for JMM BRU (BRU-61A/A) is included in PU3082.															
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development - JSF	C/CPFF	Lockheed Martin : Ft. Worth, TX	1.204	-	Nov 2013	4.910	Jan 2014	9.000	Jan 2015	-		9.000	44.762	59.876	59.876
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	17.410	-		-		-		-		-	-	17.410	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date: March 2014</b>			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i>						<b>Project (Number/Name)</b> 3072 / <i>Small Diameter Bomb (SDB)</i>			
<b>Support (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Subtotal</b>			18.614	-		4.910		9.000		-		9.000	44.762	77.286	-
<b>Remarks</b> 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 (JCTD) 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. Contract award was scheduled for 2013, but delayed due to contractor negotiations. FY 2014 begins the requirements definition for UAI.															
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Developmental Test & Evaluation - JSuW/WDLN	Various	Various : Various	2.864	-		-		-		-		-	4.058	6.922	-
Operational Test & Evaluation - SDBII	WR	COMOPTEVFOR : China Lake, CA	1.010	-		-		-		-		-	16.018	17.028	-
Developmental Test & Evaluation - SDB II	C/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	-		-		-		-		-	45.939	45.939	45.939
Prior Year T&E cost no longer funded in the FYDP	Various	Various : Various	8.049	-		-		-		-		-	-	8.049	8.049
<b>Subtotal</b>			11.923	-		-		-		-		-	66.015	77.938	-
<b>Remarks</b> Developmental T&E (DT) and Operational T&E (OT) include all aspects of the weapon system - SDB II, JMM BRU, and F35 aircraft OFP. There will be no separate DT or OT period for JMM BRU. Operational test is scheduled for 2020.															
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Contractor Services	Various	Various : Various	1.396	0.312	Nov 2012	0.487	Nov 2013	0.505	Nov 2014	-		0.505	2.252	4.952	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604329N / Small Diameter Bomb (SDB)				<b>Project (Number/Name)</b> 3072 / Small Diameter Bomb (SDB)					
<b>Management Services (\$ in Millions)</b>															
				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Government Support	WR	NAWC WD : China Lake, CA	18.372	2.511	Nov 2012	2.767	Nov 2013	2.832	Nov 2014	-		2.832	19.298	45.780	-
Government Support	WR	Various : Various	8.298	0.170	Nov 2012	0.250	Nov 2013	0.750	Nov 2014	-		0.750	3.593	13.061	-
Program Management Support	WR	Various : Various	5.021	1.656	Nov 2012	1.801	Nov 2013	1.950	Nov 2014	-		1.950	13.385	23.813	-
Travel	MIPR	ASC20OG : Eglin AFB, FL	1.749	0.032	Oct 2012	0.150	Oct 2013	0.150	Oct 2014	-		0.150	1.400	3.481	-
<b>Subtotal</b>			34.836	4.681		5.455		6.187		-		6.187	39.928	91.087	-
			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			108.283	16.577		16.565		28.916		-		28.916	281.457	451.798	-
<b>Remarks</b>															

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PE 0604329N: *Small Diameter Bomb (SDB)*  
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3072 / *Small Diameter Bomb (SDB)*

Small Diameter Bomb II		FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019									
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q										
Acquisition Milestones																																			
Milestones												MS C ▲																							
Systems Development																																			
Hardware Development		Engineering Manufacturing and Development (EMD)																																	
Reviews																																			
Test & Evaluation																																			
Technical Evaluation																		Developmental Test																	
Production Milestones																																			
Contract Awards								Low Rate Initial Production {LRIP} I contract Award {USAF only} {Missile Procurement, AF} ●				LRIP II Contract Award {USAF Only} {Missile Procurement, AF} ●				LRIP III Contract Award {USAF only} {Missile Procurement, AF} ●							LRIP IV Contract Award {USAF and DON} {Missile Procurement, AF and WPN} ●					LRIP V Contract Award {USAF and DON} {Missile Procurement, AF and WPN} ●							FRP Lot 6 Contract Award ●
Deliveries																																			
				</																															

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i>	<b>Project (Number/Name)</b> 3072 / <i>Small Diameter Bomb (SDB)</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>Small Diameter Bomb II</i></b>				
Acquisition Milestones: Milestones: MS C	4	2015	4	2015
Systems Development: Hardware Development: Engineering Manufacturing and Development (EMD)	1	2013	4	2019
Test & Evaluation: Technical Evaluation: Developmental Test	2	2017	4	2018
Production Milestones: Contract Awards: Low Rate Initial Production (LRIP) I Contract Award (USAF Only) (Missile Procurement, AF)	4	2014	4	2014
Production Milestones: Contract Awards: LRIP II Contract Award (USAF Only) (Missile Procurement, AF)	2	2015	2	2015
Production Milestones: Contract Awards: LRIP III Contract Award (USAF Only) (Missile Procurement, AF)	2	2016	2	2016
Production Milestones: Contract Awards: LRIP IV Contract Award (USAF and DoN) (Missile Procurement, AF and WPN)	2	2017	2	2017
Production Milestones: Contract Awards: LRIP V Contract Award (USAF and DoN) (Missile Procurement, AF and WPN)	2	2018	2	2018
Production Milestones: Contract Awards: FRP Lot 6 Contract Award (USAF and DoN) (Missile Procurement, AF and WPN)	2	2019	2	2019
Deliveries: LRIP I Deliveries (USAF only 144 units)	4	2015	4	2016
Deliveries: LRIP II Deliveries (USAF only 250 units)	4	2016	4	2017
Deliveries: LRIP III Deliveries (USAF only 390 units)	4	2017	4	2018
Deliveries: LRIP IV Deliveries (USAF and DoN 460/90)	4	2018	4	2019
Deliveries: LRIP V Deliveries (USAF and DoN)	4	2019	4	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3082: JMM BRU	6.418	12.306	8.360	13.933	-	13.933	11.769	8.836	4.862	3.634	1.461	71.579
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: Joint Miniature Munitions Bomb Rack Unit (JMM BRU) Government Support  Articles:  Description: Funding provided for the SDB II Carriage System support and integration into Navy environments.  FY 2013 Accomplishments: Completed source selection and awarded Technology Development (TD) contract.  FY 2014 Plans: Continue 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.									2.606	3.586	4.112	
									-	-	-	
Title: Joint Miniature Munitions Bomb Rack (JMM BRU) Prime Contractor  Articles:  Description: Prime Contractor Support of JMM BRU (BRU-61A/A) TD/EMD contract.  FY 2013 Accomplishments:									9.700 2.000	4.774 5.000	9.821 -	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy							<b>Date:</b> March 2014				
<b>Appropriation/Budget Activity</b> 1319 / 5			<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i>			<b>Project (Number/Name)</b> 3082 / <i>JMM BRU</i>					
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>		
Completed source selection of JMM BRU prime contractor and the TD contract was awarded June 2013. Conducted Integrated Baseline Review (IBR).											
<b>FY 2014 Plans:</b> Continue 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.											
<b>FY 2015 Plans:</b> Execute EMD contract. JMM BRU prime contractor fully manned to complete EMD phase.											
<b>Accomplishments/Planned Programs Subtotals</b>							12.306	8.360	13.933		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APN/0720: <i>War Consumables</i>	-	-	-	-	-	-	-	13.617	18.117	220.951	252.685
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
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.											
<b>E. Performance Metrics</b>											
Earned value management is being implemented on the TD/EMD contract for the technology demonstration contract.											



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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	0.000	9.700	Jun 2013	4.774	Apr 2014	9.821	Apr 2015	-		9.821	9.881	34.176	34.176
Subtotal			0.000	9.700		4.774		9.821		-		9.821	9.881	34.176	34.176
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.															
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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.															
Flight Test conducted will be fit checks on F-35B and F-35C with the new JMM BRU.															
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Support	WR	NAWC WD : China Lake, CA	2.002	1.939	Nov 2012	2.665	Nov 2013	3.066	Nov 2014	-		3.066	12.000	21.672	-
Government Support	WR	Various : Various	4.201	0.511	Nov 2012	0.719	Nov 2013	0.842	Nov 2014	-		0.842	14.605	20.878	-
Travel	MIPR	ASC200G : Eglin AFB, FL	0.090	0.031	Nov 2012	0.075	Oct 2013	0.075	Oct 2014	-		0.075	1.250	1.521	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i>				<b>Project (Number/Name)</b> 3082 / <i>JMM BRU</i>					

Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Services	MIPR	AFLCMC : Eglin AFB, FL	0.125	0.125	Nov 2012	0.127	Dec 2013	0.129	Dec 2014	-		0.129	0.750	1.256	-
<b>Subtotal</b>			6.418	2.606		3.586		4.112		-		4.112	28.605	45.327	-

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	6.418	12.306	8.360	13.933	-	13.933	38.922	79.939	-

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**

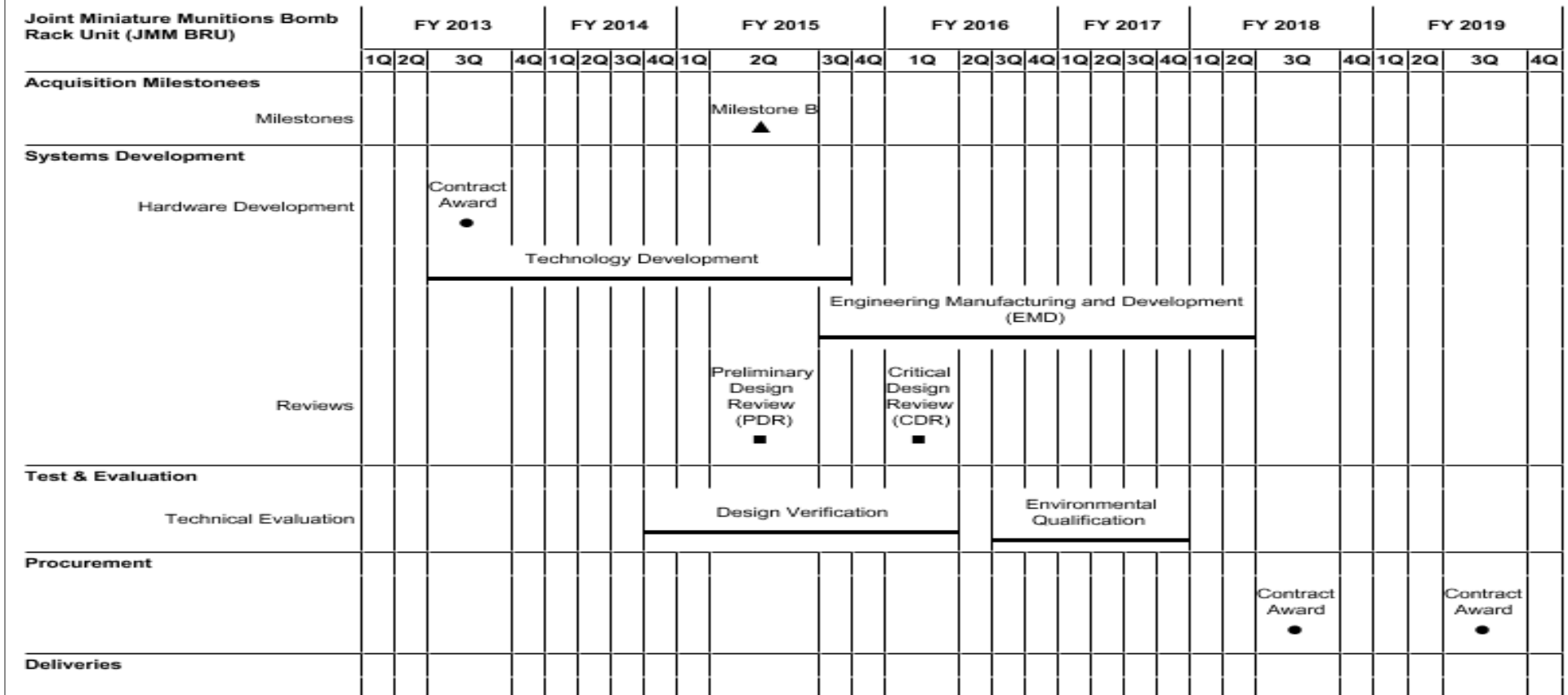
1319 / 5

**R-1 Program Element (Number/Name)**

PE 0604329N / *Small Diameter Bomb (SDB)*

**Project (Number/Name)**

3082 / *JMM BRU*



2015PB - 0604329N - 3082

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604329N / <i>Small Diameter Bomb (SDB)</i>	<b>Project (Number/Name)</b> 3082 / <i>JMM BRU</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>Joint Miniature Munitions Bomb Rack Unit (JMM BRU)</i></b>				
Acquisition Milestonees: Milestones: Milestone B	2	2015	2	2015
Systems Development: Hardware Development: Technology Development Contract Award	3	2013	3	2013
Systems Development: Hardware Development: Technology Development	3	2013	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
Procurement: LRIP 1 Contract Award	3	2018	3	2018
Procurement: LRIP 2 Contract Award	3	2019	3	2019
Deliveries: LRIP 1 Deliveries	4	2019	4	2019

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604366N / Standard Missile Improvements							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	2,078.458	46.965	67.082	53.198	-	53.198	67.682	58.710	41.904	14.268	Continuing	Continuing
0439: Standard Missile Improvement	1,067.876	23.725	26.716	11.814	-	11.814	19.781	11.855	12.127	12.444	Continuing	Continuing
3092: Standard Missile 6 Program	1,010.582	23.240	40.366	41.384	-	41.384	47.901	46.855	29.777	1.824	Continuing	Continuing
MDAP/MAIS Code: Other MDAP/MAIS Code(s): 197, 391												
# The FY 2015 OCO Request will be submitted at a later date.												
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.												
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 Seasparrow Missile (ESSM) and Standard Missile 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) radar for DDG 51 Flight III ships will include requirements review/updates and analysis, verification, technical documentation, design review, working group SME support, missile/radar integration, missile test hardware procurement, risk assessment, safety, test and evaluation planning, analysis, data collection. Missile variants: ESSM Block I; SM-2 Blk IIIB MU2, SM-6 Block I (Current Aegis Configuration).												
The SM-6 missile system will leverage the Navy investment in the AEGIS Weapon System (AWS), Cooperative Engagement Capability (CEC), and airborne early warning systems, which will be upgraded in concert with missile development to support a fully integrated extended range detect-to-engage naval and joint integrated fire control capability. Together, this family of systems will provide the air superiority and the umbrella of protection against the full spectrum of projected future cruise missile (anti-ship and land attack) and manned aircraft threats discussed in the Joint TAMD MNS, DPG, QDR, Integrated Air and Missile Defense (IAMD) Roadmap, IAMD Joint Integrating Concept, IAMD Joint Operating Concept and TAMD Capstone Requirements Document. SM-6 FOT&E Testing with AEGIS Baseline 9 commences in the second quarter of FY14 and scheduled events align with the overall AEGIS Baseline 9 Path to Operational Testing (OT).												

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604366N / <i>Standard Missile Improvements</i>
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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 Naval Integrated Fire Control-Counter Air (NIFC-CA) test and evaluation strategy. 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.

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, Office of Naval Research (ONR) and Missile Defense Agency (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 Level 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 capability demonstration project funded by the OSD Deputy's Management Action Group (DMAG), with DEPSECDEF approval, for the execution of test vehicle tests at White Sands Missile Range to support an at sea demonstration event in FY16. The at sea demonstration event supports data collections, performance analysis tasks, reliability assessment, Preliminary Design Review (PDR) for AEGIS Baseline Changes (ACB), and Combat Systems Integration Test (CSIT). The preliminary integration testing of the entire architecture interfaces missile, data network, AEGIS, and airborne sensors to support the fielding of an operational capability in the FY18 timeframe.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	63.891	75.592	80.042	-	80.042
Current President's Budget	46.965	67.082	53.198	-	53.198
Total Adjustments	-16.926	-8.510	-26.844	-	-26.844
• Congressional General Reductions	-	-0.010			
• Congressional Directed Reductions	-	-8.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.058	-			
• SBIR/STTR Transfer	-1.362	-			
• Program Adjustments	-	-	-24.400	-	-24.400
• Rate/Misc Adjustments	-0.001	-	-2.444	-	-2.444
• Congressional General Reductions	-4.121	-	-	-	-
Adjustments					
• Congressional Directed Reductions	-15.500	-	-	-	-
Adjustments					

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0604366N / Standard Missile Improvements	
<p><b>Change Summary Explanation</b></p> <p>Congressional reduction in FY 14 for future capabilities demonstration. Future capabilities demonstration funding was increased in FY 15 to support the fielding of an operational capability in the FY18 timeframe. IM funding was reduced in FY15 to align program with the revised TTA with the ONR.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604366N / <i>Standard Missile Improvements</i>				Project (Number/Name) 0439 / <i>Standard Missile Improvement</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0439: <i>Standard Missile Improvement</i>	1,067.876	23.725	26.716	11.814	-	11.814	19.781	11.855	12.127	12.444	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 197												
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Modifications to SM-2 BLK IIIA are required for use on DDG-1000 class destroyers. The JUWL will be integrated with the ESSM and Standard Missile 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 AMDR-S radar 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 PDRs HW&SW (FY13) and CDRs HW&SW (FY14); EDM testing (FY15), interface specs and engineering documents to support AMDR/ACBNext for DDG 51 Flight III 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 2013	FY 2014	FY 2015	
Title: DDG-1000 Pre Plan Product Improvement (P3I) Link Integration/ICWI									19.891	12.706	8.825	
									Articles: -	-	-	
FY 2013 Accomplishments: Conducted ESSM PRM qualification testing and EMI/E3 testing; Conducted SM-2 POD Plate 3 DVT; Completed SM-2 JUWL Preliminary Design Review in July 2013; Procured and assemble SM-2 Production Representative Model (PRM) modules and conduct associated qualification testing.												
FY 2014 Plans: Complete ESSM E3 testing. Deliver ESSM inert operational missile (IOM) to DDG 1000 for ship interface checkout and integration testing; Conduct SM-2 Plate 3 qualification testing; Conduct SM-2 JUWL Critical Design Review in 3rd quarter 2014; Assemble/integrate SM-2 modules and software into a functional missile guidance section.												
FY 2015 Plans: Conduct SM guidance and round level qualification testing and EMI/E3 testing. Deliver PRM IOM to DDG 1000.												
Title: DDG 1000 Rephase									2.799	-	-	



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy							Date: March 2014				
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 2013	FY 2014	FY 2015		
Articles:							-	-	-		
FY 2013 Accomplishments: Procured test round modification kits to upgrade Block IIAs to Zumwalt IIAs, test, and deliver Zumwalt IIA rounds (including canisters) for developmental testing (DT).											
FY 2014 Plans: N/A											
FY 2015 Plans: N/A											
Title: Air and Missile Defense Radar (AMDR) Integration							1.035	14.010	2.989		
Articles:							-	-	-		
FY 2013 Accomplishments: AMDR Specifications requirements review; conducted analysis required for requirements margin within current missile ICDs; Supported AMDR prime design review technical interchange meetings; engineering studies as required.											
FY 2014 Plans: 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.											
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 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.											
Accomplishments/Planned Programs Subtotals							23.725	26.716	11.814		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• WPN 2356: Standard Missile	-	-	-	-	-	16.600	-	-	-	-	16.600
Remarks											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604366N / <i>Standard Missile Improvements</i>	<b>Project (Number/Name)</b> 0439 / <i>Standard Missile Improvement</i>
<p><b><u>D. Acquisition Strategy</u></b></p> <p>Production representative missiles will be built for ESSM between FY12 and 14 and for SM-2 FY13 and FY17.</p> <p>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 &amp; Operational Test (DT &amp; OT) FY15-FY17 and continue follow-on ship integration and design update effort in FY18.</p> <p>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 PMS 500.</p> <p>SM Development, integration, and test is expected to conclude by FY18 for the X-band JUWL and ICWI.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>ESSM initial engineering design for X-Band JUWL capability was completed and Engineering Development Models (EDMs) were built and tested.</p> <p>ESSM ordered material/parts and assembled proof of design units. Design verification tests are complete (FY12).</p> <p>ESSM conducted its Critical Design Review (CDR) in April 2012 (FY12).</p> <p>JUWL conducted its SM-2 PDR during fourth quarter FY13.</p> <p>SM-2 integration testing and datalink qualification for JUWL testing is planned for FY14.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604366N / <i>Standard Missile Improvements</i>				Project (Number/Name) 0439 / <i>Standard Missile Improvement</i>					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Design and Analysis1	SS/CPAF	RAYTHEON : Tucson, AZ	234.986	20.120	May 2013	23.818	Mar 2014	9.552	Nov 2014	-		9.552	Continuing	Continuing	Continuing
Design and Analysis2	C/CPFF	JHU/APL : Laurel, MD	4.701	1.605	Nov 2012	1.500	Mar 2014	0.310	Nov 2014	-		0.310	-	8.116	-
Design and Analysis3	MIPR	MIT/Lin Lab : Lexington, MA	0.050	-		-		-		-		-	-	0.050	-
Design and Analysis4	WR	NSWC : Dahlgren	787.984	0.363	Nov 2012	0.320	Mar 2014	0.601	Nov 2014	-		0.601	-	789.268	-
Design and Analysis5	WR	NSWC : Indian Head	0.940	-		-		-		-		-	-	0.940	-
Design and Analysis6	WR	NAWC : China Lake	3.180	0.475	Nov 2012	0.570	Mar 2014	0.474	Nov 2014	-		0.474	-	4.699	-
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	0.325	0.060	Jul 2013	-		0.351	Nov 2014	-		0.351	-	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	-		0.041	-	0.172	-
Design and Analysis19	MIPR	MDA : Dahlgren,VA	1.257	-		-		-		-		-	-	1.257	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Design and Analysis20	WR	IWS3D : ARLINGTON, VA	1.000	0.500	Nov 2012	-		-		-		-	-	1.500	-
Subtotal			1,060.098	23.123		26.238		11.329		-		11.329	-	-	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	2.294	0.537	Nov 2012	0.415	Mar 2014	0.423	Nov 2014	-		0.423	-	3.669	-
TRAVEL	Allot	IWS3 : Arlington, VA	0.066	0.065	Nov 2012	0.063	Mar 2014	0.062	Nov 2014	-		0.062	-	0.256	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Navy												<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604366N / <i>Standard Missile Improvements</i>				<b>Project (Number/Name)</b> 0439 / <i>Standard Missile Improvement</i>				

Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
<b>Subtotal</b>			4.990	0.602		0.478		0.485		-		0.485	-	6.555	-

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	1,067.876	23.725	26.716	11.814	-	11.814	-	-	-

**Remarks**

# UNCLASSIFIED

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

Date: March 2014

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0604366N / Standard Missile  
Improvements

Project (Number/Name)  
0439 / Standard Missile Improvement

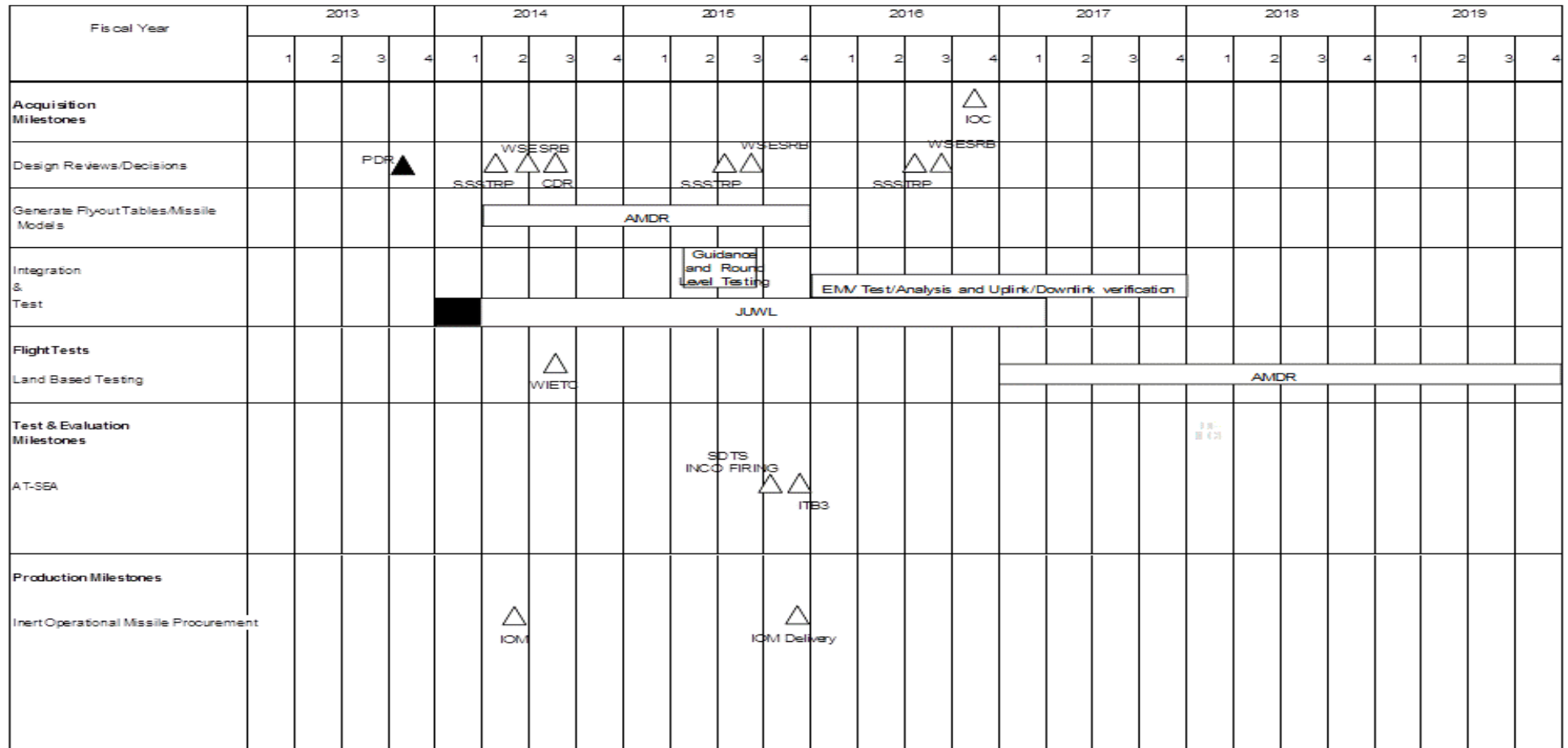


EXHIBIT R-4  
SCHEDULE PROFILE

# UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3092: Standard Missile 6 Program	1,010.582	23.240	40.366	41.384	-	41.384	47.901	46.855	29.777	1.824	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 391												
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
<p>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 AWS, 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 TAMD MNS, DPG, 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.</p> <p>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 SoS live fire at-sea test with AEGIS Baseline 9 commences in the 4th Quarter of FY13 with subsequent Land-Based and At-Sea tests taking place in FY14.</p> <p>IM efforts support transition of technology associated with ONR HARDKILL Future Naval Capabilities reflected in a signed, level B, TTA, endorsed by PEO IWS 3.0, OPNAV N96C, ONR and MDA AX.</p> <p>PABTs eliminates the need for missiles to be removed from the ship and transported to the 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.</p> <p>Future capabilities demonstration project supports SM demonstrations, captive flight tests, data collection and analysis tasks.</p>												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: SM 6 Missile Development/Improvement									10.273	-	-	
									Articles: -	-	-	
FY 2013 Accomplishments:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
Supported follow on test and evaluation (FOT&E); ACB 12 B/L 9 integration and flight test; and Processor Replacement Program (PRP) flight test and analysis.  FY 2014 Plans: N/A  FY 2015 Plans: N/A				
Title: Insensitive Munitions (IM)  FY 2013 Accomplishments: Active Mitigation (AM) Plan was rebaselined IAW reduced budget to include a re-phased introduction of Insensitive Munitions AM Technologies. Electronic Arm & Fire Device (EAFD) improvements (MIL-STD-1901A) were addressed via an Ignition Safety Device (ISD) approach, leveraging several AM vendors, proposed and led by the prime contractor. Full-scale, static rocket motor testing was deferred. Fuze and Initiation System Technical Review Panel (FISTRP) & Weapon System Explosive Safety Review Board (WSESRB) technical briefs are planned. The bi-annual IM POA&M was prepared.  FY 2014 Plans: The prime contractor will continue to develop EAFD/ISD technology at the subscale level. Safety plans and reviews with the safety community are planned. The bi-annual IM POA&M (for FY15/16) will be socialized and endorsed. The IM tech team will continue 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.		3.195 Articles: -	4.114 -	1.000 -
Title: Portable All-Up Round Bit Tester (PABTs)  FY 2013 Accomplishments: Integrated Baseline Review (IBR). System Requirements review (SRR)/System Functional Review (SFR) and detailed design.  FY 2014 Plans: Continue detailed design and development. Preliminary Design Review/Critical Design Review (PDR/CDR) and interface development.  FY 2015 Plans:		2.700 Articles: -	5.000 -	1.000 -



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014			
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 2013	FY 2014	FY 2015
Complete software CDR, test readiness reviews, and 1st article for final qualification test.						
Title: Naval Integrated Fire Control - Counter Air (NIFC-CA)				7.072	5.775	2.821
Articles:				-	-	-
FY 2013 Accomplishments: Integration of SM-6 6-DOF (Degrees of freedom) with NIFC-CA federation, to include airborne sensor and execution of end-to-end simulation performance predictions. Successful execution of one land-based (WSMR) NIFC-CA live fire test. Execution of the CNO directed at-sea Point Mugu Test Center (PMTTC) live fire test. Completion of NIFC-CA CONOPS.						
FY 2014 Plans: Execution of Live-Fire NIFC-CA tests at WSMR. Execution of three at-sea live fire NIFC-CA tests at PMTC.						
FY 2015 Plans: Capabilities and limitations development. Analysis based on federated 6-DOF and live fire test events to support IFC runs for the record.						
Title: Future Capability Demonstration				-	25.477	36.563
Articles:				-	-	-
FY 2013 Accomplishments: N/A						
FY 2014 Plans: 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.						
Accomplishments/Planned Programs Subtotals				23.240	40.366	41.384

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604366N / Standard Missile Improvements				Project (Number/Name) 3092 / Standard Missile 6 Program				
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• WPN 2234: Standard Missile	332.535	367.985	445.836	-	445.836	514.449	536.614	584.833	598.848	4,681.676	8,865.621	
• Standard Missile: QTY	89.000	81.000	110.000	-	110.000	125.000	125.000	125.000	125.000	842.000	1,800.000	
Remarks												
D. Acquisition Strategy												
SM-6 Acquisition Strategy signed by OSD AT&L 14 March 2012.												
E. Performance Metrics												
Accomplishments												
- DT Flight Tests at PMRF - Jan 11												
- OT TRR - May 11												
- OT Flight Tests at PMRF - Jul 11												
- LRIP III Option II Contract Award - Jul 11												
- LRIP IV UCA Contract Award - May 12												
- 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												
Upcoming Milestones												
- DT/OT DI - Jan 14 - Sept 14												
- Integrated Fire Control (IFC) Apr 12 - Jul 16												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Design & Analysis	C/CPIF	RAYTHEON : Tucson, AZ	665.690	13.273	May 2013	11.308	Mar 2014	16.434	Nov 2014	-		16.434	Continuing	Continuing	Continuing
Design & Analysis	C/CPFF	JHU/APL : Laurel MD	45.418	0.595	Nov 2012	3.049	Mar 2014	3.000	Nov 2014	-		3.000	-	52.062	-
Design & Analysis	MIPR	MIT/Lin Lab : Lexington, MA	0.550	-		-		-		-		-	-	0.550	-
Design & Analysis	WR	NAWC : China Lake	4.434	0.153	Nov 2012	0.050	Mar 2014	-		-		-	-	4.637	-
Design & Analysis	WR	NSWC : Dahlgren	10.904	0.246	Nov 2012	0.175	Mar 2014	0.200	Nov 2014	-		0.200	-	11.525	-
Design & Analysis	WR	NSWC : Indian Head	3.312	0.250	Nov 2012	0.300	Mar 2014	-		-		-	-	3.862	-
Design & Analysis	WR	NSWC : PHD	9.012	0.220	Nov 2012	0.050	Mar 2014	-		-		-	-	9.282	-
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	-		-		-	-	16.659	-
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	-		-		-		-		-	-	2.155	-
Design & Analysis	WR	CARDEROCK : Philadelphia, PA	2.549	-		-		-		-		-	-	2.549	-
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	-		-		-		-		-	-	0.050	-
Design & Analysis	WR	NAWCAD : Pax River, MD	0.392	-		-		-		-		-	-	0.392	-
Design & Analysis	C/CPFF	CORVID : Mooresville, NC	2.900	-		-		-		-		-	-	2.900	-
Design & Analysis	C/CPFF	RNB : Arlington, VA	0.010	-		-		-		-		-	-	0.010	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604366N / <i>Standard Missile Improvements</i>				Project (Number/Name) 3092 / <i>Standard Missile 6 Program</i>					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	-		11.000	Mar 2014	11.000	Nov 2014	-		11.000	-	81.773	-
Design & Analysis	WR	VARIOUS : (VLS)	24.772	0.105	Nov 2012	0.050	Mar 2014	-		-		-	-	24.927	-
Design & Analysis	WR	NSWC : WSMR	0.000	-	Nov 2012	0.100	Mar 2014	-		-		-	-	0.100	-
Subtotal			894.061	14.842		26.182		30.634		-		30.634	-	-	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NSWC : Port Hueneme	1.190	0.175	Nov 2012	0.700	Mar 2014	0.500	Nov 2014	-		0.500	-	2.565	-
Developmental Test & Evaluation	WR	NSWC : WSMR	23.501	0.641	Nov 2012	1.900	Mar 2014	0.250	Nov 2014	-		0.250	-	26.292	-
Developmental Test & Evaluation	WR	PMRF : Hawaii	38.201	-		-		-		-		-	-	38.201	-
Developmental Test & Evaluation	WR	NAWC : Pt Mugu	0.769	-		2.000	Mar 2014	2.000	Nov 2014	-		2.000	-	4.769	-
Developmental Test & Evaluation	C/CPAF	RAYTHEON : Tucson, AZ	15.266	1.841	May 2013	1.854	Mar 2014	1.800	Nov 2014	-		1.800	-	20.761	-
Developmental Test & Evaluation	C/CPFF	JHU/APL : Laurel, MD	3.748	2.058	Nov 2012	1.630	Mar 2014	1.500	Nov 2014	-		1.500	-	8.936	-
Developmental Test & Evaluation	WR	NSWC : Corona	3.898	1.200	Nov 2012	1.620	Mar 2014	1.500	Nov 2014	-		1.500	-	8.218	-
Developmental Test & Evaluation	WR	NSWC : Dahlgren	0.863	0.095	Nov 2012	0.550	Mar 2014	0.500	Nov 2014	-		0.500	-	2.008	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	VLS : Arlington, VA	1.555	0.339	Nov 2012	0.150	Mar 2014	0.150	Nov 2014	-		0.150	-	2.194	-
Developmental Test & Evaluation	WR	COMPTEVFOR : Norfolk, Va	0.922	0.442	May 2013	-		-		-		-	-	1.364	-
Developmental Test & Evaluation	WR	VARIOUS : (IWS 1A)	0.902	-		-		0.500	Nov 2014	-		0.500	-	1.402	-
Developmental Test & Evaluation	WR	NSWC : Carderock	0.000	-		2.000	Mar 2014	0.500	Nov 2014	-		0.500	-	2.500	-
Subtotal			90.815	6.791		12.404		9.200		-		9.200	-	119.210	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Services	C/CPAF	VARIOUS : Various	23.488	1.563	Nov 2012	1.730	Mar 2014	1.500	Nov 2014	-		1.500	-	28.281	-
Travel	Various	IWS3 : Arlington, VA	1.088	0.044	Nov 2012	0.050	Mar 2014	0.050	Nov 2014	-		0.050	-	1.232	-
DAWDF	C/FP	Not Specified : Not Specified	1.130	-		-		-		-		-	-	1.130	-
Subtotal			25.706	1.607		1.780		1.550		-		1.550	-	30.643	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			1,010.582	23.240		40.366		41.384		-		41.384	-	-	-
Remarks															

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604366N / Standard Missile Improvements

Project (Number/Name)

3092 / Standard Missile 6 Program

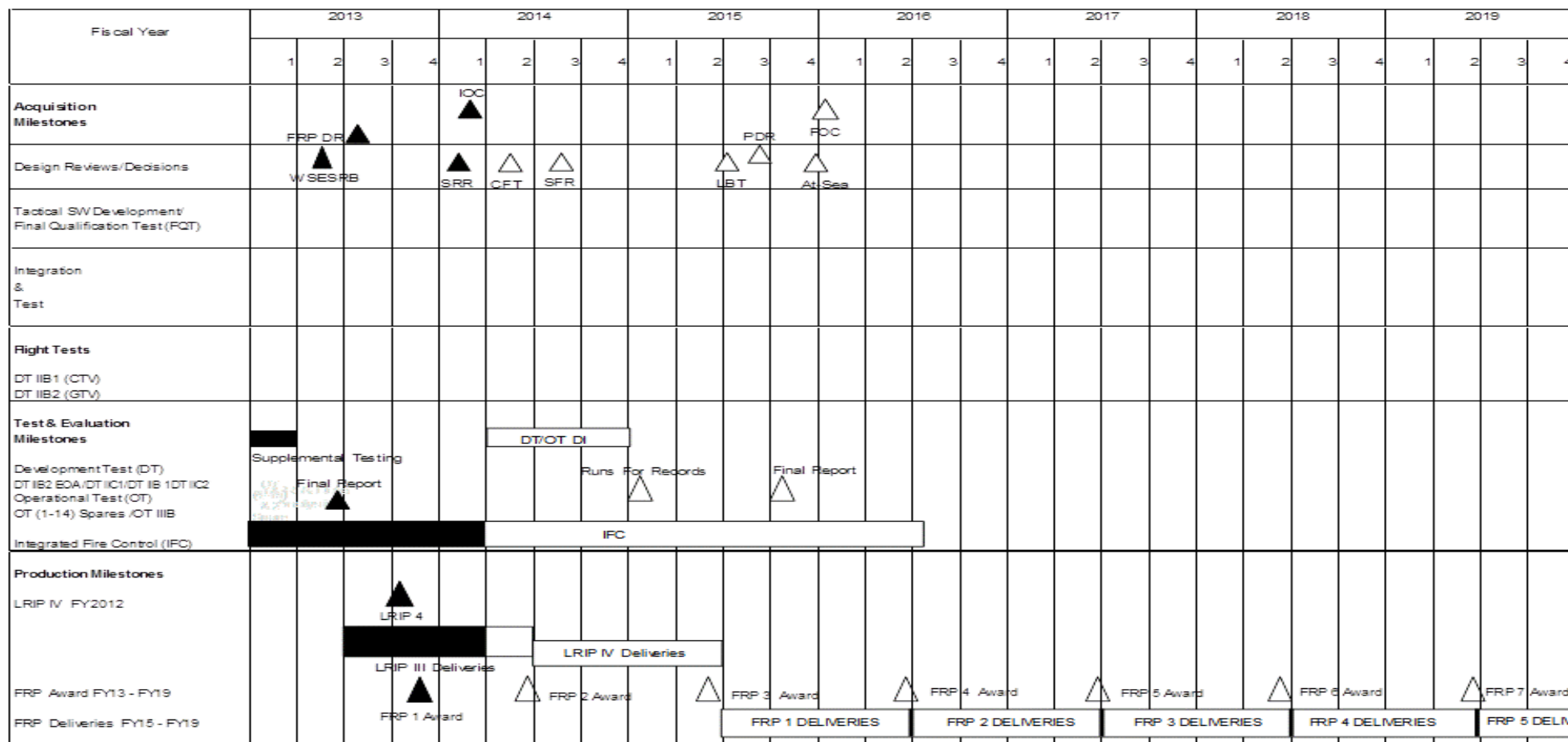


EXHIBIT R-4  
SCHEDULE PROFILE

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604366N / <i>Standard Missile Improvements</i>	<b>Project (Number/Name)</b> 3092 / <i>Standard Missile 6 Program</i>	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 3092</b>				
IOC	1	2014	1	2014
Full-Rate Production (FRP) DAB	3	2013	3	2013
Full Operational Capability (FOC)	4	2015	1	2016
WSESRB	1	2013	2	2013
DT/OT DI (FOT&E)	2	2014	4	2014
Runs for Record Final Report	2	2013	2	2013
Runs for the Record	1	2015	1	2015
Runs for the Record Final Report	4	2015	4	2015
Low-Rate Initial Production III Deliveries	3	2013	2	2014
Low-Rate Initial Production IV Deliveries	3	2014	2	2015
Full Rate Production (FRP) Deliveries	3	2015	4	2019
Full Rate Production (FRP) Award	4	2013	3	2019
Future Capability Demonstration Captive Flight Test (CFT)	2	2014	2	2014
Future Capability Demonstration Base Test (LBT)	3	2015	3	2015
Future Capability Demonstration At-Sea test	4	2015	4	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	2013	3	2016
Low-Rate Initial Production IV Award	4	2013	4	2013

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>					<b>R-1 Program Element (Number/Name)</b> PE 0604373N / <i>Airborne Mine Countermeasures (AMCM)</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	679.370	60.423	109.354	38.941	-	38.941	68.797	68.173	63.386	33.491	Continuing	Continuing
0529: <i>ABN Mine Hunt System</i>	255.428	15.453	45.177	13.319	-	13.319	9.571	9.888	4.140	4.285	Continuing	Continuing
2047: <i>ALMDS</i>	143.256	11.693	29.341	10.140	-	10.140	7.730	6.951	3.781	6.078	Continuing	Continuing
2427: <i>OASIS</i>	115.555	0.001	-	-	-	-	-	-	-	-	-	115.556
2473: <i>Airborne Mine Neutralization System</i>	144.254	30.271	28.701	7.507	-	7.507	43.434	41.181	45.112	12.544	Continuing	Continuing
4026: <i>Strat Into Medal, Tactics &amp; Trng Organic Force</i>	17.466	2.357	5.230	7.094	-	7.094	7.169	9.239	9.420	9.630	Continuing	Continuing
9179: <i>Surf Navy Integ Undersea Tactical Tech</i>	3.411	0.648	0.905	0.881	-	0.881	0.893	0.914	0.933	0.954	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

**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.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0604373N / Airborne Mine Countermeasures (AMCM)
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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).

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	73.246	117.854	87.102	-	87.102
Current President's Budget	60.423	109.354	38.941	-	38.941
Total Adjustments	-12.823	-8.500	-48.161	-	-48.161
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-8.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	7.500	-			
• SBIR/STTR Transfer	-1.785	-			
• Program Adjustments	-	-	-39.273	-	-39.273
• Rate/Misc Adjustments	-	-	-8.888	-	-8.888
• Congressional Recision Adjustments	-5.000	-	-	-	-
• Congressional General Reductions Adjustments	-7.288	-	-	-	-
• Congressional Directed Reductions Adjustments	-6.250	-	-	-	-

**Change Summary Explanation**

Program Adjustments: FY13 -\$14,327K in Total Adjustments: Sequestration (OASIS) -\$7,288K, Congressional (OASIS) -\$6,250K, SBIR -\$1,785K, and \$7,500K AN/AQS-20 Reprogramming: FY14 -\$8,500K in total adjustments: AN/AQS-24 -\$5,000K, AMNS -\$3,500K: FY15 -\$48,161K in total adjustments: AN/AQS-24C -\$6,500K, ALMDS -\$14,550K, AMNS N/S -\$18,223K and -\$8,888 Misc Adjustments (Sequestration).

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0529: ABN Mine Hunt System	255.428	15.453	45.177	13.319	-	13.319	9.571	9.888	4.140	4.285	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

## 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 critical capacity, 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, 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.

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 Rates, and Depth Localization performance to meet Block 2 performance. The Forward Looking Sonar will be replaced with a new High Frequency Wideband based 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) units begins in FY14 and continues through FY18. The Block 2 P3I program begins in FY16 and continues beyond FY19.

The AN/AQS-20A Block 2 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 begin in FY14 and continues through FY15 supporting AN/AQS-20A Block 2 and LCS MCM MP FY15 Developmental Testing (DT) and Initial Operational Test and Evaluation (IOT&E).

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 ends after in FY14.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
<b>Title:</b> AN/AQS-20A Product Development:  <b>Articles:</b>		14.178	19.805	6.799
<b>FY 2013 Accomplishments:</b> - Completed fabrication and subsystem testing of one Forward Looking Sonar (FLS). - Initiated fabrication of three sets of improved Side Looking Sonars (SLS). - Started hardware/software integration.  <b>FY 2014 Plans:</b> - Completed fabrication and subsystem testing of two FLS. - Initiated Electro-Optics Identification (EOID) and Volume Search Sonar (VSS) and FLS Power amplifier Materiel Reliability Improvement Development of Engineering Change Proposals (ECPs). - Complete fabrication and subsystem testing of improved SLS. - Integrate improved sensors into Engineering Development Models (EDMs). - Initiate and complete RMMV version 6.0 integration with three Block 2 EDMs. - Deliver three Block 2 EDMs for Developmental Testing. - Procure spares to support DT and IOT&E.  <b>FY 2015 Plans:</b> - Develop replacement Wave Form Generator to resolve obsolescence and support Synthetic Aperture Sonar (SAS) capability at maximum RMS mine hunting search speeds. - Complete Materiel Reliability Improvement ECPs and incorporate into systems for IOT&E. - Upgrade Block 1 maintenance trainers to Block 2 configuration.		-	-	-
<b>Title:</b> AN/AQS-20A Support:  <b>Articles:</b>		0.344	2.078	2.100
<b>Description:</b> RDT&E Articles Quantity  <b>FY 2013 Accomplishments:</b> - Provided ongoing technical engineering support to Block 1 and Block 2 development efforts. - Operational Requirements Document (ORD) updated and approved. - Updated logistics products and the Block 1 Interactive Electronic Technical Manual (IETM).  <b>FY 2014 Plans:</b> - Initiated updates to Block 2 logistics products. - Provide ongoing technical engineering support to Block 1 and Block 2.		-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604373N / Airborne Mine Countermeasures (AMCM)	<b>Project (Number/Name)</b> 0529 / ABN Mine Hunt System	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
Conduct repairs to Block 2 EDMs following DT activities.			
<b>FY 2015 Plans:</b> <ul style="list-style-type: none"> <li>- Provide ongoing technical engineering support to Block 1 and Block 2.</li> <li>- Complete updates to Block 2 logistics products based on the results of DT.</li> <li>- Conduct repairs to Block 2 EDMs following TECHEVAL activities.</li> </ul>			
<b>Title:</b> AN/AQS-20A Test and Evaluation  <b>Description:</b> RDT&E Articles Quantity  <b>FY 2013 Accomplishments:</b> <ul style="list-style-type: none"> <li>- AN/AQS-20A Block 1 successfully supported the 855 Total System Operating Hours over 47 missions during the RMS RGP v4.2 Contractor Validation testing.</li> <li>- Supported Littoral Combat Ship (LCS) MCM Developmental Testing (DT) events.</li> </ul> <b>FY 2014 Plans:</b> <ul style="list-style-type: none"> <li>- AN/AQS-20A Block 1 successfully supported 385 Total System Operating Hours over 18 missions during the RMS RGP v4.2 Developmental Test (DT-IIG).</li> <li>- Update RMS Test and Evaluation Master Plan (TEMP) with AN/AQS-20A Block 2 requirements.</li> <li>- Participate in LCS MCM Mission Module DT events.</li> <li>- Conduct integration and validation testing of the 3 Block 2 EDMs from Research Vessel Athena and the RMMV.</li> <li>- Participate in RMS (RMMV v6.0 and AN/AQS-20A Block 2) Contractor and Developmental/Integrated Testing.</li> </ul> <b>FY 2015 Plans:</b> <ul style="list-style-type: none"> <li>- Conduct Technical Evaluation (TECHEVAL) and IOT&amp;E of AN/AQS-20A Block 2.</li> <li>- Support LCS MCM MP TECHEVAL and IOT&amp;E.</li> </ul>		0.150 Articles: -	3.606 -  3.100 -
<b>Title:</b> AN/AQS-20A Management Services  <b>Description:</b> RDT&E Articles Quantity  <b>FY 2013 Accomplishments:</b> <ul style="list-style-type: none"> <li>- Provided planning and management for the AN/AQS-20A program.</li> <li>- Provided Program Office travel support.</li> </ul> <b>FY 2014 Plans:</b>		0.781 Articles: -	1.288 -  1.320 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604373N / Airborne Mine Countermeasures (AMCM)		<b>Project (Number/Name)</b> 0529 / ABN Mine Hunt System	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<ul style="list-style-type: none"> <li>- Updated Acquisition Program Baseline (APB).</li> <li>- Continue to provide planning and management for the AN/AQS-20A program.</li> <li>- Award and manage the competitive contract for Low Rate Initial Production (LRIP) /Full Rate Production (FRP) Block 2 units.</li> <li>- Provide Program Office travel support.</li> </ul> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue to provide planning and management for the AN/AQS-20A program to include the competitive contract.</li> <li>- Update acquisition documentation such as the Acquisition Strategy and Plan in support FRP Decision Review.</li> <li>- Provide Program Office travel support.</li> </ul>					
<p><b>Title:</b> AN AQS-24 Product Development</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b> Upgrade the fielded AN/AQS-24 systems by integrating a volume search capability (AN/AQS-24C).</p> <p><b>FY 2015 Plans:</b> N/A</p>			- -	11.509 -	- -
<p><b>Title:</b> AN AQS-24 Test and Evaluation</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b> Test the modified AN/AQS-24 system which adds volume search capability on the MH-53E Helicopter.</p> <p><b>FY 2015 Plans:</b> N/A</p>			- -	5.090 -	- -
<p><b>Title:</b> AN AQS-24 Program Management</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b></p>			- -	0.250 -	- -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
Provide management support and contract oversight for the development of the AN/AQS-24C Volume Search Capability												
FY 2015 Plans: N/A												
Title: AN AQS-24 Support												
Articles:										-	1.551	-
FY 2013 Accomplishments: N/A										-	-	-
FY 2014 Plans: Provide Engineering and Logistical support for the initial fielding of the AN/AQS-24 Volume Search Capability												
FY 2015 Plans: N/A												
Accomplishments/Planned Programs Subtotals										15.453	45.177	13.319
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN 4248: Airborne Mine Countermeasure (AN/AQS-20A/24)	-	42.500	19.524	-	19.524	21.385	7.590	-	-	Continuing	Continuing	
• OPN 1601: LCS MCM Mission Modules (AN/AQS-20A)	15.800	24.294	-	-	-	46.767	-	46.551	-	Continuing	Continuing	
Remarks BLI 1601 - Funding for AN/AQS-20A is part of the LCS MCM MP OPN budget.												
D. Acquisition Strategy AN/AQS-20A LRIP procurement continues with 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 procure volume search upgrade kits.												
E. Performance Metrics AN/AQS-20A award Block 2 competitive award in FY14.												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
1319 / 5	PE 0604373N / Airborne Mine Countermeasures (AMCM)	0529 / ABN Mine Hunt System
AN/AQS-20A - Successfully complete Block 2 IOT&E in FY15.		



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PE 0604373N: *Airborne Mine Countermeasures (AMCM)*  
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PE 0604373N / Airborne Mine Countermeasures (AMCM)

0529 / ABN Mine Hunt System

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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
2015PB - 0604373N - 0529		

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

Date: March 2014

Appropriation/Budget Activity

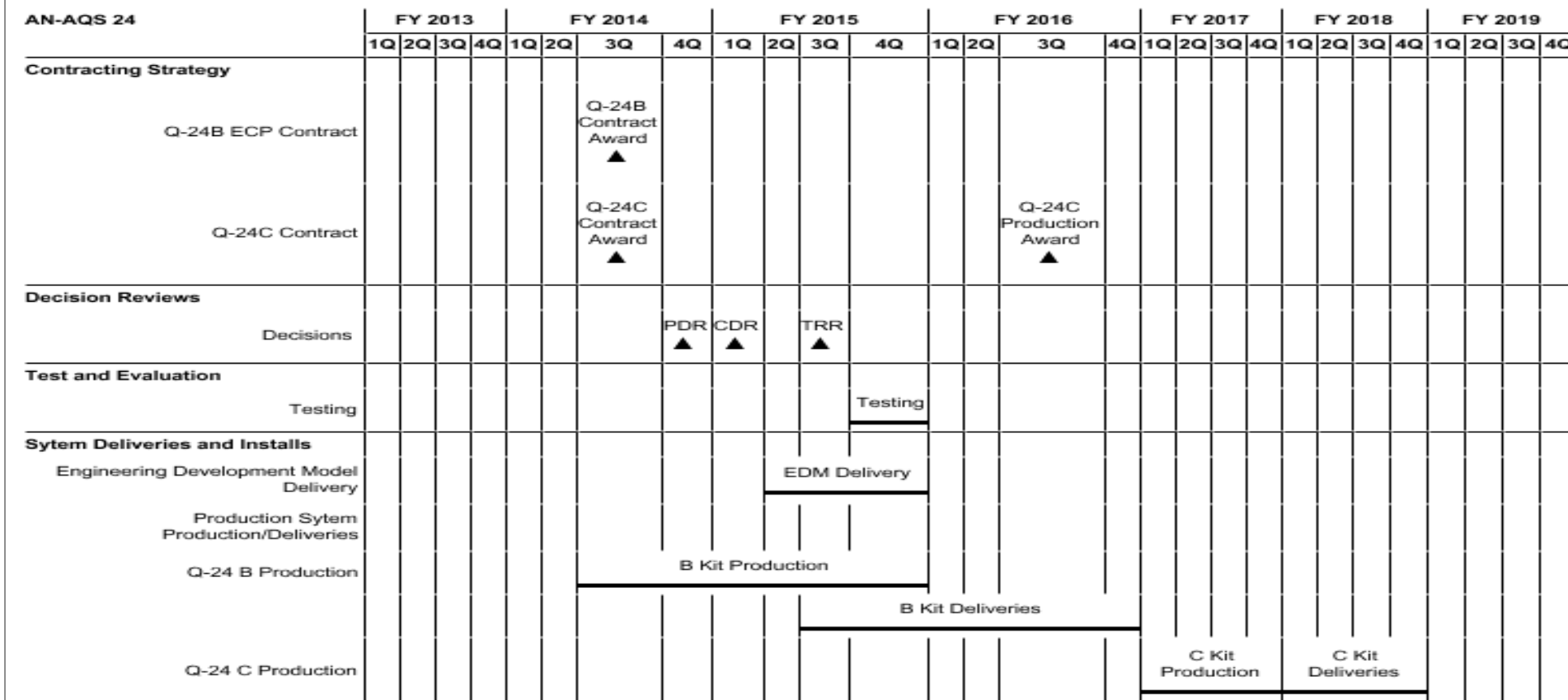
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R-1 Program Element (Number/Name)

PE 0604373N / Airborne Mine  
Countermeasures (AMCM)

Project (Number/Name)

0529 / ABN Mine Hunt System



2015PB - 0604373N - 0529

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2047: ALMDS	143.256	11.693	29.341	10.140	-	10.140	7.730	6.951	3.781	6.078	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015
Title: Hardware and Software technology development and demonstration/Engineering Services:  Articles:  Description: Engineering, oversight, and support of engineering efforts to meet baseline performance and P3I performance.  FY 2013 Accomplishments: System engineering, POD repairs, NGC Post Delivery Technical Support (PDTs) and start of P3I development  FY 2014 Plans: Continue P3I development and implementation (False Alarm, VSW Algorithm). Implement software Build 5085 in ALMDS and integrate with the MH-60S Common Console.  FY 2015 Plans: Continue P3I development and implementation (False Alarm, VSW Algorithm)										7.926	16.400	4.344
										-	-	-
Title: Integrated Logistics Support:  Articles:  FY 2013 Accomplishments: Provided Logistics support to LRIP Units, shipping container support, depot analysis to LRIP units and support equipment/peculiar support equipment.  FY 2014 Plans:										1.642	1.948	1.588
										-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy								Date: March 2014			
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 2013	FY 2014	FY 2015	
Provide Logistics support, depot analysis to LRIP units and support equipment/peculiar support equipment. Support training for AMCM Phase B testing.											
FY 2015 Plans: Provide Logistics support, depot analysis to LRIP units and support equipment/peculiar support equipment. Training support prior to IOT&E.											
Title: Testing and Evaluation:								1.018	9.952	3.250	
Articles:								-	-	-	
FY 2013 Accomplishments: Finished planning for Data Collection Flight Test											
FY 2014 Plans: Planning and conduct P3I flight test, Environmental Qualification Testing (EQT) and OA Phase B MH-60 IOT&E.											
FY 2015 Plans: Support IOT&E Test on LCS.											
Title: Project Management:								1.107	1.041	0.958	
Articles:								-	-	-	
Description: Completion of OA											
FY 2013 Accomplishments: TDA Program Management, Financial Management and Contractor support.											
FY 2014 Plans: TDA Program Management, Financial Management and Contractor support.											
FY 2015 Plans: TDA Program Management, Financial Management and Contractor support.											
Accomplishments/Planned Programs Subtotals								11.693	29.341	10.140	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN 4248: Airborne MCM	32.030	10.237	-	-	-	2.300	2.300	2.300	-	-	113.319

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy								<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604373N / Airborne Mine Countermeasures (AMCM)				<b>Project (Number/Name)</b> 2047 / ALMDS		

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN 1601: LCS MCM Mission Modules	-	7.951	16.173	-	16.173	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**

Conduct Operational Assessment (OA) Phase A in FY12. Conduct OA Phase B in FY14. Conduct Equipment Qualifications Test in FY14. Conduct MCM IOT&E in FY15.

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604373N / Airborne Mine

Countermeasures (AMCM)

Project (Number/Name)

2047 / ALMDS

ALMDS	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
Full Rate Production Decision															FRPD													
Initial Operating Capability															IOC								IOC P3I					
System Development																												
Increment I Development		Increment I P3I																										
Test & Evaluation Milestones																												
DT Development Testing							P3I Flight Test		OA Phase B									P3I Lab Ground Test				P3I DT/IT (FOT&E)						
OT OPERATIONAL TESTING (OPEVAL)													LCS IOT&E															
Production Milestones																												
							LRIP #5				LRIP #6				FRP #1				FRP #2				FRP #3				FRP #4	
Production Deliveries							LRIP #4							LRIP #5				LRIP #6				FRP #1				FRP #2		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014																																																																		
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604373N / Airborne Mine Countermeasures (AMCM)				<b>Project (Number/Name)</b> 2427 / OASIS																																																																			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>																																																																
2427: OASIS	115.555	0.001	-	-	-	-	-	-	-	-	-	115.556																																																																
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-																																																																		
<p># The FY 2015 OCO Request will be submitted at a later date.</p> <p><b>A. Mission Description and Budget Item Justification</b>  The Organic Airborne and Surface Influence Sweep (OASIS) programed was cancelled by ASN/RDA 29 Jan 2013.</p> <p><b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b></p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th><b>FY 2013</b></th> <th><b>FY 2014</b></th> <th><b>FY 2015</b></th> </tr> </thead> <tbody> <tr> <td><b>Title:</b> Program Management</td> <td align="right">0.001</td> <td align="center">-</td> <td align="center">-</td> </tr> <tr> <td align="right"><b>Articles:</b></td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> </tr> <tr> <td><b>FY 2013 Accomplishments:</b> Management</td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>FY 2014 Plans:</b> N/A</td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>FY 2015 Plans:</b> N/A</td> <td></td> <td></td> <td></td> </tr> <tr> <td align="right"><b>Accomplishments/Planned Programs Subtotals</b></td> <td align="right">0.001</td> <td align="center">-</td> <td align="center">-</td> </tr> </tbody> </table> <p><b>C. Other Program Funding Summary (\$ in Millions)</b></p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th><b>Line Item</b></th> <th><b>FY 2013</b></th> <th><b>FY 2014</b></th> <th><b>FY 2015 Base</b></th> <th><b>FY 2015 OCO</b></th> <th><b>FY 2015 Total</b></th> <th><b>FY 2016</b></th> <th><b>FY 2017</b></th> <th><b>FY 2018</b></th> <th><b>FY 2019</b></th> <th><b>Cost To Complete</b></th> <th><b>Total Cost</b></th> </tr> </thead> <tbody> <tr> <td>• OPN 4248: Airborne MCM - OASIS</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> </tr> <tr> <td>• OPN 1601: LCS MCM Mission Modules</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> </tr> </tbody> </table> <p><b>Remarks</b></p> <p><b>D. Acquisition Strategy</b>  The Organic Airborne and Surface Influence Sweep (OASIS) programed was cancelled by ASN/RDA 29 Jan 2013.</p>														<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Title:</b> Program Management	0.001	-	-	<b>Articles:</b>	-	-	-	<b>FY 2013 Accomplishments:</b> Management				<b>FY 2014 Plans:</b> N/A				<b>FY 2015 Plans:</b> N/A				<b>Accomplishments/Planned Programs Subtotals</b>	0.001	-	-	<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	• OPN 4248: Airborne MCM - OASIS	-	-	-	-	-	-	-	-	-	-	-	• OPN 1601: LCS MCM Mission Modules	-	-	-	-	-	-	-	-	-	-	-
	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>																																																																									
<b>Title:</b> Program Management	0.001	-	-																																																																									
<b>Articles:</b>	-	-	-																																																																									
<b>FY 2013 Accomplishments:</b> Management																																																																												
<b>FY 2014 Plans:</b> N/A																																																																												
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<b>Accomplishments/Planned Programs Subtotals</b>	0.001	-	-																																																																									
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>																																																																	
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• OPN 1601: LCS MCM Mission Modules	-	-	-	-	-	-	-	-	-	-	-																																																																	



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)	Project (Number/Name) 2427 / OASIS

E. Performance Metrics

The Organic Airborne and Surface Influence Sweep (OASIS) programed was cancelled by ASN/RDA 29 Jan 2013.

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																Date: March 2014																	
Appropriation/Budget Activity 1319 / 5										R-1 Program Element (Number/Name) PE 0604373N / Airborne Mine Countermeasures (AMCM)										Project (Number/Name) 2427 / OASIS													
OASIS		FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019							
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
OASIS		Program Canceled																															

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2473: Airborne Mine Neutralization System	144.254	30.271	28.701	7.507	-	7.507	43.434	41.181	45.112	12.544	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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.												
AMNS (Seafox) will be deployed from the MH-53E helicopter; this effort converts a FY 2003 Rapid Deployment Capability (RDC) into a program of record. The development, testing and integration phases will be completed in FY14.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: AMNS: Development/Engineering Support									15.172	10.761	3.298	
									Articles: -	-	-	
FY 2013 Accomplishments:												
Develop technical/engineering products, including training materials and interactive technical manuals. Provide engineering support, including review for product development and integration.												
AMNS Near Surface (N/S) conducted engineering and software development and design efforts.												
FY 2014 Plans:												
Provide technical/engineering support, including review for product development and integration. Develop technical/logistics products, including training materials and interactive technical manual.												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
AMNS Near Surface (N/S) Hardware and Software technology development and Engineering studies.				
FY 2015 Plans: Provide engineering support, including review for product development and integration. Develop logistics products, including training materials and interactive technical manuals.				
iAMNS - technical support for the development and release of RFP for System Development and Demonstration contract (SD&D).				
Title: AMNS: Test and Evaluation		13.846	10.945	2.947
Articles:		-	-	-
FY 2013 Accomplishments: Completed MH-60S TECHEVAL (DT) Live Fire and Conducted AMNS/MH-60S DT/IT				
FY 2014 Plans: AMNS MH-60S Operational Assessment (OA) Phase A and risk reduction testing. Conduct Equit Qualification Testing.				
FY 2015 Plans: Complete MH-60S Operational Assessment (OA) Phase B and assist with IOT&E testing on LCS.				
Title: AMNS: Management Services		1.253	1.371	1.262
Articles:		-	-	-
FY 2013 Accomplishments: Provide program management support, contract management and travel for AMNS				
FY 2014 Plans: Provide program management support, contract management and travel for AMNS				
FY 2015 Plans: Provide program management support, contract management and travel for AMNS				
iAMNS - program and contract management for the development of acquisition and contract documentation to support RFP for SD&D contract.				
Title: AMNS MH-53E SEAFOX Test and Evaluation		-	3.230	-
Articles:		-	-	-
Description: SEAFOX T&E Efforts				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A				
FY 2014 Plans: Conduct Quick Reaction Assessment (QRA) on the AMNS SEAFOX				
FY 2015 Plans: N/A				
Title: AMNS MH-53E SEAFOX Program Management		-	1.718	-
Articles:		-	-	-
Description: SEAFOX Program Management				
FY 2013 Accomplishments: N/A				
FY 2014 Plans: Establish the AMNS MH-53E Rapid Deployment Capability (RDC) as a program of record to include acquisition documents, contract management and management support.				
FY 2015 Plans: N/A				
Title: AMNS MH-53E SEAFOX ILS		-	0.676	-
Articles:		-	-	-
Description: SEAFOX Integrated Logistics Support (ILS)				
FY 2013 Accomplishments: N/A				
FY 2014 Plans: ILS training and documentation updates				
FY 2015 Plans: N/A				
Accomplishments/Planned Programs Subtotals		30.271	28.701	7.507

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014	
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN 4248: Airborne MCM - AMNS (MH-60 & MH-53)	2.800	22.450	-	-	-	-	-	-	-	-	65.522
• WPN 4225/1: Airborne MCM - AMNS (MH-60 & MH-53)	10.532	15.058	12.134	-	12.134	21.410	22.797	21.403	31.795	-	170.739
• OPN 1601: LCS MCM Mission Modules	2.800	-	6.700	-	6.700	6.223	6.388	6.046	3.169	39.393	70.719
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. Contract options will be exercised to procure FY13 and FY14 LRIP units.											
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.											

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**

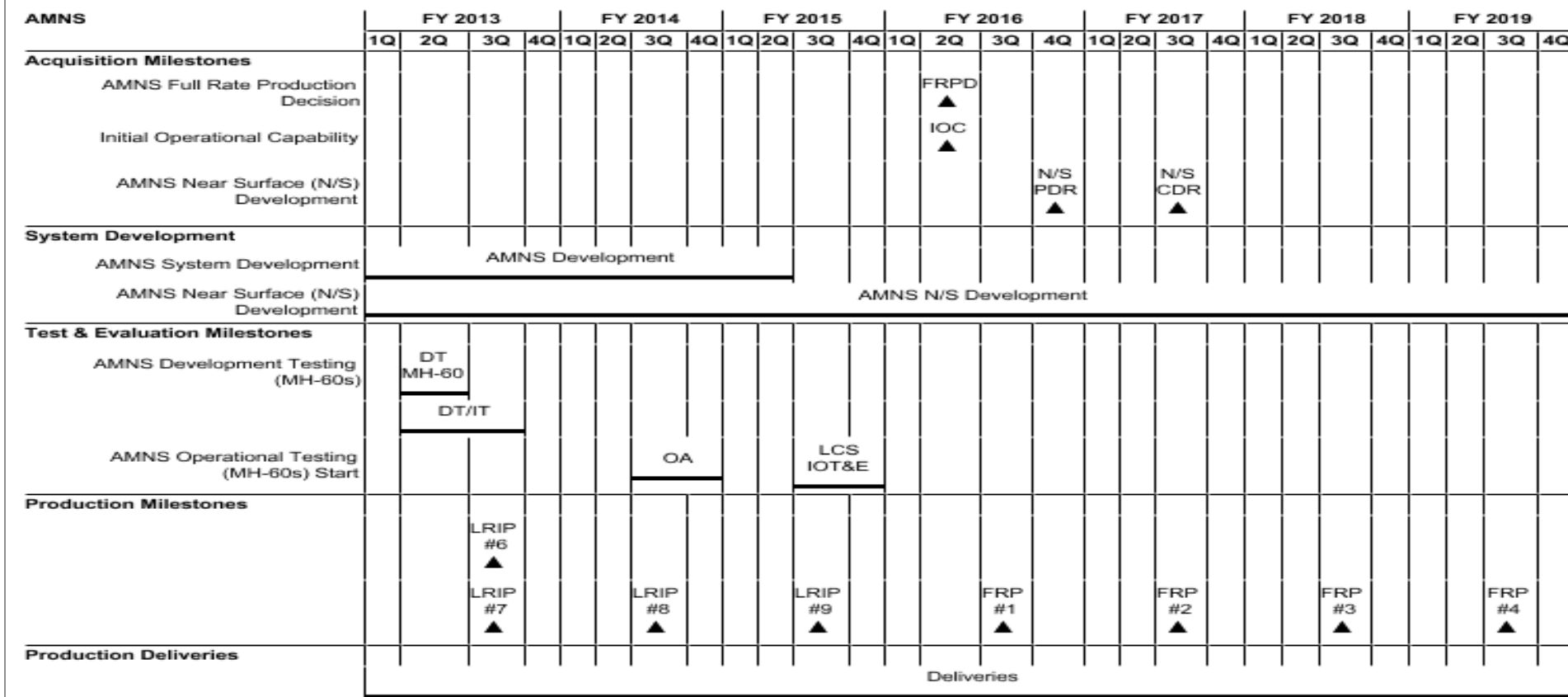
1319 / 5

**R-1 Program Element (Number/Name)**

PE 0604373N / Airborne Mine  
Countermeasures (AMCM)

**Project (Number/Name)**

2473 / Airborne Mine Neutralization System



2015PB - 0604373N - 2473

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
4026: Strat Into Medal, Tactics & Trng Organic Force	17.466	2.357	5.230	7.094	-	7.094	7.169	9.239	9.420	9.630	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015
Title: Hardware/Software Development  Articles:  FY 2013 Accomplishments: Code system-specific OPMA Modules NSAM (Net-centric Sensor Analysis for Mine Warfare) Open Architecture development  FY 2014 Plans: Continue NSAM Open Architecture development  FY 2015 Plans: Continue NSAM Open Architecture development and test										1.337	3.465	5.394
										-	-	-
Title: Engineering Services/ILS:  Articles:  FY 2013 Accomplishments: ILS planning for OPMA NSAM Engineering support Engineering Support for AQS-20A P3I functions into OPMA  FY 2014 Plans:										0.885	1.522	1.519
										-	-	-



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604373N / Airborne Mine Countermeasures (AMCM)	<b>Project (Number/Name)</b> 4026 / Strat Into Medal, Tactics & Trng Organic Force	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
Update ALMDS & AMNS TACMEMOs, upgrade tactics for MCM Mission Package and NSAM Engineering Support			
<b>FY 2015 Plans:</b> Continue to update ALMDS & AMNS TACMEMOs, upgrade tactics for P3I sensors on AN/AQS-20A and NSAM Engineering Support			
<b>Title:</b> Management Support			
<b>Articles:</b>		0.135	0.243
		-	-
<b>FY 2013 Accomplishments:</b> CTMP management support NSAM Management Support			
<b>FY 2014 Plans:</b> CTMP management support NSAM Management Support			
<b>FY 2015 Plans:</b> CTMP management support NSAM Management Support			
<b>Accomplishments/Planned Programs Subtotals</b>		2.357	5.230
			7.094
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
<p>The Organic Post-Mission Analysis (OPMA) capability for the OAMCM systems will be developed by NSWCD PCD, Panama City, FL. The OPMA project will leverage existing system-specific developmental PMA software, maximize commonality, and host the software on a common shipboard computer. OPN funding will be used to procure ruggedized portable OPMA computers for ship of opportunity deployments, land basing, and training. NSWCD-PCD will contract for this work on a time and materials basis. The tactics development, tactics training, and tactics algorithms/database efforts are performed by NSWCD-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.</p> <p>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 to expedite fielding significant contact management and data fusion techniques.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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
E. Performance Metrics Successfully integrate CTMP into the fleet.		

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

Date: March 2014

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

Proj 4026		FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019									
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q						
Acquisition Milestones																																			
System Development																																			
	MEDAL																																		
	OPMA	OPMA: Ongoing Development for P3I; Software																																	
					OPMA: Tech Refresh																														
									OPMA: IA Recertification																										
	NSAM	NSAM: NSAM S/W Development																																	
						NSAM: NSAM Pubs																													
	Tactics	Develop NTRP 3-15.2.2																																	
		Collect At-Sea data for Pruning Validation																																	
						TACMEMO ALMDS																													
										TACMEMO AMNS																									
						Reachback OAMCM support																													
Test & Evaluation																																			
Production Milestones																																			
Deliveries																																			

2015DON - 0604373N - 4026

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
9179: Surf Navy Integ Undersea Tactical Tech	3.411	0.648	0.905	0.881	-	0.881	0.893	0.914	0.933	0.954	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015
Title: Hardware and Software Development  Articles:  FY 2013 Accomplishments: Development of AN/AQS-24, AN/AQS-20A sonar training module and ALMDS training modules.  FY 2014 Plans: Development of an AN/AQS-24, AN/AQS-20A sonar training module. Also development of a COBRA refresher Senaric Training module ALMDS training modules.  FY 2015 Plans: Update of an AN/AQS-24, AN/AQS-20A sonar training module. Also development of a Scenario Generator software system for COBRA for mine field recognition training and ALMDS training modules.										0.521	0.773	0.747
										-	-	-
Title: Engineering and ILS Services  Articles:  FY 2013 Accomplishments: Provide SNIUTT In-Service Engineering Agent (ISEA) and development support.  FY 2014 Plans: Provide SNIUTT In-Service Engineering Agent (ISEA) and development support.  FY 2015 Plans: Provide SNIUTT In-Service Engineering Agent (ISEA) and development support.										0.127	0.132	0.134
										-	-	-
Accomplishments/Planned Programs Subtotals										0.648	0.905	0.881

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
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	

## C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN 4248: Airborne MCM - SNIUTT	0.300	0.300	-	-	-	-	-	-	-	-	0.600

## Remarks

## D. Acquisition Strategy

Surface Navy Integrated Undersea Tactical Training (SNIUTT) has been used to develop an 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.

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b>					<b>R-1 Program Element (Number/Name)</b>							
1319: Research, Development, Test & Evaluation, Navy I BA 5: System Development & Demonstration (SDD)					PE 0604376M I (U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	0.000	9.647	10.080	7.832	-	7.832	3.065	3.047	2.967	3.034	Continuing	Continuing
3327: MAGTF EW Aviation Development	0.000	9.647	10.080	3.277	-	3.277	1.113	1.393	1.411	2.061	Continuing	Continuing
3371: MAGTF EW Interoperability Development	0.000	-	-	4.555	-	4.555	1.952	1.654	1.556	0.973	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## **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.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	10.568	10.080	10.111	-	10.111
Current President's Budget	9.647	10.080	7.832	-	7.832
Total Adjustments	-0.921	-	-2.279	-	-2.279
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.040	-			
• Program Adjustments	-	-	-0.083	-	-0.083
• Rate/Misc Adjustments	-	-	-2.196	-	-2.196
• Congressional General Reductions Adjustments	-0.881	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
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	
<u>Change Summary Explanation</u> * Prior to FY13, this program was funded under PE 0604270N, PU 3327.  * 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.  * FY13 reduction reflects sequestration & Congressional general reductions.		



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604376M I (U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio				Project (Number/Name) 3327 I MAGTF EW Aviation Development			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3327: MAGTF EW Aviation Development	-	9.647	10.080	3.277	-	3.277	1.113	1.393	1.411	2.061	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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.												
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												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: MAGTF EW Software Reprogrammable Payload (SRP)  Articles:  FY 2013 Accomplishments: Continued transition of SRP and associated components; Collaborative EW/EW Battle Management, EW Services Architecture (formerly Collaborative Online Reconnaissance Provider Operationally Responsive Attack Link), and Intrepid Tiger II(v)2 from its Joint Capabilities Technology Demonstration into a viable capability.  FY 2014 Plans: Continue transition of SRP and associated components; Collaborative EW/EW Battle Management, EW Services Architecture (formerly Collaborative Online Reconnaissance Provider Operationally Responsive Attack Link), and Intrepid Tiger II(v)2 from its Joint Capabilities Technology Demonstration into a viable capability.  FY 2015 Plans: In FY15, SRP was moved to Project Unit 3371.									4.441	4.075	-	
									-	-	-	
Title: Intrepid Tiger II (v)1 (ALQ-231)									5.206	4.164	3.177	
Articles:									-	-	-	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604376M / (U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio	<b>Project (Number/Name)</b> 3327 / MAGTF EW Aviation Development	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p><b>FY 2013 Accomplishments:</b> Integrated Intrepid Tiger II (v)1 (ALQ-231) 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 corrected identified software discrepancies. Implemented logistics plans to support and sustain rotary wing requirements.</p> <p><b>FY 2014 Plans:</b> Continue to integrate Intrepid Tiger II (v)1 (ALQ-231) on United States Marine Corps rotary wing platforms to include AH-1 and UH-1 Type/Model/Series and begin efforts to integrate Intrepid Tiger II (v)1 (ALQ-231) on unmanned aerial vehicle (UAV) platforms. Continue to mature hardware technology, update targeting techniques, and correct identified software discrepancies. Implement logistics plans to support and sustain unmanned aerial vehicle requirements.</p> <p><b>FY 2015 Plans:</b> Continue to integrate Intrepid Tiger II (v)1 (ALQ-231) 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 (v)1 (ALQ-231) 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.</p>			
<p><b>Title:</b> EA-6B Multifunctional Information Distribution System Block Upgrade</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b> Developed and tested the Link-16 modification. These data link enhancements enabled the EA-6B Improved Capability III continued participation within Force Net and synthesize electronic attack contributions within Network Centric Warfare to provide greater Electronic Warfare (EW) situational awareness to the warfighter.</p> <p><b>FY 2014 Plans:</b> Begin integration and continue testing of Link-16 modification. Link 16 Provides a North Atlantic Treaty Organization (NATO) interoperable, jam-resistant, high speed, encrypted data link for Precise Participant Location and Identification, Surveillance, Command and Control, and Electronic Warfare &amp; Coordination. Multifunctional Information Distribution System (MIDS) Block Upgrade 2 will address obsolescence (which is an National Security Agency mandated change), frequency reallocation and provide enhanced throughput. Will modify existing MIDS Low Volume Terminal (LVT) units on the aircraft. Will add additional circuit cards, and modify chassis to enable the cryptographic modernization requirement.</p> <p><b>FY 2015 Plans:</b></p>		-	1.841
		-	-
			0.100
			-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604376M / (U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio	<b>Project (Number/Name)</b> 3327 / MAGTF EW Aviation Development	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
Funds for this project were vertically cut. FY 2015 efforts will wrap up Link-16 and Multifunctional Information Distribution System (MIDS) modifications and preserve project progress for future resumption.			
<b>Accomplishments/Planned Programs Subtotals</b>		9.647	10.080
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
			<b>Base</b>
			<b>OCO</b>
			<b>Total</b>
			<b>FY 2016</b>
			<b>FY 2017</b>
			<b>FY 2018</b>
			<b>FY 2019</b>
			<b>Cost To Complete</b>
			<b>Total Cost</b>
• 0587: MAGTF EW for Aviation	34.407	34.131	14.770
			-
			14.770
			7.766
			5.875
			5.920
			6.052
			Continuing
			Continuing
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
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 Intrepid Tiger II(v)1 (ALQ-231), Intrepid Tiger II(v)2, 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.			
<b>E. Performance Metrics</b>			
Successful completion of Intrepid Tiger II(v)1 (ALQ-231) Initial Operations Capability (IOC). Completion of Intrepid Tiger II(v)1 (ALQ-231) integration on USMC rotary wing platforms. Engineering Development Model (EDM) Lot 3 Developmental Testing/Operational Testing.			

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

Date: March 2014

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

Intrepid Tiger II (ALQ-231)	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>Acquisition Milestones</b>																												
Milestones					IOC ▲																							
<b>Systems Development</b>																												
Hardware Development																												
Software Development																												
Reviews																												
<b>Test &amp; Evaluation</b>																												
Technical Evaluation																												
Operational Evaluation	Block 1 Test/QRA																											
<b>Production Milestones</b>																												
Contract Awards																												
<b>Deliveries</b>																												
Lot 2 Deliveries (Qty 8)																												
Lot 3 Deliveries (Qty 26)																												
Lot 4 Deliveries (Qty 37)																												
Lot 5 Deliveries (Qty 13)																												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3371: MAGTF EW Interoperability Development	-	-	-	4.555	-	4.555	1.952	1.654	1.556	0.973	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
<b>Note</b> 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.												
<b>A. Mission Description and Budget Item Justification</b> 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 philosophy to reduce stove pipe solutions but enable future growth at a reduced operational and sustainment cost.												
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>									FY 2013	FY 2014	FY 2015	
<b>Title:</b> Software Reprogrammable Payload  <b>FY 2013 Accomplishments:</b> N/A  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> Begin to integrate the Spiral 2 Software Reprogrammable Payload (SRP) on the United States Marine Corps MV-22 Platform.												
									<b>Articles:</b>			
									-	-	4.555	
									-	-	-	
<b>Accomplishments/Planned Programs Subtotals</b>									-	-	4.555	
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• 0587: MAGTF EW for Aviation	34.407	34.131	14.770	-	14.770	7.766	5.875	5.920	6.052	Continuing	Continuing	
<b>Remarks</b>												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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
<p><b>D. Acquisition Strategy</b></p> <p>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 (FYDP) and beyond. This effort is for the Software Reprogrammable Payload (SRP). 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.</p> <p><b>E. Performance Metrics</b></p> <p>Successful completion of the Spiral 2 Development and Demonstration onboard MV-22 Test Platform.</p>		

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PE 0604376M: (U)Marine Air Grnd Task Force(MAGTF)EW for Aviatio  
Navy

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Project (Number/Name)	Start Date	End Date	Duration (Days)	Actual Cost	Budgeted Cost	Variance	Cost Index	Performance Index	Cost Variance	Cost Performance	Cost Variance	Cost Performance
1	1/1/2020	1/31/2020	31	10000	10000	0	1.0	1.0	0	1.0	0	1.0
2	2/1/2020	2/28/2020	28	20000	20000	0	1.0	1.0	0	1.0	0	1.0
3	3/1/2020	3/31/2020	31	30000	30000	0	1.0	1.0	0	1.0	0	1.0
4	4/1/2020	4/30/2020	30	40000	40000	0	1.0	1.0	0	1.0	0	1.0
5	5/1/2020	5/31/2020	31	50000	50000	0	1.0	1.0	0	1.0	0	1.0
6	6/1/2020	6/30/2020	30	60000	60000	0	1.0	1.0	0	1.0	0	1.0
7	7/1/2020	7/31/2020	31	70000	70000	0	1.0	1.0	0	1.0	0	1.0
8	8/1/2020	8/31/2020	31	80000	80000	0	1.0	1.0	0	1.0	0	1.0
9	9/1/2020	9/30/2020	30	90000	90000	0	1.0	1.0	0	1.0	0	1.0
10	10/1/2020	10/31/2020	31	100000	100000	0	1.0	1.0	0	1.0	0	1.0
11	11/1/2020	11/30/2020	30	110000	110000	0	1.0	1.0	0	1.0	0	1.0
12	12/1/2020	12/31/2020	31	120000	120000	0	1.0	1.0	0	1.0	0	1.0
13	1/1/2021	1/31/2021	31	130000	130000	0	1.0	1.0	0	1.0	0	1.0
14	2/1/2021	2/28/2021	28	140000	140000	0	1.0	1.0	0	1.0	0	1.0
15	3/1/2021	3/31/2021	31	150000	150000	0	1.0	1.0	0	1.0	0	1.0
16	4/1/2021	4/30/2021	30	160000	160000	0	1.0	1.0	0	1.0	0	1.0
17	5/1/2021	5/31/2021	31	170000	170000	0	1.0	1.0	0	1.0	0	1.0
18	6/1/2021	6/30/2021	30	180000	180000	0	1.0	1.0	0	1.0	0	1.0
19	7/1/2021	7/31/2021	31	190000	190000	0	1.0	1.0	0	1.0	0	1.0
20	8/1/2021	8/31/2021	31	200000	200000	0	1.0	1.0	0	1.0	0	1.0
21	9/1/2021	9/30/2021	30	210000	210000	0	1.0	1.0	0	1.0	0	1.0
22	10/1/2021	10/31/2021	31	220000	220000	0	1.0	1.0	0	1.0	0	1.0
23	11/1/2021	11/30/2021	30	230000	230000	0	1.0	1.0	0	1.0	0	1.0
24	12/1/2021	12/31/2021	31	240000	240000	0	1.0	1.0	0	1.0	0	1.0
25	1/1/2022	1/31/2022	31	250000	250000	0	1.0	1.0	0	1.0	0	1.0
26	2/1/2022	2/28/2022	28	260000	260000	0	1.0	1.0	0	1.0	0	1.0
27	3/1/2022	3/31/2022	31	270000	270000	0	1.0	1.0	0	1.0	0	1.0
28	4/1/2022	4/30/2022	30	280000	280000	0	1.0	1.0	0	1.0	0	1.0
29	5/1/2022	5/31/2022	31	290000	290000	0	1.0	1.0	0	1.0	0	1.0
30	6/1/2022	6/30/2022	30	300000	300000	0	1.0	1.0	0	1.0	0	

PE 0604376M I (U)Marine Air Grnd Task  
Force(MAGTF)EW for Aviatio

3371 / MAGTF EW Interoperability Development

MAGTF EW Interoperability Development		FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019						
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q			
Acquisiton Milestones									Spiral 2 System Development								SPIRAL 3 SYSTEM DEVELOPMENT															
Test and Evaluation													SPIRAL 2 TECHNICAL EVALUATION MV-22				SPIRAL 2 FIELD EVALUATION MV-22															

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b>					<b>R-1 Program Element (Number/Name)</b>							
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					PE 0604378N / Nav Integrated Fire Control-Counter Air Sys Eng							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	94.687	35.872	21.413	15.263	-	15.263	26.167	21.647	17.319	17.647	Continuing	Continuing
3159: Naval Integrated Fire Control-Counter Air SE&I	94.687	35.872	21.413	15.263	-	15.263	26.167	21.647	17.319	17.647	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## **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><u>B. Program Change Summary (\$ in Millions)</u></b>	<b><u>FY 2013</u></b>	<b><u>FY 2014</u></b>	<b><u>FY 2015 Base</u></b>	<b><u>FY 2015 OCO</u></b>	<b><u>FY 2015 Total</u></b>
Previous President's Budget	39.974	21.413	21.414	-	21.414
Current President's Budget	35.872	21.413	15.263	-	15.263
Total Adjustments	-4.102	-	-6.151	-	-6.151
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.763	-			
• Program Adjustments	-	-	-6.151	-	-6.151
• Congressional General Reductions	-3.339	-	-	-	-
Adjustments					

## **Change Summary Explanation**

FY13 Congressional General Reduction (Sequestration)

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604378N / <i>Nav Integrated Fire Control-Counter Air Sys Eng</i>	
FY15 decrease in funding from the previous President's Budget submit is due to the Department's decision to reduce contracted services as well as to realign resources to match expected expenditures.		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3159: Naval Integrated Fire Control-Counter Air SE&I	94.687	35.872	21.413	15.263	-	15.263	26.167	21.647	17.319	17.647	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015
Title: Integration and Test (I&T) Integrated Product Team										15.422	8.987	6.344
										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 2013 Accomplishments:												
Completed 38 successful over land simulated engagements (Trackex) and projects Over land FTS live-fire test at White Sands Missile Range (WMSR), NM. Completed 16 successful over sea simulated engagements (Trackex) and first ever at sea FTS live-fire demonstration at Pacific Missile Test Center (PMTTC), Point Mugu, CA using CG-62 USS CHANCELLORSVILLE, tactical CEC and SM-6. Verified System of Systems performance using remote sensor data to meet NIFC-CA Objectives.												
FY 2014 Plans:												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604378N / Nav Integrated Fire Control-Counter Air Sys Eng		<b>Project (Number/Name)</b> 3159 / Naval Integrated Fire Control-Counter Air SE&I	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Continue execution of test program including 18 successful over land simulated engagements leading up to FTS live-fire test at WSMR planned in March. Plan execution of numerous at sea simulated engagements leading to 3 FTS live-fire test at PMTC planned in June on board DDG-53 JOHN PAUL JONES.					
<b>FY 2015 Plans:</b> 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 employment of Fleet Training in order to deploy capability on the Theodore Roosevelt Carrier Strike Group (TR CSG) during 2Q FY 2015.					
<b>Title:</b> ENGINEERING MANAGMENT AND SYSTEM DEFINITION			20.450	12.426	8.919
<b>Articles:</b>			-	-	-
<b>Description:</b> 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.					
<b>FY 2013 Accomplishments:</b> Continued integration of updated Pillar program models into the NIFC-CA Federation to support pre-mission and post-mission analysis for NIFC-CA test events for overland and over sea testing. Conducted verification and validation efforts. Provided feedback to Pillar programs on performance deltas following Trackex and live fire scenarios overland and sea. Continues to ensure that Measure of Effectiveness (MOEs) and Measure of Performance (MOPs) are validated in test plans and interface with Pillar programs to maintain and update interface and performance specifications. Updated and maintained NIFC-CA Risk Register.					
<b>FY 2014 Plans:</b> 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 March (overland) and June (over sea). Conduct verification and initial validation efforts. Continue to ensure that MOEs and MOPs are validated in test plans and interface withPillar programs to maintain and update interface and performance specifications. Update NIFC-CA Architecture. Update and maintain NIFC-CA Risk Register.					
<b>FY 2015 Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy								<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604378N / Nav Integrated Fire Control-Counter Air Sys Eng				<b>Project (Number/Name)</b> 3159 / Naval Integrated Fire Control-Counter Air SE&I			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>								<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
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 March. Conduct verification and initial validation efforts. Continue to ensure that MOEs and 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 2Q FY 2015.											
<b>Accomplishments/Planned Programs Subtotals</b>								35.872	21.413	15.263	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• 0603658N: CEC	2.313	-	-	-	-	-	-	-	-	Continuing	Continuing
• 0604366N: Standard Missile SM-6	7.072	5.775	2.821	-	2.821	2.685	1.746	1.779	1.853	Continuing	Continuing
• 0604307N: AEGIS	8.826	-	-	-	-	-	-	-	-	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
Not Applicable											
<b>E. Performance Metrics</b>											
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.											

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

Date: March 2014

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



RELATED PROGRAMS

Capability		FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19
				FTS DEPLOYS ★				
NIFC-CA Project Activity	SCSC							
	WSMR	LFT	LFT	LFT (2)				
TX =TrackEx LFT=Live Fire Test	At-Sea	LFT	LFT		LFT	LFT	LFT (2)	LFT
E-2D (AHE)		FRP		E-2D IOC				
CEC AN/USG-3B AHE Integration								
CEC AN/USG-2B AWS Integration				CEC AWS IOC				
Aegis Weapon System				Aegis CSSQT CERT				
SM-6			OT Completed Q4 FY 11				From the Sea (FTS)	

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0604404N / (U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys
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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	45.515	99.479	121.673	403.017	-	403.017	668.749	665.180	663.884	269.860	Continuing	Continuing
3278: UCLASS Development	45.515	99.479	121.673	403.017	-	403.017	668.749	665.180	663.884	269.860	Continuing	Continuing

**MDAP/MAIS Code:** P462

# The FY 2015 OCO Request will be submitted at a later date.

## 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, and Reconnaissance (ISR) and precision strike asset. The Joint Requirements Oversight Council (JROC) endorsed the UCLASS ICD in April 2011 and formally approved it on 9 Jun 11 via 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. The Department continues to assess the program and has issued JROCM 009-14, directing UCLASS Early Operational Capability (EOC) delivery within four to five years from Air Segment contract award. The Service approved a draft Capability Development Document (CDD) on 5 Apr 13.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	122.481	146.683	522.497	-	522.497
Current President's Budget	99.479	121.673	403.017	-	403.017
Total Adjustments	-23.002	-25.010	-119.480	-	-119.480
• Congressional General Reductions	-	-0.010			
• Congressional Directed Reductions	-	-25.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.868	-			
• Program Adjustments	-	-	-0.480	-	-0.480
• Rate/Misc Adjustments	0.001	-	-119.000	-	-119.000
• Congressional General Reductions	-0.135	-	-	-	-
Adjustments					
• Congressional Directed Reductions	-20.000	-	-	-	-
Adjustments					

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy I BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0604404N I (U) <i>Unman Carrier Launch A/B Surv &amp; Strk(UCLASS)Sys</i>
<b>Change Summary Explanation</b> Schedule: As a result of adjustments to the program's acquisition strategy, the program's plan was adjusted as follows: Acquisition Milestones - Milestone A moved from 1QTR15 to 3QTR15 System Preliminary Design Review (PDR) moved from 2QTR15 to 1QTR16. System Concept Design Review (CDR) moved from 2QTR16 to 1QTR17 System Flight Readiness Review (FRR) moved from 2QTR17 to 2QTR18  Systems Development - Preliminary Design Review contracts with Contractor (TBD 1), Contractor (TBD 2), Contractor (TBD 3), and Contractor (TBD 4) were renamed to Boeing, General Atomics, Lockheed Martin, and Northrop Grumman with start dates of 4QTR13 and end dates of 3QTR14 Final Design, Test Vehicle Fab/System Integration and AV Fabrication/Delivery were renamed to Final Air Vehicle Design, Fab, Sub-System Testing with a start date of 3QTR15 and end date of 3QTR18 Carrier (CVN) Control Station (CS) Delivery moved from 3QTR16 to 1QTR19 First Flight moved from 2QTR17 to 3QTR18  Test and Evaluation - Airworthiness/Envelope Expansion and Mission Testing were renamed to Airworthiness/Envelope Expansion/Mission Testing with a start date of 3QTR18 and an end date of 4QTR19 The start date of CVN Suit (Land) moved from 1QTR18 to 3QTR18		



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3278: UCLASS Development	45.515	99.479	121.673	403.017	-	403.017	668.749	665.180	663.884	269.860	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
<b>Note</b> FY15 contains funding for Support, including efforts to identify fleet introduction and squadron manning requirements and associated training.												
<b>A. Mission Description and Budget Item Justification</b> 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, and Reconnaissance (ISR) and precision strike asset. The Joint Requirements Oversight Council (JROC) endorsed the UCLASS ICD in April 2011 and formally approved it on 9 Jun 11 via 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. The Department continues to assess the program and has issued JROCM 009-14, directing UCLASS Early Operational Capability (EOC) delivery within four to five years from Air Segment contract award. The Service approved a draft Capability Development Document (CDD) on 5 Apr 13.  The UCLASS system will provide persistent ISR 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/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 Tasking, Processing, Exploitation, and Dissemination systems.												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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		
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, 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 2013	FY 2014	FY 2015
Title: Air Segment Product Development		37.594	55.072	259.233
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 full and open competition, will deliver the Air Segment products.				
FY 2013 Accomplishments: Initiated Air Segment design and integration activities. Established Air Segment interfaces across the UCLASS segments. Completed Broad Agency Announcement contracts. Awarded limited-source Preliminary Design Review (PDR) contracts.				
FY 2014 Plans: Continue Air Segment design and integration activities. Continue Air Segment interface activities. Conclude PDR contracts. Release Request for Proposal for full and open competition of the Air Vehicle contract and begin source selection activities.				
FY 2015 Plans: Award Air Segment contract and commence Air Vehicle design, fabrication and sub-system testing, to include acquisition of long-lead parts and finalization of sub-contractor agreements.				
Title: Control System & Connectivity (CS&C) Segment Product Development		34.741	38.798	90.680
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, Intelligence, Surveillance, Reconnaissance and Targeting (ISR&T), Tasking, Processing, Exploitation, and Dissemination (TPED) systems will be utilized.				
FY 2013 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
Continued CS&C integration activities. Continued CS&C hardware/software development. Delivered CS&C software development tools and documentation for design and integration activities. Established CS&C Segment interfaces across the UCLASS segments, while establishing landing system and data link interfaces. <b>FY 2014 Plans:</b> Continue CS&C Segment integration activities. Continue CS&C hardware/software development. Deliver CS&C software development tools and documentation for design and integration activities. <b>FY 2015 Plans:</b> Continue CS&C hardware/software development and integration. Fabricate and deliver prototype control station to UCLASS air segment vendor for system integration. Initiate development and fabrication of 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.				
<b>Title:</b> Carrier (CVN) Segment Product Development  <b>Articles:</b>  <b>Description:</b> CVN Segment Product Development is a Government-led effort which includes, but is not limited to, upgrades to existing CVN infrastructure to support Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) capabilities.  <b>FY 2013 Accomplishments:</b> Continued CVN Segment design and integration activities. Developed ship change requests and Engineering Change Proposals (ECP) documentation in accordance with Naval Sea Systems Command (NAVSEA), Space and Naval Warfare Systems Command (SPAWAR), and Program Executive Office, Aircraft Carriers (PEO(CARRIERS)) processes. Executed UCLASS ship integration activities with NAVSEA, SPAWAR, and PEO(CARRIERS). Completed shipboard network ECP planning.  <b>FY 2014 Plans:</b> Continue CVN Segment design and integration activities. Begin implementation of ship change requests and Engineering Change Proposals (ECP), and ship integration activities in accordance with Naval Sea Systems Command (NAVSEA), Space and Naval Warfare Systems Command (SPAWAR), and Program Executive Office, Aircraft Carriers (PEO(CARRIERS)) processes.  <b>FY 2015 Plans:</b>		3.725 -	3.767 -	24.227 -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
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 (NAVSEA), Space and Naval Warfare Systems Command (SPAWAR), Program Executive Office, Aircraft Carriers (PEO(CARRIERS)) Commander Naval Air Forces (CNAF), and Operational Command Navy (OPNAV) processes. Begin development of UCLASS modifications to existing Program of Record shipboard systems needed to support the 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.				
Title: Lead Systems Integrator (LSI) Product Development  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 Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) capabilities across system segments.  FY 2013 Accomplishments: Continued UCLASS system cross-segment design trades and industry analyses, and efforts to implement an open system architecture across all UCLASS segments. Delivered segment developed tools and documentation for design and integration activities. Completed technology maturation assessments and transitions, and matured, as required, technologies into the UCLASS system. Established system integration laboratories in support of government-led open system architecture and program activities.  FY 2014 Plans: Continue UCLASS efforts to implement an open system architecture across all UCLASS segments. Incorporate delivered software development tools and documentation for 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 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.		12.210 -	12.096 -	11.993 -
Title: Management  Articles:		9.009 -	9.696 -	9.507 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604404N / (U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys		<b>Project (Number/Name)</b> 3278 / UCLASS Development	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Description:</b> Efforts include program, engineering, test, and logistics management.  <b>FY 2013 Accomplishments:</b> Oversaw, coordinated, and managed UCLASS acquisition, system interface and integration activities. Continued logistics management tasks, including facilities, training, and manpower. Maintained security and program office environments. Conducted UCLASS system engineering reviews. Provided oversight of UCLASS contract activities. Developed requests for proposals, as necessary, to support UCLASS program activities. Oversaw award of Preliminary Design Review (PDR) contracts.  <b>FY 2014 Plans:</b> Continue oversight, coordination, and management of UCLASS acquisition, system interface and integration activities. Provide oversight of UCLASS contract activities, including development of Air Segment Technology Development (TD) Phase Request for Proposal (RFP) and conduct source selection. Continue logistics management tasks. Continue to maintain security and program office environments.  <b>FY 2015 Plans:</b> Continue oversight, coordination, and management of UCLASS acquisition, system interface and integration activities. Provide oversight of UCLASS contract activities, including execution of Air Segment TD Phase contract. Continue logistics management tasks. Continue to maintain security and program office environments. Conduct UCLASS System PDR to support key point decisions.					
<b>Title:</b> Test and Evaluation  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> Initiated test plan for surrogates. Established requirements for test facilities and ranges. Supported engineering events and program management activities.  <b>FY 2014 Plans:</b> Continue test plans for surrogates, refine test facility, range and lab test requirements and support engineering events and program management activities.  <b>FY 2015 Plans:</b> 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.			2.200 -	2.244 -	6.934 -
<b>Title:</b> Support  <b>Articles:</b>			- -	- -	0.443 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604404N / (U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys	<b>Project (Number/Name)</b> 3278 / UCLASS Development	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<b>Description:</b> Efforts include studies, analyses and training development support.  <b>FY 2013 Accomplishments:</b> N/A  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> Initiate logistics supportability studies and analyses, modeling and simulation, and development of manpower and training assessments.			
<b>Accomplishments/Planned Programs Subtotals</b>		99.479	121.673
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
<p>The Government will act as the system integrator across all Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) segments, including Air Segment, CS&amp;C Segment, and 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 Control System &amp; Connectivity Segment and Carrier (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 (ECP) 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 (TCPED) interfaces to include successful transmission of mission system data. The Government will develop and award contracts as required to support program activities, including limited source Firm Fixed Price contracts to mature designs to the Preliminary Design Review level of maturity, followed by a full and open competition to select one prime contractor. The Government's acquisition strategy was approved on 7 Jun 13. Acquisition and contracting strategies comply with current statutes, regulations, and instructions.</p>			
<b>E. Performance Metrics</b>			
Meet Navy operational requirements as defined in requirements documents.			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Segment (Primary Hardware Development)	SS/FFP	Boeing : St. Louis, MO	0.000	6.250	Aug 2013	8.750	Dec 2013	-		-		-	-	15.000	15.000
Air Segment (Primary Hardware Development)	SS/FFP	General Atomics : Poway, CA	0.000	6.250	Aug 2013	8.750	Dec 2013	-		-		-	-	15.000	15.000
Air Segment (Primary Hardware Development)	SS/FFP	Lockheed Martin : Palmdale, CA	0.000	6.250	Aug 2013	8.750	Dec 2013	-		-		-	-	15.000	15.000
Air Segment (Primary Hardware Development)	SS/FFP	Northrop Grumman : El Segundo, CA	0.000	6.250	Aug 2013	8.750	Dec 2013	-		-		-	-	15.000	15.000
Air Segment (Primary Hardware Development)	C/CPIF	TBD : TBD	0.000	-		-		238.050	Jun 2015	-		238.050	Continuing	Continuing	Continuing
Air Segment - Systems Engineering	WR	NAWCAD : Patuxent River, MD	1.796	12.383	Dec 2012	19.408	Dec 2013	20.453	Dec 2014	-		20.453	Continuing	Continuing	Continuing
Air Segment - Systems Engineering	Various	Various : Various	0.204	0.211	Dec 2012	0.664	Dec 2013	0.730	Dec 2014	-		0.730	Continuing	Continuing	Continuing
CS&C Segment	WR	NAWCAD : Patuxent River, MD	4.236	10.752	Dec 2012	22.014	Dec 2013	38.081	Dec 2014	-		38.081	Continuing	Continuing	Continuing
CS&C Segment	Various	Various : Various	3.362	4.912	Dec 2012	7.901	Dec 2013	19.568	Dec 2014	-		19.568	Continuing	Continuing	Continuing
CS&C Segment	Various	NSMA : Arlington, VA	4.726	0.860	Jan 2013	0.960	Dec 2013	0.978	Dec 2014	-		0.978	Continuing	Continuing	Continuing
CS&C Segment	C/CPFF	COLSA Corporation : Huntsville, AL	1.365	6.248	Dec 2012	-		-		-		-	-	7.613	7.613
CS&C Segment	WR	NAWCWD : China Lake, CA	3.524	3.540	Dec 2012	1.520	Dec 2013	-		-		-	-	8.584	8.584
CS&C Segment	WR	NAWCWD : Point Mugu, CA	0.000	4.879	Dec 2012	2.803	Dec 2013	2.323	Dec 2014	-		2.323	Continuing	Continuing	Continuing
CS&C Segment	WR	SPAWAR : San Diego, CA	1.072	3.550	Dec 2012	3.600	Dec 2013	13.846	Dec 2014	-		13.846	Continuing	Continuing	Continuing
CS&C Segment (CDS)	TBD	TBD : TBD	0.000	-		-		15.884	Mar 2015	-		15.884	Continuing	Continuing	Continuing
Carrier Segment (Ship Integration)	Various	Various : Various	2.796	0.107	Dec 2012	0.105	Dec 2013	0.679	Dec 2014	-		0.679	Continuing	Continuing	Continuing
Carrier Segment (Ship Integration)	WR	NAWCAD : Patuxent River, MD	4.283	3.618	Dec 2012	3.662	Dec 2013	23.548	Dec 2014	-		23.548	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
LSI - Risk Reduction (Primary Hardware Development)	Various	Various : Various	2.244	2.541	Feb 2013	-		-		-		-	-	4.785	4.785
LSI - Mission Effectiveness Analyses (Primary Hardware Development)	Various	Various : Various	1.440	4.269	Dec 2012	4.805	Dec 2013	1.402	Dec 2014	-		1.402	Continuing	Continuing	Continuing
LSI - Mission Effectiveness Analyses (Primary Hardware Development)	WR	NAWCAD : Patuxent River, MD	1.166	2.117	Dec 2012	1.674	Dec 2013	1.825	Dec 2014	-		1.825	Continuing	Continuing	Continuing
LSI - Mission Effectiveness Analyses (Primary Hardware Development)	WR	NAWCWD : China Lake, CA	2.043	1.686	Dec 2012	1.115	Dec 2013	1.215	Dec 2014	-		1.215	Continuing	Continuing	Continuing
LSI - Systems Engineering	Various	Various : Various	0.994	1.051	Dec 2012	1.490	Dec 2013	3.937	Dec 2014	-		3.937	Continuing	Continuing	Continuing
LSI - Systems Engineering	WR	NAWCAD : Patuxent River, MD	0.513	0.546	Dec 2012	3.012	Dec 2013	3.614	Dec 2014	-		3.614	Continuing	Continuing	Continuing
Prior year Prod Dev costs no longer funded in the FYDP	Various	Various : Various	5.026	-		-		-		-		-	-	5.026	5.026
Subtotal			40.790	88.270		109.733		386.133		-		386.133	-	-	-
Remarks Control System and Connectivity (CS&C) Segment Navy Systems Management Activity (NSMA) Common Display Station (CDS) Lead Systems Integrator (LSI)															
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Manpower Studies & Analyses	Various	Various : Various	0.000	-		-		0.233	Jan 2015	-		0.233	Continuing	Continuing	Continuing



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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date: March 2014</b>			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604404N / (U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys						<b>Project (Number/Name)</b> 3278 / UCLASS Development			
<b>Support (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Training Development	WR	NAWCAD : Patuxent River, MD	0.000	-		-		0.210	Dec 2014	-		0.210	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	-		-		0.443		-		0.443	-	-	-
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Test and Evaluation	Various	Various : Various	0.000	2.200	Dec 2012	2.244	Dec 2013	6.934	Dec 2014	-		6.934	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	2.200		2.244		6.934		-		6.934	-	-	-
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Management	Various	Various : Various	0.274	0.815	Dec 2012	1.418	Dec 2013	1.545	Dec 2014	-		1.545	Continuing	Continuing	Continuing
Management	WR	NAWCAD : Patuxent River, MD	4.422	8.159	Dec 2012	8.205	Dec 2013	7.848	Dec 2014	-		7.848	Continuing	Continuing	Continuing
Management (Travel)	Various	NAVAIR : Patuxent River, MD	0.029	0.035	Oct 2012	0.073	Oct 2013	0.114	Oct 2014	-		0.114	Continuing	Continuing	Continuing
<b>Subtotal</b>			4.725	9.009		9.696		9.507		-		9.507	-	-	-
			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			45.515	99.479		121.673		403.017		-		403.017	-	-	-
<b>Remarks</b>															

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PE 0604404N: (U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys  
Navy

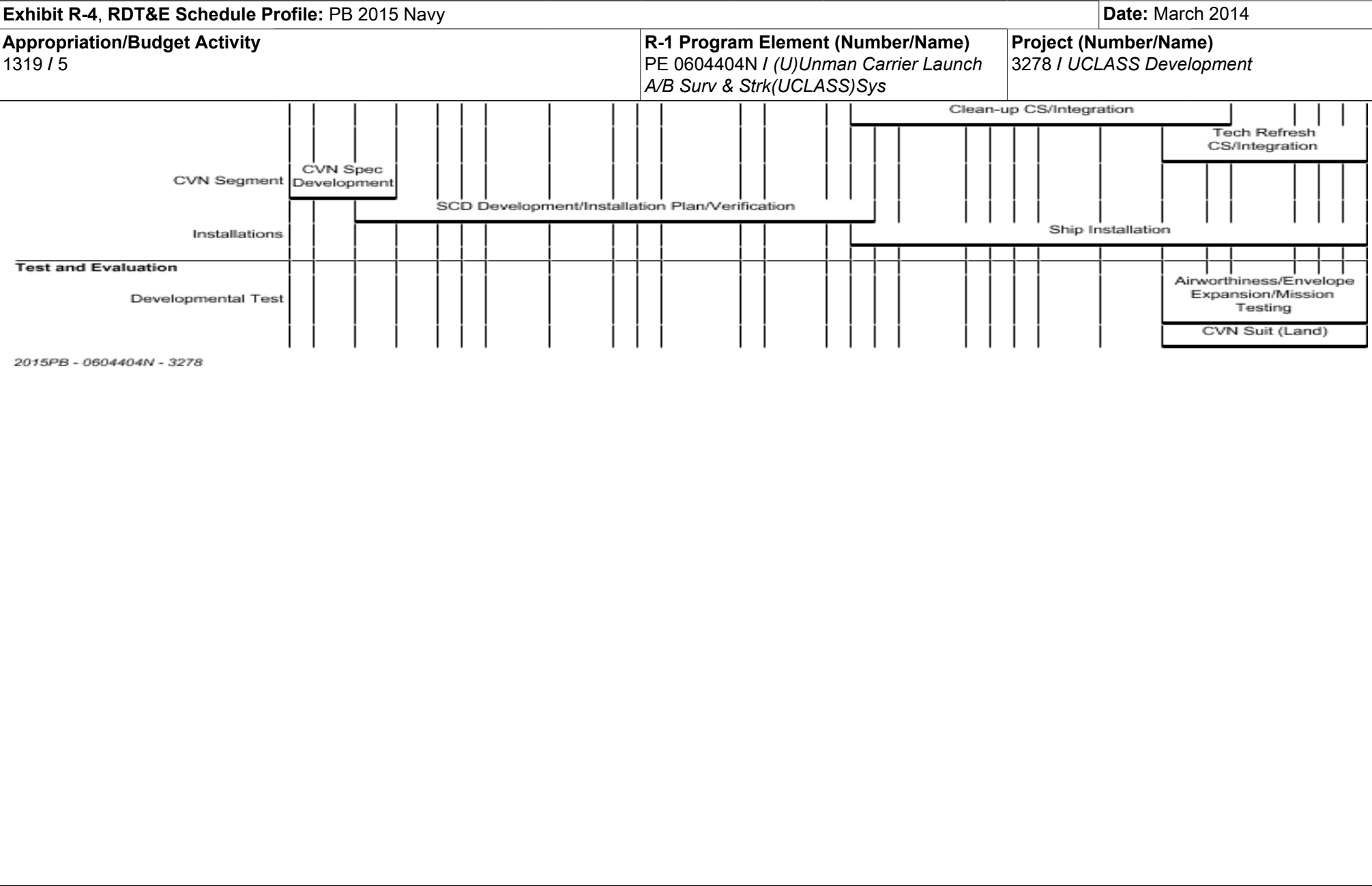
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<b>R-1 Program Element (Number/Name)</b>
PE 0604404N / (U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys

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

Date: March 2014

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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) System</b>				
Acquisition Milestones: Milestones & Reviews: Milestone A	3	2015	3	2015
Acquisition Milestones: Milestones & Reviews: System Preliminary Design Review (PDR)	1	2016	1	2016
Acquisition Milestones: Milestones & Reviews: System Concept Design Review (CDR)	1	2017	1	2017
Acquisition Milestones: Milestones & Reviews: System Technical Readiness Review (TRR)	1	2018	1	2018
Acquisition Milestones: Milestones & Reviews: Flight Readiness Review (FRR)	2	2018	2	2018
Acquisition Milestones: Milestones & Reviews: Service Draft Capability Development Document (CDD)	2	2013	2	2013
Acquisition Milestones: Milestones & Reviews: Technology Development Strategy (TDS)	3	2013	3	2013
Acquisition Milestones: Milestones & Reviews: System Requirements Review (SRR)	3	2013	3	2013
Acquisition Milestones: Milestones & Reviews: In Progress Review (IPR) - Defense Acquisition Board (DAB)	3	2014	3	2014
Systems Development: UCLASS System Design & Integration: UCLASS Architecture Development and Integration	1	2013	4	2019
Systems Development: Air Segment: PDR Request For Proposal (RFP) Preparation	1	2013	3	2013
Systems Development: Air Segment: Broad Agency Announcement (BAA)	2	2013	4	2013
Systems Development: PDR Contract Award (CA)	4	2013	4	2013
Systems Development: Boeing	4	2013	3	2014
Systems Development: General Atomics	4	2013	3	2014
Systems Development: Lockheed Martin	4	2013	3	2014
Systems Development: Northrop Grumman	4	2013	3	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014	
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604404N I (U)Unman Carrier Launch A/B Surv & Strk(UCLASS)Sys		Project (Number/Name) 3278 I UCLASS Development	
	Start		End	
Events by Sub Project	Quarter	Year	Quarter	Year
Systems Development: Source Selection Activities	4	2014	2	2015
Systems Development: First Flight	3	2018	3	2018
Systems Development: Post-PDR RFP Release for Air Segment Contract Award	3	2014	3	2014
Systems Development: Air Segment Contract Award	3	2015	3	2015
Systems Development: Final Air Vehicle (AV) Design, Fab, Sub-System Testing	3	2015	3	2018
Systems Development: System Integration	3	2015	4	2019
Systems Development: Control System and Connectivity (CS&C) Segment: CS&C Segment Design/Spec Development	1	2013	3	2013
Systems Development: Control System and Connectivity (CS&C) Segment: Prototype Control Station (CS)/Integration	2	2013	3	2014
Systems Development: Control System and Connectivity (CS&C) Segment: AV CS Delivery	4	2014	4	2014
Systems Development: Control System and Connectivity (CS&C) Segment: Land/Carrier Vessel Nuclear (CVN) CS Development/Integration	2	2014	4	2016
Systems Development: Control System and Connectivity (CS&C) Segment: Land CS Delivery	1	2017	1	2017
Systems Development: Control System and Connectivity (CS&C) Segment: CVN CS Delivery	1	2019	1	2019
Systems Development: Control System and Connectivity (CS&C) Segment: Clean-up CS/Integration	3	2016	4	2018
Systems Development: Control System and Connectivity (CS&C) Segment: Technology Refresh CS/Integration	3	2018	4	2019
Systems Development: CVN Segment: CVN Spec Development	1	2013	3	2013
Systems Development: CVN Segment: Ship Change Document (SCD) Development/Installation Plan/Verification	3	2013	3	2016
Systems Development: Installations: Ship Installation	3	2016	4	2019
Test and Evaluation: Developmental Test: Airworthiness/Envelope Expansion/Mission Testing	3	2018	4	2019

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014
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	

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test and Evaluation: Developmental Test: CVN Suit (Land)	3	2018	4	2019

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>					<b>R-1 Program Element (Number/Name)</b> PE 0604501N / <i>Advanced Above Water Sensors</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	932.493	235.176	157.871	20.409	-	20.409	20.755	19.720	20.168	20.736	Continuing	Continuing
3186: <i>Air and Missile Defense Radar</i>	685.773	193.947	125.132	-	-	-	-	-	-	-	-	1,004.852
3187: <i>Periscope Detection</i>	55.415	4.650	-	-	-	-	-	-	-	-	-	60.065
3188: <i>Dual-Band Radar</i>	55.159	11.609	15.893	8.774	-	8.774	6.432	5.058	5.179	5.337	Continuing	Continuing
3232: <i>Multi-Mission Signal Processor</i>	108.156	12.602	14.795	9.669	-	9.669	13.522	13.853	14.167	14.557	Continuing	Continuing
3236: <i>Advanced Radar Technology</i>	0.000	-	-	1.200	-	1.200	-	-	-	-	-	1.200
3301: <i>Improved Capabilities SPY-1 Radar</i>	7.990	3.380	2.051	0.766	-	0.766	0.801	0.809	0.822	0.842	Continuing	Continuing
9999: <i>Congressional Adds</i>	20.000	8.988	-	-	-	-	-	-	-	-	-	28.988

**MDAP/MAIS Code:** P384

# The FY 2015 OCO Request will be submitted at a later date.

**A. Mission Description and Budget Item Justification**

Air and Missile Defense Radar (AMDR): (Note: Beginning in FY15, this effort will transfer 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.

Periscope Detection: The CVN Periscope Detection Radar program, AN/SPS-74(V), develops and delivers the capability which provides automated detection and discrimination of submarine periscopes using advanced algorithms. This enables discrimination of periscopes from surface contacts, buoys, small boats, floating mines, etc. This effort was initially based on an Advanced Development Model (ADM), developed in PE 0603553N, Surface Antisubmarine Warfare. VCNO Memorandum

# UNCLASSIFIED

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0604501N / <i>Advanced Above Water Sensors</i>
<p>Ser N09/12U100544 dtd 17 Dec, 2012 directs cancellation of the AN/SPS-74 Program. FY12 and FY13 funding developed the Periscope Detection and Discrimination (PDD) interface for the AN/SPQ-9B Radar. FY13 funding also developed a Land Based Test Asset to demonstrate new solid state technology that lowers the required power and removes the highest failing components, improving system reliability and stability while greatly reducing the production life and life costs.</p> <p>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: FY12-14 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: FY13-FY17 requirement supports DBR At-Sea Test and Evaluation (T&amp;E), Environmental Testing and DBR Systems Certification for CVN 78.</p> <p>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).</p> <p>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.</p> <p>Improved Capabilities for SPY-1 Radar: These Reliability, Maintainability, and Availability (RM&amp;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.</p> <p>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.</p>		



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PE 0604501N: *Advanced Above Water Sensors*  
Navy

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604501N / <i>Advanced Above Water Sensors</i>				Project (Number/Name) 3186 / <i>Air and Missile Defense Radar</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3186: <i>Air and Missile Defense Radar</i>	685.773	193.947	125.132	-	-	-	-	-	-	-	-	1,004.852
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Air and Missile Defense Radar (AMDR): (Note: Beginning in FY15, this effort will transfer 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 2013	FY 2014	FY 2015	
Title: SYSTEMS ENGINEERING									190.367	121.474	-	
									Articles: -	-	-	
FY 2013 Accomplishments:												
- Achieved successful Milestone B decision												
- Supported efforts to mature AMDR design and radar parameters necessary for ship integration												
FY 2014 Plans:												
- Award AMDR-S/RSC Engineering & Manufacturing Development (E&MD) contract												
- Mature AMDR design and radar parameters necessary for ship integration												
- Support E&MD Phase Integrated Baseline Review												
- Conduct Hardware Delta Preliminary Design Review (PDR) and Software/System Delta PDR												
- Develop modeling and simulation tools												
- Conduct performance analysis in support of system design												
FY 2015 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy							Date: March 2014				
Appropriation/Budget Activity 1319 / 5			R-1 Program Element (Number/Name) PE 0604501N / <i>Advanced Above Water Sensors</i>			Project (Number/Name) 3186 / <i>Air and Missile Defense Radar</i>					
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>		
N/A											
<b>Title:</b> PROGRAM MANAGEMENT SUPPORT  <b>FY 2013 Accomplishments:</b> - Achieved successful Milestone B decision - Provided support to Integrated Product Teams (IPTs) and Working Groups (WGs) required for program execution - Assisted in cost, schedule and performance management, contract administration and oversight, risk identification and mitigation  <b>FY 2014 Plans:</b> - Conduct E&MD Phase Integrated Baseline Review - Provide support to IPTs and WGs required for program execution of the E&MD contracts - Analyze and assess contractor deliverables - Conduct regular Program Management Reviews - Assist in cost, schedule and performance management, contract administration and oversight, earned value assessment, risk identification and mitigation - Provide support to Hardware Delta PDR and Software/System Delta PDR - Provide support to technical interchange meetings  <b>FY 2015 Plans:</b> N/A							<b>Articles:</b> 3.580 -	3.658 -	- -		
<b>Accomplishments/Planned Programs Subtotals</b>							193.947	125.132	-		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• 0604522N: <i>Air and Missile Defense Radar</i>	-	-	144.706	-	144.706	247.339	100.414	43.057	41.329	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
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											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604501N / <i>Advanced Above Water Sensors</i>	<b>Project (Number/Name)</b> 3186 / <i>Air and Missile Defense Radar</i>
<p>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.</p> <p>Program scope consists of the following phases: a Concept Studies phase; a Technology Development phase which included competitive prototyping; an E&amp;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.</p> <p><b><u>E. Performance Metrics</u></b></p> <ul style="list-style-type: none"> <li>- Complete Technology Development (TD) phase System Requirements Review, Test Readiness Review, TD Prototype testing, TD System Functional Review, and TD Preliminary Design Review (PDR)</li> <li>- Achieve Milestone B decision to proceed into E&amp;MD phase</li> <li>- Award E&amp;MD contract</li> <li>- Conduct E&amp;MD Phase Integrated Baseline Review</li> <li>- Conduct Hardware Delta PDR and Software/System Delta PDR</li> <li>- Conduct Hardware and Software/System CDRs</li> <li>- Complete Engineering Development Model (EDM) Testing</li> <li>- Achieve Milestone C decision to proceed into production and exercise LRIP options</li> </ul>		

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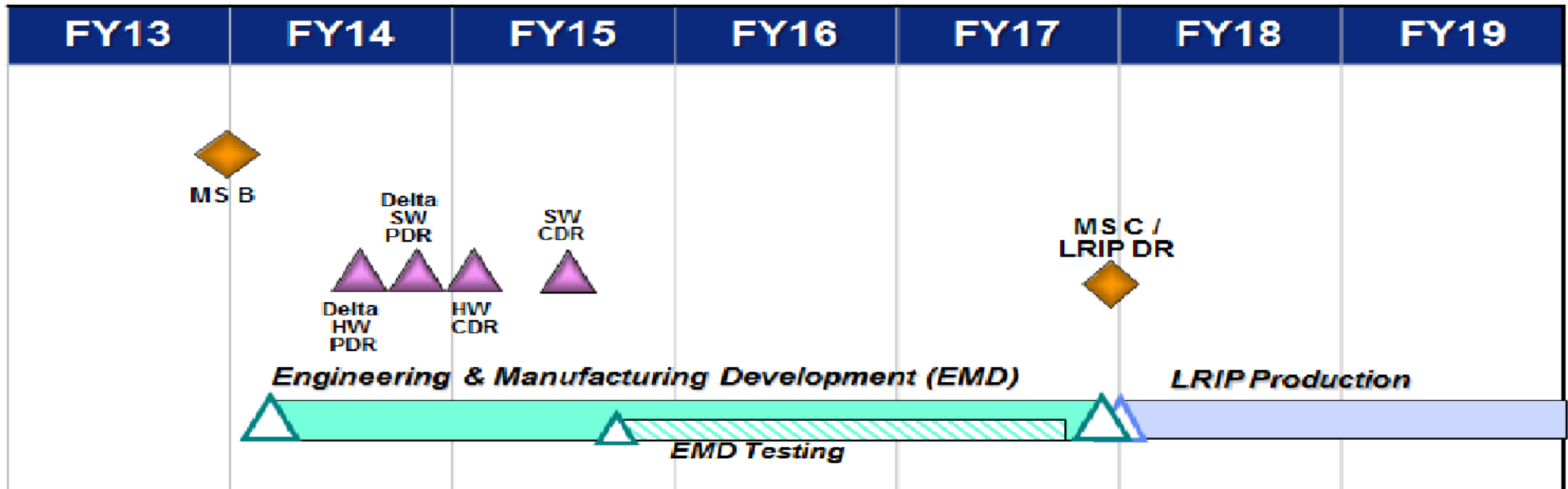
**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**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*



Note: FY14 and prior captured under PE0604501N. Starting in FY15, effort moved to PE 0604522N.

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CDR	Critical Design Review
DR	Decision Review
HW	Hardware
LRIP	Low Rate Initial Production
MS	Milestone
PDR	Preliminary Design Review
SFR	System Functional Review
TRR	Test Readiness Review
SW	Software

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604501N / <i>Advanced Above Water Sensors</i>				Project (Number/Name) 3187 / <i>Periscope Detection</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3187: <i>Periscope Detection</i>	55.415	4.650	-	-	-	-	-	-	-	-	-	60.065
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Periscope Detection: The CVN Periscope Detection Radar program, AN/SPS-74(V), develops and delivers the capability which provides automated detection and discrimination of submarine periscopes using advanced algorithms. This enables discrimination of periscopes from surface contacts, buoys, small boats, floating mines, etc. This effort was initially based on an Advanced Development Model (ADM), developed in PE 0603553N, Surface Antisubmarine Warfare. VCNO Memorandum Ser N09/12U100544 dtd 17 Dec, 2012 directs cancellation of the AN/SPS-74 Program. FY12 and FY13 funding developed the Periscope Detection and Discrimination (PDD) interface for the AN/SPQ-9B Radar. FY13 funding also developed a Land Based Test Asset to demonstrate new solid state technology that lowers the required power and removes the highest failing components, improving system reliability and stability while greatly reducing the production life and life costs.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Periscope Detection  <div>Articles:</div>									4.650	-	-	
									-	-	-	
FY 2013 Accomplishments: - Completed AN/SPQ-9B Radar PDD interface development and testing.												
FY 2014 Plans: N/A												
FY 2015 Plans: N/A												
Accomplishments/Planned Programs Subtotals									4.650	-	-	
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN/2980: 0204228N/2980 Radar Support (OPN)	0.258	0.700	0.696	-	0.696	0.696	0.696	0.697	0.696	Continuing	Continuing	
• O&MN/1C2C/12C31: 0702228N/Radars	1.500	1.500	1.500	-	1.500	1.500	1.500	1.500	1.500	Continuing	Continuing	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy							Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604501N / <i>Advanced Above Water Sensors</i>			Project (Number/Name) 3187 / <i>Periscope Detection</i>		

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
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Remarks

D. Acquisition Strategy

Current Program supports four (4) Advanced Demonstration Models (ADMs).

E. Performance Metrics

- Complete AN/SPQ-9B PDD Interface Development and Testing

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / <i>Advanced Above Water Sensors</i>	Project (Number/Name) 3187 / <i>Periscope Detection</i>	

Task Name	FY2013				FY2014				FY2015				FY2016				FY2017				FY2018				FY2019			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
PDD Interface Development and Testing for AN/SPQ-9B	AN/SPQ-9B PDD Interface Development and Testing																											



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604501N / <i>Advanced Above Water Sensors</i>				Project (Number/Name) 3188 / <i>Dual-Band Radar</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3188: <i>Dual-Band Radar</i>	55.159	11.609	15.893	8.774	-	8.774	6.432	5.058	5.179	5.337	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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: FY12-14 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: FY13-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 2013	FY 2014	FY 2015	
Title: RADAR UPGRADES TECHNOLOGY INSERTION									6.194	11.920	6.272	
									Articles: -	-	-	
FY 2013 Accomplishments:												
- Continued Technology Insertion for the MFR/VSR/DBR hardware and software and development/updates to associated logistics products.												
- Commenced software development to implement live over simulation training capability in support of BFTT integration.												
- Commenced software development to implement DBR/SEWIP interface.												
- Continued software development to implement DBR/CEC interface.												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604501N / <i>Advanced Above Water Sensors</i>	<b>Project (Number/Name)</b> 3188 / <i>Dual-Band Radar</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<ul style="list-style-type: none"> <li>- Continued to provide technical support for the DBR element certification in support of the overall combat system certification.</li> </ul> <p><b>FY 2014 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue Technology Insertion for the MFR/VSР/DBR hardware and software and development/updates to associated logistics products.</li> <li>- Continue software development and commence integration of the DBR/BFTT, DBR/SEWIP and DBR/CEC interfaces.</li> <li>- Continue to provide technical support for the DBR element certification in support of the overall combat system certification.</li> <li>- Commence validation testing and certification of the DBR/BFTT, DBR/CEC and DBR/SEWIP software interfaces.</li> <li>- Commence DBR Environmental Testing.</li> </ul> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue Technology Insertion for the MFR/VSР/DBR hardware and software and development/updates to associated logistics products.</li> <li>- Complete software development and integration of the DBR/BFTT, DBR/SEWIP and DBR/CEC interfaces.</li> <li>- Continue to provide technical support for the DBR element certification in support of the overall combat system certification.</li> <li>- Complete validation testing and integration of the DBR/BFTT, DBR/CEC and DBR/SEWIP software interfaces.</li> <li>- Continue DBR Environmental Testing.</li> <li>- Commence DBR Shipboard Testing.</li> </ul>			
<p><b>Title:</b> RADAR UPGRADES GOVERNMENT ENGINEERING SERVICES</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b></p> <ul style="list-style-type: none"> <li>- Continued to provide Government Engineering Services support for radar upgrades and technology insertion of the MFR/VSР/DBR radars. Continued to perform oversight and assessment of efforts associated with this phase of the program.</li> <li>- Commenced Government Engineering Services in support of DBR/BFTT and DBR/SEWIP software interface development.</li> <li>- Continued to provide DBR EMI testing efforts.</li> <li>- Continued to provide Government Engineering Services for the DBR/CEC software interface development.</li> </ul> <p><b>FY 2014 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue to provide Government Engineering Services support for radar upgrades and technology insertion of the MFR/VSР/DBR radars. Continue to perform oversight and assessment of efforts associated with this phase of the program.</li> <li>- Continue DBR EMI testing efforts.</li> <li>- Continue to provide Government Engineering Services in support of DBR/BFTT, DBR/CEC and DBR/SEWIP software interface development integration.</li> <li>- Continue to provide Government Engineering Services required for DBR element certification to support overall combat system certification.</li> </ul>		4.548 -	3.414 -
		2.139 -	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604501N / <i>Advanced Above Water Sensors</i>	Project (Number/Name) 3188 / <i>Dual-Band Radar</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
<div>- Commenced validation testing and certification of the DBR/BFTT, DBR/CEC and DBR/SEWIP software interfaces.</div> <div>- Commenced DBR Environmental Testing.</div> <div><b>FY 2015 Plans:</b></div> <div>- 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.</div> <div>- Continue to provide Government Engineering Services in support of DBR/BFTT, DBR/CEC and DBR/SEWIP software interface development integration.</div> <div>- Continue to provide Government Engineering Services required to complete DBR element certification to support overall combat system certification.</div> <div>- Continue to provide engineering services to support validation testing and certification of the DBR/BFTT, DBR/CEC and DBR/SEWIP software interfaces.</div> <div>- Continue DBR Environmental Testing.</div> <div>- Commence DBR Shipboard Testing.</div>					
<div><b>Title:</b> RADAR UPGRADES PROGRAM MANAGEMENT</div> <div><b>Articles:</b></div> <div><b>FY 2013 Accomplishments:</b></div> <div>- Continued to provide Program Management and logistics support for radar upgrades and technology insertion for the MFR/VSR/DBR radars.</div> <div>- Commenced Program Management for the DBR/BFTT and DBR/SEWIP software interface development.</div> <div>- Continued to provide Program Management for DBR/CEC software interface development.</div> <div><b>FY 2014 Plans:</b></div> <div>- Continue to provide Program Management and logistics support for radar upgrades and technology insertion for the MFR/VSR/DBR radars.</div> <div>- Continue to provide Program Management support of DBR/BFTT, DBR/CEC and DBR/SEWIP software interface development.</div> <div><b>FY 2015 Plans:</b></div> <div>- Continue to provide Program Management and logistics support for radar upgrades and technology insertion for the MFR/VSR/DBR radars.</div> <div>- Continue to provide Program Management support of DBR/BFTT, DBR/CEC and DBR/SEWIP software interface development.</div> <div>- Continue to provide Program Management for validation testing of the DBR/BFTT, DBR/CEC and DBR/SEWIP software interfaces.</div>			0.867 -	0.559 -	0.363 -
Accomplishments/Planned Programs Subtotals			11.609	15.893	8.774

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014	
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/2980: BLI 2980/ OPN Items Less Than \$5M	-	3.263	4.187	-	4.187	11.616	16.381	16.398	16.397	Continuing	Continuing
• OMN/0702228N: 0702228N/1C2C/O&M,N	0.939	2.699	3.173	-	3.173	2.763	2.671	2.698	2.760	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											
<ul style="list-style-type: none"><li>- 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</li><li>- Complete co-site and off-ship EMI analysis testing</li><li>- Complete VSR Radome development and determine opportunities to improve configuration and performance</li><li>- Complete upgrade technology insertion</li><li>- Complete development of logistics products</li><li>- Implement supportability analysis to improve supportability and reduce overall lifecycle cost</li><li>- Complete DBR At-Sea Test and Evaluation (T&amp;E)</li><li>- Complete Environmental Testing</li><li>- Complete DBR/CEC interface development</li><li>- Complete DBR Systems Certification</li><li>- Complete Common Array Power System (CAPS) redesign</li><li>- Complete DBR/SEWIP interface development</li><li>- Complete DBR/BFTT interface development</li></ul>											

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

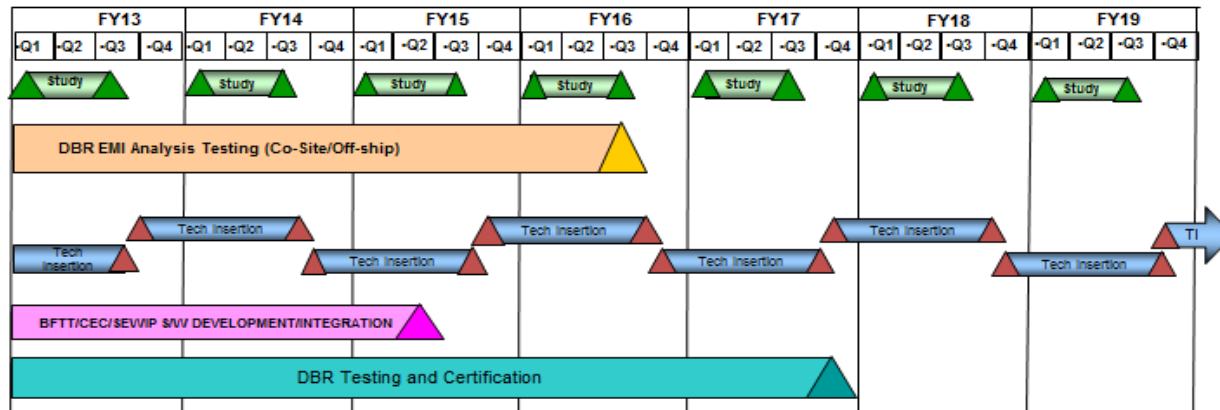
Date: March 2014

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

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604501N / <i>Advanced Above Water Sensors</i>				Project (Number/Name) 3232 / <i>Multi-Mission Signal Processor</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3232: <i>Multi-Mission Signal Processor</i>	108.156	12.602	14.795	9.669	-	9.669	13.522	13.853	14.167	14.557	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**A. Mission Description and Budget Item Justification**

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).

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> SYSTEMS ENGINEERING	12.602	14.795	9.669
<b>Articles:</b>	-	-	-
<b>FY 2013 Accomplishments:</b> <ul style="list-style-type: none"> <li>- Supported Aegis Light Off (ALO)</li> <li>- Continued to support MMSP integration testing with Advanced Capability Build (ACB12) to address all MMSP related issues</li> <li>- Initiated validation and verification testing and computer program corrections</li> <li>- 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</li> <li>- Initiated design and development of MANTECH Solid State Switch Assembly (SSSA)</li> <li>- Initiated COTS Refresh and radar improvements</li> <li>- Initiated DDG Baseline 9 Radar Capabilities Upgrades, Ship-Based NCTR, and Baseline 9 Radar Synchronization</li> <li>- Supported MMSP/ACB12 Radar Integration at-sea validation testing and computer program correction.</li> <li>- Conducted ACB16 Radar requirements analysis</li> </ul>			
<b>FY 2014 Plans:</b> <ul style="list-style-type: none"> <li>- Support of Combat System Ship Qualification Trials (CSSQT) testing</li> <li>- Continue MMSP/ACB12 Radar Integration at-sea validation testing and computer program correction</li> </ul>			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / <i>Advanced Above Water Sensors</i>	Project (Number/Name) 3232 / <i>Multi-Mission Signal Processor</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
<ul style="list-style-type: none"> <li>- Continue design and development of MANTECH SSSA</li> <li>- Continue COTS Refresh and radar improvements</li> <li>- Continue DDG Baseline 9 Radar Capabilities Upgrades, Ship-Based NCTR, and Baseline 9 Radar Synchronization</li> <li>- Finalize ACB16 Radar requirements analysis</li> <li>- 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</li> </ul> <p><b><i>FY 2015 Plans:</i></b></p> <ul style="list-style-type: none"> <li>- Support DDG MMSP final certification</li> <li>- Continue to support MMSP/ACB12 Radar Integration at-sea validation testing and computer program correction</li> <li>- Complete design and development of MANTECH SSSA and transition to production</li> <li>- Continue COTS Refresh and radar improvements</li> <li>- Continue DDG Baseline 9 Radar Capabilities Upgrades, Ship-Based NCTR, and Baseline 9 Radar Synchronization</li> <li>- Incorporate ACB16 Radar upgrades for MMSP</li> <li>- 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</li> </ul>			
<b>Accomplishments/Planned Programs Subtotals</b>	12.602	14.795	9.669

### C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• SCN/2122: <i>BLI 2122/SCN DDG 51</i>	4,497.012	2,085.115	2,934.598	-	2,934.598	3,276.756	3,312.269	3,354.739	3,337.383	Continuing	Continuing
• OPN/0900: <i>BLI 0900/ OPN DDG Modernization</i>	407.707	285.994	338.569	-	338.569	427.258	491.224	719.671	669.440	Continuing	Continuing

### Remarks

#### D. Acquisition Strategy

Multi-Mission Signal Processor (MMSP) provides 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.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604501N / <i>Advanced Above Water Sensors</i>	<b>Project (Number/Name)</b> 3232 / <i>Multi-Mission Signal Processor</i>
<b>E. Performance Metrics</b> <ul style="list-style-type: none"> <li>- Complete DDG SPY-1D(V) Engineering Exercise (EE) #2</li> <li>- Complete DDG Qualification Testing</li> <li>- Complete DDG ACB 12 Multi-Mission Exercise</li> <li>- Complete DDG Delivery</li> <li>- Complete DDG Aegis Light Off (ALO)</li> <li>- Complete DDG Combat System Ship Qualification Trials (CSSQT)</li> <li>- Complete MMSP on DDG on Final Certification</li> <li>- Complete DDG Commercial Off The Shelf (COTS) Refresh - Engineering Change Proposal (ECP) for MMSP on Destroyers</li> <li>- Complete Solid State Switch Assembly (SSSA) contract award</li> <li>- Complete SSSA Critical Design Review (CDR)</li> <li>- Complete SSSA Final Certification</li> <li>- Complete Ship-Based Non-Cooperative Target Recognition (SBNCTR) Engineering Exercise (EE)</li> <li>- Complete ACB16 Preliminary Design Review (PDR)</li> <li>- Complete ACB16 CDR</li> <li>- Complete ACB16 Demo</li> <li>- Complete ACB16 AEGIS Light Off (ALO)</li> <li>- Complete ACB16 Final Certification</li> <li>- Complete ACB Next PDR</li> <li>- Complete ACB Next CDR</li> <li>- Complete ACB Next Test Readiness Review (TRR)</li> <li>- Complete ACB 16 COTS Refresh</li> <li>- Complete SBNCTR TRR</li> <li>- Complete SSSA qualification testing</li> <li>- Complete SSSA Production Readiness Review (PRR)</li> <li>- Complete ACB 16 System Readiness review (SRR)</li> <li>- Complete DDG 116 ALO</li> <li>- Complete ACB Next SRR</li> <li>- Complete ACB Next In Process Review (IPR)</li> </ul>		



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

Date: March 2014

Appropriation/Budget Activity

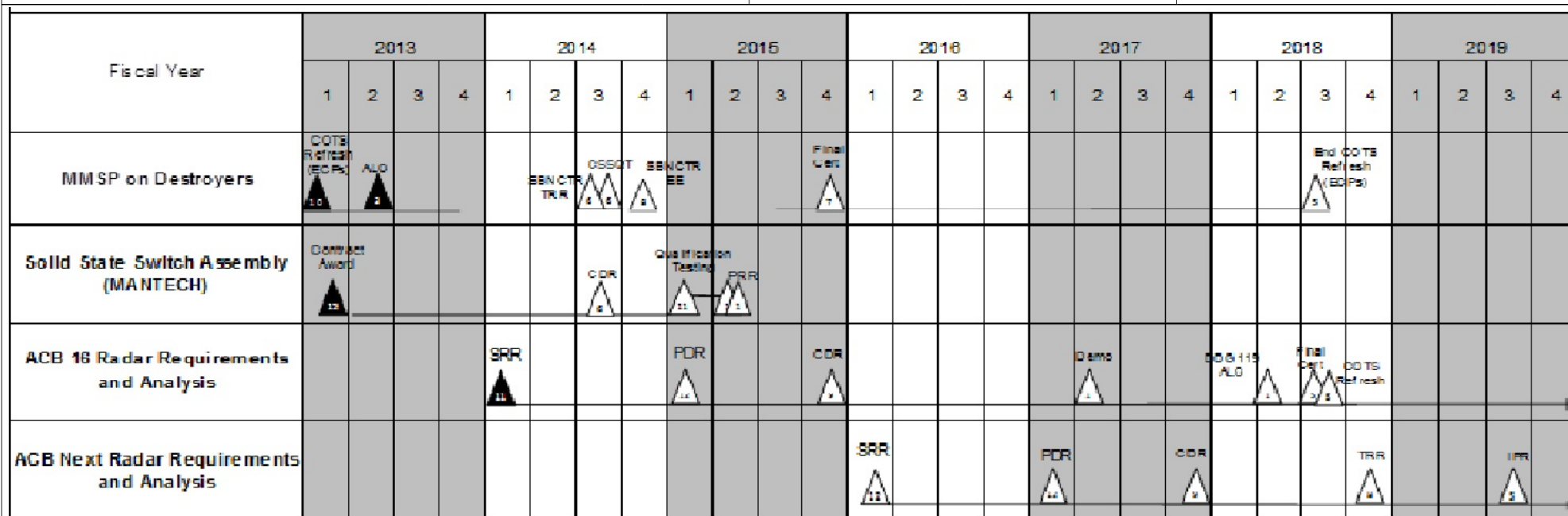
1319 / 5

R-1 Program Element (Number/Name)

PE 0604501N / Advanced Above Water Sensors

Project (Number/Name)

3232 / Multi-Mission Signal Processor



Note:

ACB 16 and ACB Next Radar efforts continue beyond the FYDP.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3236: Advanced Radar Technology	-	-	-	1.200	-	1.200	-	-	-	-	-	1.200
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
<b>A. Mission Description and Budget Item Justification</b> 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.												
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>										FY 2013	FY 2014	FY 2015
<b>Title:</b> SYSTEMS ENGINEERING  <b>Articles:</b>										-	-	1.200
<b>FY 2013 Accomplishments:</b> N/A  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> - Develop, integrate, and test an advanced signal processing capability for X-Band radars (Speed To Fleet).										-	-	-
<b>Accomplishments/Planned Programs Subtotals</b>										-	-	1.200
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN/2026: 02042228N Radar Support	18.076	27.934	28.007	-	28.007	24.801	30.678	31.295	31.996	798.236	991.023	
<b>Remarks</b>												
<b>D. Acquisition Strategy</b>												
Advanced Radar Technology (ART) will develop, integrate, and test an advanced signal processing capability for X-Band radars (Speed-to-Fleet).												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604501N / <i>Advanced Above Water Sensors</i>	Project (Number/Name) 3236 / <i>Advanced Radar Technology</i>
<b>E. Performance Metrics</b> <ul style="list-style-type: none"><li>- Speed-to-Fleet (S2F) Electronic Pulse (EP) new firmware/software changes testing</li><li>- S2F EP Land Based Testing</li><li>- S2F EP At-Sea Testing</li><li>- Approval for Transition</li></ul>		

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**  
1319 / 5

**R-1 Program Element (Number/Name)**  
PE 0604501N / *Advanced Above Water Sensors*

**Project (Number/Name)**  
3236 / *Advanced Radar Technology*

Task Name	FY2013				FY2014				FY2015				FY2016				FY2017				FY2018				FY2019			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
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																												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604501N / <i>Advanced Above Water Sensors</i>				Project (Number/Name) 3301 / <i>Improved Capabilities SPY-1 Radar</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3301: <i>Improved Capabilities SPY-1 Radar</i>	7.990	3.380	2.051	0.766	-	0.766	0.801	0.809	0.822	0.842	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
Title: Improved Capabilities SPY-1 Radar										3.380	2.051	0.766
										Articles: -	-	-
FY 2013 Accomplishments:												
- Finalized design and development of Sidewall Capacitor monitoring circuit for High Voltage Power Supply (HVPS)												
- Finalized design and development of 10KW Traveling Wave Tube (TWT)												
- Finalized design improvements to filament for Switch Tube												
- Continued design and development of Crossed Field Amplifier (CFA) Microwave Tube (MWT)												
- Continued design and development of reliability improvements for the Simplified Driver (SDR)												
- Conducted Water Cooled Vane (WCV) to Double Duty (DD) engineering development												
- Continued development of additional cost reduction initiatives												
- Continued Microwave Tube (MWT) improvement design/development												
FY 2014 Plans:												
- Complete design and development of reliability improvements for the Simplified Driver (SDR)												
- Conduct feasibility study for solid state Helix Regulator												
- Conduct feasibility study for 40W/400W Gallium Nitride (GaN) based solid state amplifier												
- Complete design and development of Crossed Field Amplifier (CFA) Microwave Tube												
- Continue Microwave Tube (MWT) improvement design/development												
- Continue development of additional cost reduction initiatives												
FY 2015 Plans:												
- Initiate design and development of solid state Helix Regulator												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
- Initiate design and development of 40W/400W GaN based solid state amplifier												
- Continue development of additional cost reduction initiatives												
- Continue Microwave Tube (MWT) improvement design/development												
Accomplishments/Planned Programs Subtotals										3.380	2.051	0.766
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN/2980: Items Less Than \$5M	2.400	9.592	14.527	-	14.527	15.115	27.023	52.414	31.681	Continuing	Continuing	
• O&MN/0702228N: O&M,N	2.254	3.723	4.222	-	4.222	3.888	4.387	4.435	4.522	Continuing	Continuing	
AEGIS Wholeness SPY												
Transmitter Reliability												
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 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												
- Complete GaN based Driver/Pre-Driver studies/investigations												

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**

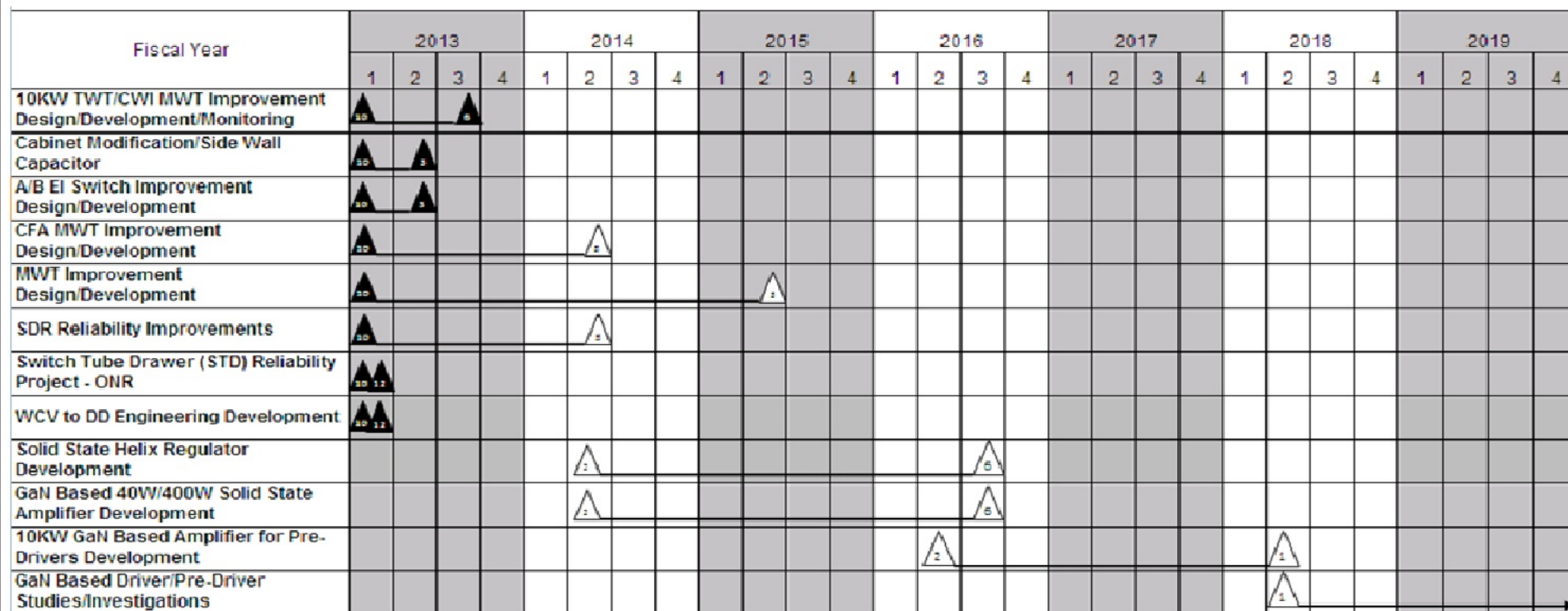
1319 / 5

**R-1 Program Element (Number/Name)**

PE 0604501N / *Advanced Above Water Sensors*

**Project (Number/Name)**

3301 / *Improved Capabilities SPY-1 Radar*



Note:

GaN Based Driver/Pre-Driver Studies/Investigations continue beyond the FYDP.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014																	
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604501N / <i>Advanced Above Water Sensors</i>				<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>																		
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>															
9999: <i>Congressional Adds</i>	20.000	8.988	-	-	-	-	-	-	-	-	-	28.988															
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-																	
<p># The FY 2015 OCO Request will be submitted at a later date.</p> <p><b>A. Mission Description and Budget Item Justification</b>            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.</p> <p><b>B. Accomplishments/Planned Programs (\$ in Millions)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>FY 2013</th> <th>FY 2014</th> </tr> </thead> <tbody> <tr> <td><b>Congressional Add:</b> Adv Radar Innovation Fund - Surf (Cong)</td> <td>8.988</td> <td>-</td> </tr> <tr> <td><b>FY 2013 Accomplishments:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td><b>FY 2014 Plans:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;"><b>Congressional Adds Subtotals</b></td> <td>8.988</td> <td>-</td> </tr> </tbody> </table> <p><b>C. Other Program Funding Summary (\$ in Millions)</b> N/A</p> <p><b>Remarks</b></p> <p><b>D. Acquisition Strategy</b> N/A</p> <p><b>E. Performance Metrics</b> Congressional Add</p>														FY 2013	FY 2014	<b>Congressional Add:</b> Adv Radar Innovation Fund - Surf (Cong)	8.988	-	<b>FY 2013 Accomplishments:</b> N/A			<b>FY 2014 Plans:</b> N/A			<b>Congressional Adds Subtotals</b>	8.988	-
	FY 2013	FY 2014																									
<b>Congressional Add:</b> Adv Radar Innovation Fund - Surf (Cong)	8.988	-																									
<b>FY 2013 Accomplishments:</b> N/A																											
<b>FY 2014 Plans:</b> N/A																											
<b>Congressional Adds Subtotals</b>	8.988	-																									



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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>					<b>R-1 Program Element (Number/Name)</b> PE 0604503N / SSN-688 & Trident Modernization							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	1,174.607	74.090	85.711	71.565	-	71.565	117.014	105.837	93.247	88.610	Continuing	Continuing
0219: <i>Sub Sonar Improvement (ENG)</i>	752.027	47.991	55.674	41.903	-	41.903	75.255	61.444	59.839	61.134	Continuing	Continuing
0742: <i>Sub Integrated Ant System</i>	238.921	16.291	14.816	12.793	-	12.793	25.198	24.613	13.255	13.587	Continuing	Continuing
0775: <i>Submarine Supt Equip Prog</i>	6.070	1.155	1.318	8.064	-	8.064	6.472	9.481	9.694	3.167	Continuing	Continuing
1411: <i>Sub Tact Comm System</i>	177.589	8.653	13.903	8.805	-	8.805	10.089	10.299	10.459	10.722	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## **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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0604503N / SSN-688 & Trident Modernization			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	82.620	89.672	82.880	-	82.880
Current President's Budget	74.090	85.711	71.565	-	71.565
Total Adjustments	-8.530	-3.961	-11.315	-	-11.315
• Congressional General Reductions	-	-0.024			
• Congressional Directed Reductions	-	-3.937			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.681	-			
• Program Adjustments	-	-	-2.002	-	-2.002
• Rate/Misc Adjustments	-	-	-9.313	-	-9.313
• Congressional General Reductions Adjustments	-6.849	-	-	-	-
Change Summary Explanation					
Reduced FY13 funding for Sequestration reductions.					
Schedule:					
Advanced High Data Rate (Adv HDR): Schedule and development changes are a result of sequestration reduction. Planned milestones were adjusted accordingly.					
All Projects: Reduced FY 15 funding due to the Department's decision to reduce contracted services.					

# UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0219: Sub Sonar Improvement (ENG)	752.027	47.991	55.674	41.903	-	41.903	75.255	61.444	59.839	61.134	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
<p>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.</p> <p>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</p> <p>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</p> <p>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.</p> <p>Sensor efforts provide increased operational capabilities for littoral operations, situational awareness, and reliability improvements.</p>												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: APB Productionization									12.141	14.859	12.112	
									Articles: -	-	-	
Description: APB productionization provides for the transition of APB capability improvements to the Fleet for the integration, testing and formal certification.												
FY 2013 Accomplishments:												
Continued Advanced Processing Build (APB) Sea Testing, Integration, and Certification. This effort was primarily the transition of APB software from development to A-RCI for integration, testing, and formal certification.												
FY 2014 Plans:												

**UNCLASSIFIED**

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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 2013	FY 2014	FY 2015
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 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.											
Title: Integration and Testing									35.850	40.815	25.941
Articles:									-	-	-
Description: Integration and Testing provides support to integrated and test APB's into all submarine classes with numerous sensor systems.											
FY 2013 Accomplishments: Supported Advanced Processing Builds installed on SSN 688I, SSN 688, SSN 21, SSGN 726, and VA Class Submarines.											
FY 2014 Plans: Supports 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.											
Title: SSBN Combat System Modernization									-	-	3.850
Articles:									-	-	-
FY 2013 Accomplishments: N/A											
FY 2014 Plans: N/A											
FY 2015 Plans: This effort incorporates SSBN combat systems into the APB/TI model.											
Accomplishments/Planned Programs Subtotals									47.991	55.674	41.903
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/BLI 214700: SSN Acoustics	174.921	175.852	165.655	-	165.655	276.914	266.627	348.780	376.741	Continuing	Continuing

# UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014	
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>C. Other Program Funding Summary (\$ in Millions)</b>											
			<u>FY 2015</u>	<u>FY 2015</u>	<u>FY 2015</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Complete</u>	<u>Total Cost</u>
<u>Remarks</u>											
<b>D. Acquisition Strategy</b>											
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 was awarded to General Dynamics, Advanced Information Systems in August 2009 and a competitive full and open contract was awarded to Lockheed Martin Maritime Systems & Sensors in January 2011. Program Reviews with the Milestone Decision Authority are conducted granting approval for the production options.											
<b>E. Performance Metrics</b>											
The A-RCI program will modernize approximately 25% of the SSN Fleet per year through executing bi-annual software Advanced Processing Builds (APBs) and bi-annual hardware Technical Insertions (TIs).											

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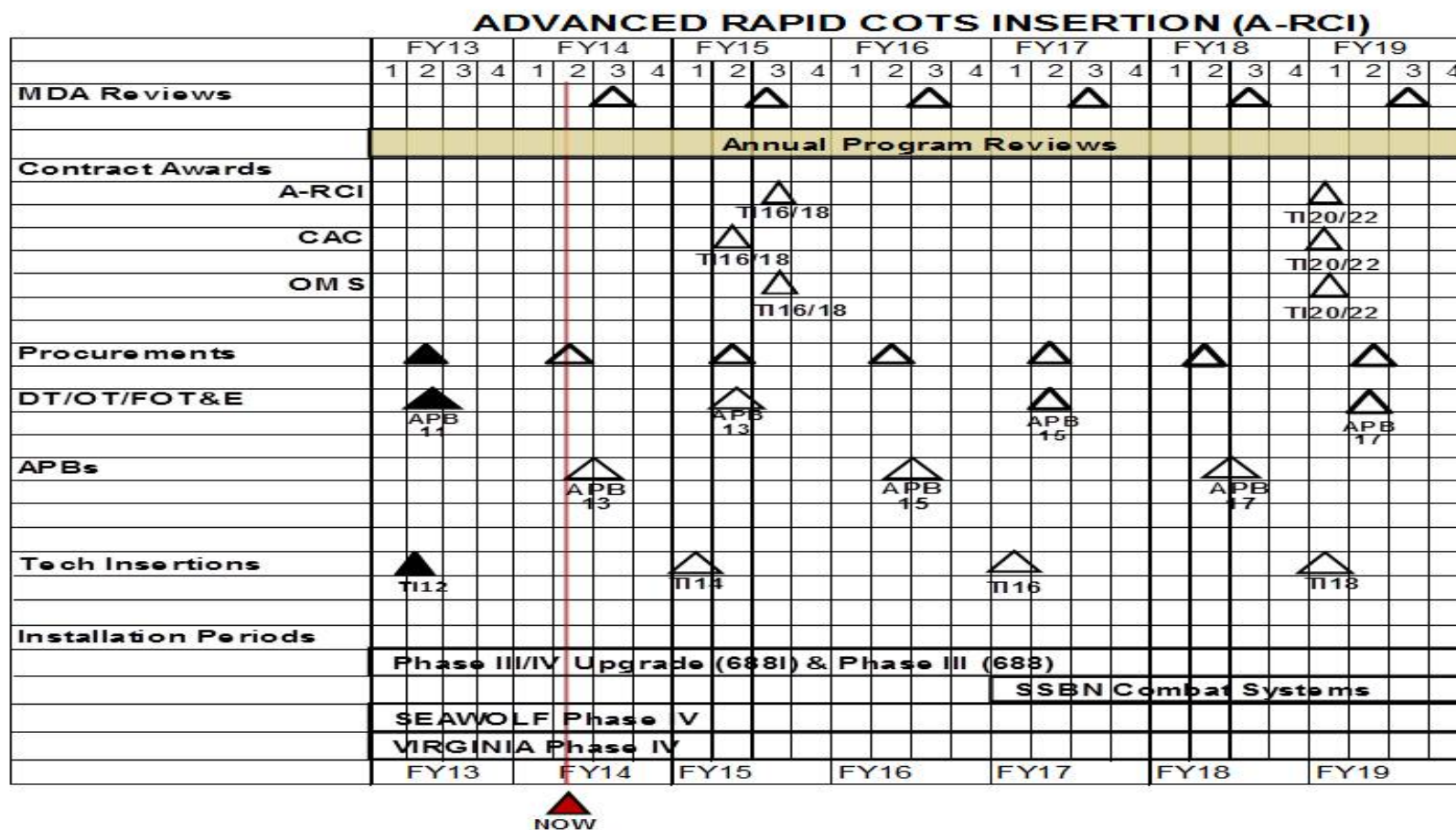
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy

Date: March 2014

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)



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014			
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
0742: Sub Integrated Ant System	238.921	16.291	14.816	12.793	-	12.793	25.198	24.613	13.255	13.587	Continuing	Continuing	
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-			
# The FY 2015 OCO Request will be submitted at a later date.													
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) Improved frequency coverage and data rate capabilities of submarine antennas and their interface to the External Communications System, (b) Improved 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) Improved 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), (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 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: FY15 OE-538: Complete development/update of required Milestone C acquisition documents. FY15 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. Complete Underwater Explosion (UNDEX) development and testing. FY15 SCB: Complete support for SCB Project Arrangement with United Kingdom and complete providing program, contract, and system engineering management support for Submarine Communications Buoy. Commence final report. FY15 Towed Buoy Antenna (AN/BRR-6/6B): Continue component development, system integration, and testing for reliability improvements and continue providing program, contract, logistics, and system engineering management (Transitioned from Transition Engineering in FY14).													
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015		
Title: Antenna Transition Engineering									3.893	4.227	3.561		
Articles:									-	-	-		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
<b>FY 2013 Accomplishments:</b> - Continued to provide emerging requirements and satellite communications (SATCOM) database/link analysis for other development programs in support of current & future 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 & Electrical (HM&E) interfaces. - Continued to investigate multiple usage antennas, including antennas that can be used for communications and other functions. - Continued BRR-6 Reliability Improvement.  <b>FY 2014 Plans:</b> - 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 undersea communications and other functions. - Commence development of undersea communications future capabilities in support of the 4th Generation Undersea Communication Architecture.  <b>FY 2015 Plans:</b> - 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 future undersea communication capabilities in support of the 4th Generation Undersea Communication Architecture.				
<b>Title:</b> Outboard Electronics (OE)-538  <b>Articles:</b>		3.951 -	4.156 -	3.480 -
<b>FY 2013 Accomplishments:</b> - Continued Increment 2 system design, manufacture and testing of Engineering Development Model (EDM).				



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
<div>- Continued Capability Production Document (CPD) and continued applicable Integrated Logistics Support (ILS) documentation to support Low-Rate Initial Production (LRIP) decision.</div> <div>- Continued development/update of required Milestone C acquisition documents.</div> <div>- Continued preparation for Developmental Test (DT) in support of LRIP.</div> <div>- Commenced the oversight of the development/integration of Global Positioning System (GPS) Anti-Jam (AJ).</div> <div>FY 2014 Plans:</div> <div>- Complete Increment 2 system design, manufacture and testing of EDM.</div> <div>- Complete CPD and continue applicable ILS documentation to support LRIP decision.</div> <div>- Continue development/update of required Milestone C acquisition documents.</div> <div>- Complete DT in support of LRIP.</div> <div>- Continue oversight for the development/integration of Global Positioning System (GPS) Anti-Jam (AJ).</div> <div>FY 2015 Plans:</div> <div>- Complete applicable ILS documentation to support LRIP decision.</div> <div>- Complete development/update of required Milestone C acquisition documents.</div> <div>- Commence preparation for OE-538A Underwater Explosion (UNDEX) test.</div> <div>- Commence preparation for DT/Operational Test (OT) in support of Full Rate Production (FRP).</div> <div>- Continue oversight for the development/integration of Global Positioning System (GPS) Anti-Jam (AJ).</div>				
<div>Title: Submarine High Data Rate (SubHDR) Pre-Planned Product Improvement (P3I)</div> <div>Articles:</div> <div>FY 2013 Accomplishments:</div> <div>- Continued development of Reliability Maintainability, and Availability (RMA) components identified by research and analysis to maintain an Operational Availability (Ao) throughout the life of the system.</div> <div>- Continued Underwater Explosion (UNDEX) development and testing.</div> <div>FY 2014 Plans:</div> <div>-N/A</div> <div>FY 2015 Plans:</div> <div>- 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.</div> <div>- Complete UNDEX development and testing and receive delivery of two functioning UNDEX prtotype kits.</div>		3.529 -	- -	3.367 -
<div>Title: Advanced High Data Rate (AdvHDR)</div> <div>Articles:</div>		2.460 -	1.489 -	- -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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 2013	FY 2014	FY 2015
<b>FY 2013 Accomplishments:</b> - Completed technology development efforts. - Continued system development engineering efforts. - Continued technology maturation.  <b>FY 2014 Plans:</b> - Complete technology maturation.  <b>FY 2015 Plans:</b> - N/A					
<b>Title:</b> Submarine Communications Buoy (SCB)  <b>Articles:</b>  <b>Description:</b> A project arrangement between the United States and the United Kingdom.  <b>FY 2013 Accomplishments:</b> - Continued support for SCB Project Arrangement with United Kingdom. - Continued component design specification development of candidate SCB components. - Continued development of demonstration plan for SCB components. - Continued performance evaluation of the candidate SCB components.  <b>FY 2014 Plans:</b> - Continue support for SCB Project Arrangement with United Kingdom. - Continue component design specification development for candidate SCB components. - Continue development of demonstration plan for SCB components. - Continue performance evaluation of the candidate SCB components.  <b>FY 2015 Plans:</b> - 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.			2.458 -	2.270 -	1.792 -
<b>Title:</b> Towed Buoy Antenna (AN/BRR-6/6B)  <b>Articles:</b>			- -	2.674 -	0.593 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy								<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604503N / SSN-688 & Trident Modernization				<b>Project (Number/Name)</b> 0742 / Sub Integrated Ant System			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>								<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
<p><b>Description:</b> AN/BRR-6/6B previously funded under Transition Engineering Project for development efforts and SAMS Program for procurement and sustainment efforts.</p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue support for BRR-6 Program providing program, contract, logistics, and system engineering management.</li> <li>- Continue component design specification/modification for reliability improvements of tow cable strength/throughput, antenna/amplifier, and servo valve isolation.</li> <li>- Continue component development, system integration, and testing for reliability improvements of tow cable strength/throughput, antenna/amplifier, and servo valve isolation.</li> <li>- Complete component design specification/modification for reliability improvements of buoy cabling/connectors and rotary joint.</li> <li>- Complete component development, system integration, and testing for reliability improvements of buoy cabling/connectors and rotary joint.</li> </ul> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Continue support for BRR-6 Program providing program, contract, logistics, and system engineering management.</li> <li>- Continue component design specification/modification for reliability improvements of antenna/amplifier.</li> <li>- Continue component development, system integration, and testing for reliability improvements of antenna/amplifier.</li> <li>- Complete component design specification/modification for reliability improvements of tow cable strength/throughput and servo valve isolation.</li> <li>- Complete component development, system integration, and testing for reliability improvements of tow cable strength/throughput and servo valve isolation.</li> <li>- Complete tow cable failure analysis and key item failure analysis for reliability improvements.</li> </ul>											
<b>Accomplishments/Planned Programs Subtotals</b>								16.291	14.816	12.793	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• 313000: Submarine Communications	58.916	64.376	67.852	-	67.852	53.483	66.742	73.310	74.929	Continuing	Continuing
<b>Remarks</b>											

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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

### D. Acquisition Strategy

### Program Milestones (MS):

Outboard Electronics (OE)-538: 2nd Quarter (QTR) FY15 Milestone C (MS C); 2nd QTR FY17 Full Rate Production (FRP) Decision Review.

### Test and Evaluation (T&E) Milestones:

OE-538: 4th QTR FY16 DT for FRP; 1st QTR FY17 Operational Test (OT) for FRP.

### E. Performance Metrics

FY15 OE-538: Complete Milestone C Decision Review.

FY15 SubHDR: Deliver two functioning Underwater Explosion (UNDEX) prototype kits.

FY15 BRR-6 Reliability Improvements: Complete development of reliability improvements for Tow Cables, Servo Valve Isolation and Failure analysis on Key Items.

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PE 0604503N: SSN-688 & Trident Modernization  
Navy

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Appropriation/Budget Activity
1319 / 5

**R-1 Program Element (Number/Name)**  
PE 0604503N / SSN-688 & Trident  
Modernization

<b>Project (Number/Name)</b>	0742 / <i>Sub Integrated Ant System</i>
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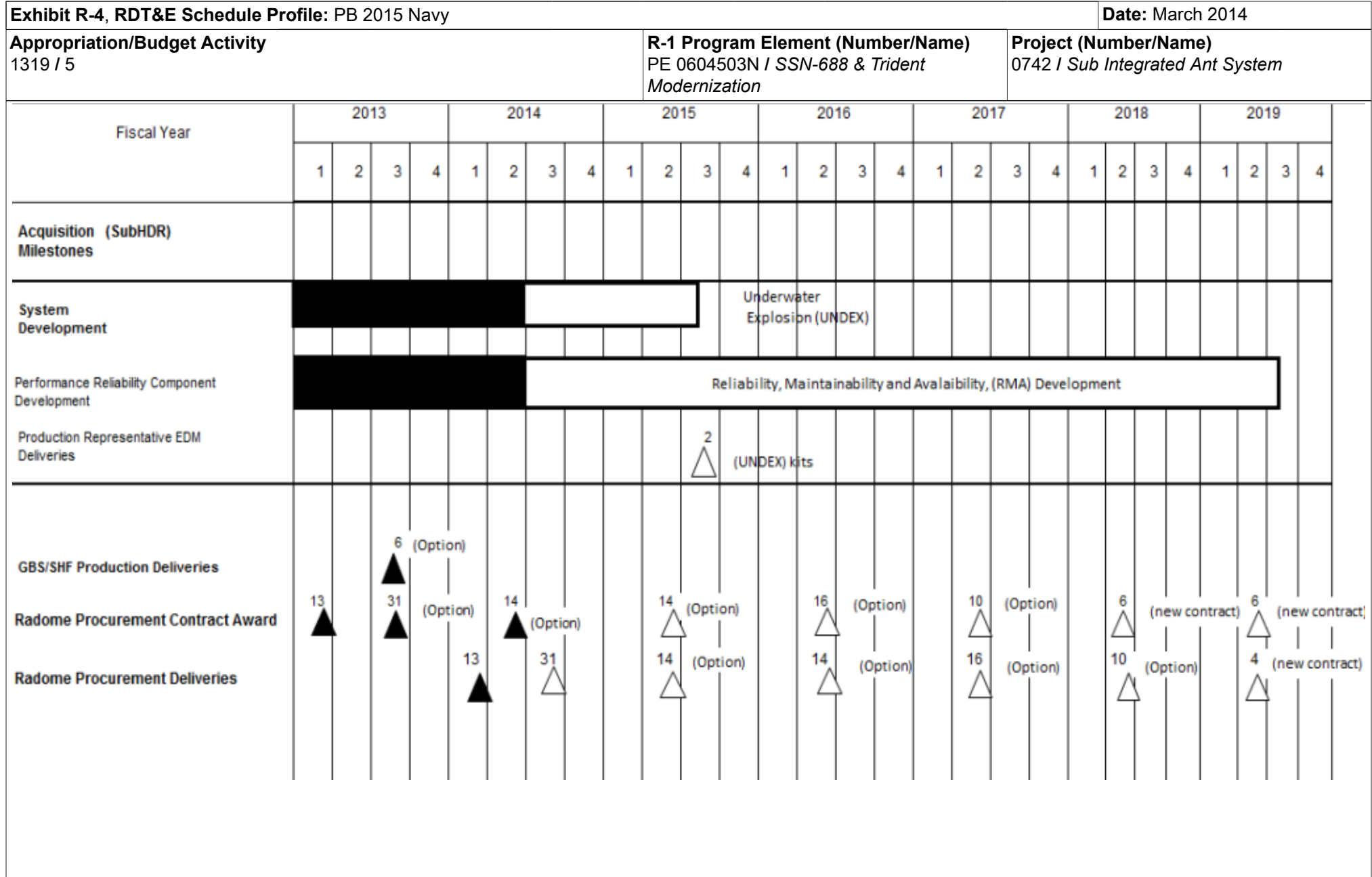
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### Footnotes:

1. Milestone schedule changed from 4QTR FY14 to 2QTR FY15 due to EDM delivery delay.

2. Production of OE-538 Increment 2 starting in FY18 and out will include Global Positioning System (GPS) Anti-Jam (AJ) capability funded by PMW/A 170 Sea NAVWAR Program.

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

Date: March 2014

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

Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
	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 (AdvHDR) Milestones					Technology Development																							
Requirements																												
Technology Demonstration																												
System Development																												
Engineering Dev. Model																												
Development Test																												
Contract/Deliveries (Down select)																												
Vendor 1																												
Vendor 2																												

Acronyms:

ADM - Advanced Development Model

LPI/LPD Low Probability of Intercept/Low Probability of Detection

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																							Date: March 2014					
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								
Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
	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 (SCB) Milestones																												
Project Agreement with United Kingdom																												



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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																							Date: March 2014								
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							
Fiscal Year	2013				2014				2015				2016				2017				2018				2019						
	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			
Towed Buoy Antenna (BRR-6/6B) Components Development for Reliability Improvements							Tow Cable Improvements																								
							Rotary Joint Improvements																								
							Antenna and Amplifier Improvements																								
							Servo Valve Isolation																								
									Failure Analysis on Key Items																						
									Failure Analysis on Tow Cable																						
													Buoy Shape Improvements																		
														Combine RF and Depth Cans																	
																	IMU Implementation (Integrated)														

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0775: Submarine Supt Equip Prog	6.070	1.155	1.318	8.064	-	8.064	6.472	9.481	9.694	3.167	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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, commencing in FY14, development of the Next Generation EW BLQ-10 system.												
RDTE Funding line supports the entire AN/BLQ-10 EW procurement program. The FY15 increase in RDTE budget supports development of EW Next Generation Architecture. Average FY OPN and SCN hardware procurement yearly funds are \$100M.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Submarine Support Equipment Program									1.155	1.318	8.064	
									Articles: -	-	-	
FY 2013 Accomplishments:												
Updated AN/BLQ-10 software baseline changes for SWFTS and NPES, SPR Resolution, and Software Enhancement. Integrated and commenced development of TI-14 Processor Upgrades, Remote Log-In, Rapid Reprogramming of Threat Libraries, and ES Server Correlator.												
FY 2014 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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 2013	FY 2014	FY 2015
Update AN/BLQ-10 software baseline changes for SWFTS and NPES, SPR Resolution and Software Enhancement. Complete testing of TI-14 Processor Upgrades, Remote Log-in, Rapid Reprogramming of Threat Libraries and ES Server Correlator (component of Next Generation Architecture). Commence integration and testing of TI-APB 13.											
FY 2015 Plans: Update AN/BLQ-10 software baseline changes for SWFTS and NPES, SPR Resolution and Software Enhancement. Commence development of TI-16 Processor Upgrades, remote display and vulnerability rules of thumb. Commence development of Next Generation Architecture Increment 1 and EW Tactical Improvement Set (ETIS). These developments include; Update/develop processes, procedures and standards; Develop an open system architecture plan; Develop data standards and specifications; Develop EW server, displays and control of digital ELINT and digital COMINT subsystems. Demonstrate technology feasibility of systems capable of meeting AN/BLQ-10(B) performance and digital data delivery and processing requirements.											
Accomplishments/Planned Programs Subtotals									1.155	1.318	8.064
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/256000: Submarine Supt Equip Prog	31.191	44.429	45.362	-	45.362	56.956	64.790	64.823	98.198	Continuing	Continuing
• SCN/201300: VIRGINIA Class Submarine	50.863	50.225	51.378	-	51.378	52.560	53.769	55.006	55.136	Continuing	Continuing
• RDT&E/0604558N: VIRGINIA Class Design Development	1.500	5.000	1.500	-	1.500	1.500	1.500	1.500	1.526	Continuing	Continuing
• RDT&E/0603562N: Advanced Submarine Support Equipment (ASSEP)	3.648	3.855	3.343	-	3.343	4.077	4.186	4.162	4.248	Continuing	Continuing
Remarks											
D. Acquisition Strategy AN/BLQ-10 (V) EW System - Procurements are executed/managed in accordance with the Acquisition Strategy Report (Rev 7) for AN/BLQ-10(V) EW System dtd 01/28/2013 and the Acquisition Plan (Rev 9) for AN/BLQ-10(V) EW System dtd 06/06/13.											
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.											

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																Date: March 2014												
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											
Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
Quarter	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
AN/BLQ-10 Baseline SWFTS and NPES Changes, SPR Resolution and Software Enhancements: Software Upgrade	S/W Upgrade				S/W Upgrade				S/W Upgrade				S/W Upgrade				S/W Upgrade				S/W Upgrade				S/W Upgrade			
Technical Insertion: Development, Integration & Test																												
TI-14: Processor Upgrades, Remote Log-In, Rapid Reprogramming of Threat Libraries and ES Server Correlator																												
TI-16: Processor Upgrades, Enhanced Built-In-Test (BIT) and Vulnerability Rules of Thumb and Remote Display																												
TI-18: Processor Upgrades, ES On-Board Trainer (OBT), Tactical Decision Aid and Remote Client																												
TI-20: Processor Upgrade, MMM Payload																												
Next Generation EW System: Development, Integration & Test (DI&T)																												
Next Generation Architecture (Increment 1 and EW Tactical Improvement (ETIS)) DI&T																												
Next Generation Architecture Increment 2 Technical Investigation																												
Next Generation Architecture (Increment 2) DI&T																												
TI-APB: Integration & Test																												
APB-13																												
APB-15																												
APB-17																												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1411: Sub Tact Comm System	177.589	8.653	13.903	8.805	-	8.805	10.089	10.299	10.459	10.722	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**A. Mission Description and Budget Item Justification**

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 design which incorporates Open System Architecture communications equipment. CSRR will leverage VIRGINIA Class Exterior Communications System (ECS) design, utilize VIRGINIA Class ECS Control and Management software, apply a systems approach to design and implementation of Joint Maritime Communication System, and maximize use of Commercial Off-the-Shelf (COTS) products and emerging technologies. The Submarine Tactical Communications System project (1411) provides submarines with communications systems designed to: (a) enhance data throughout the automation and integrated network management; (b) convert to ForceNet and tactical data networks; (c) provide submarine Internet Protocol (IP) connectivity; (d) be interoperable with other joint United States and combined allied military networks; and (e) improve reliability, maintainability, and availability. This is accomplished by providing the submarine with a properly integrated mix of fully interoperable Navy standard and COTS communication equipment covering a wide range of frequencies and modes. The Common Submarine Radio Room (CSRR) integrates COTS and Government Off-The-Shelf components into a single radio room configuration for all classes of submarines. CSRR leverages and continues the development of VIRGINIA Class ECS which includes Open Systems Architecture design. The project utilizes land-based integration test facilities to integrate C4I program 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 testing and training requirements. The project includes system engineering efforts associated with demonstration of new technology which will allow submarines to connect to the global information grid and participate in strike groups, as well as joint 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 joint and combined fight to achieve total battlespace 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 production approval decision.

Funding in FY15 is to continue CSRR Increment 1 Version 4 systems engineering development for LOS ANGELES, Ship Submersible Ballistic Nuclear (SSBN) and VIRGINIA class submarines and commence Increment 1 Version 4 systems engineering development for Ship Submersible Guided Missile Nuclear (SSGN) and SEAWOLF class submarines. Continue development of platform specific builds of Control & Management software incorporating Increment 1 Version 4 capabilities. Complete Increment 1 Version 3 Multi-Purpose Reconfigurable Training System (MRTS) software development for SSBN Operator. Continue development of the MRTS software for Increment 1 Version 4 capabilities.

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).

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
Title: Common Submarine Radio Room (CSRR)		8.653	13.903	8.805
Articles:		-	-	-
FY 2013 Accomplishments: - Completed Multi-Purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 3 CSRR baseline for LOS ANGELES operator and VIRGINIA maintenance trainer. - Continued implementation of Increment 1 Version 3 security upgrades to meet Information Assurance, Information Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms. - Completed CSRR systems engineering and modernization of Increment 1 Version 3 for SSGN and continued systems engineering and modernization for SEAWOLF and SSBN class submarines. - Completed Follow-on Operational Test & Evaluation (FOT&E) of the CSRR Increment 1 Version 3 baseline on the LOS ANGELES platform; assessed as operationally effective and suitable. - Achieved Joint Interoperability Test Command (JITC) certification of Increment 1 Version 3. - Attained successful Full Fielding Decision for Increment 1 Version 3. - Completed VIRGINIA, LOS ANGELES, and SSGN Increment 1 Version 3 upgrade of Control and Management software baseline. - Continued development for 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. - Continued development of platform specific builds of Increment 1 Version 3 Control and Management software for SEAWOLF and SSBN capabilities.				
FY 2014 Plans: - Complete CSRR systems engineering development for modernization of Increment 1 Version 3 for SSBN and SEAWOLF class submarines. - Complete development of platform specific builds of Increment 1 Version 3 Control and Management software for SEAWOLF and SSBN capabilities. - Complete implementation of Increment 1 Version 3 security upgrades and meet Information Assurance, Information Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms. - Commence Federal Information System Management Act (FISMA) statutory requirement for cyber security compliance and correction of Increment 1 Version 1 - Version 3 cyber security deficiencies. - Commence Supply Chain Risk Management (SCRM) assessment as part of Program Protection Plan revision. - Continue 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. - Commence Multi-purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 3 CSRR baseline for SSBN operator trainer.				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604503N / SSN-688 & Trident Modernization	<b>Project (Number/Name)</b> 1411 / Sub Tact Comm System	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<ul style="list-style-type: none"> <li>- Conduct Increment 1 Version 3 OT test deferrals, Special Operations Force (SOF) testing and Verification of Correction of Deficiencies (VCD) testing defined in the Increment 1 Version 3 OT report. Conduct required Increment 1 Version 3 SSBN Emergency Action Message (EAM) certification testing and data analysis and Targeting Change Message (TCM) testing. Correct Increment 1 Version 3 cable management plan design deficiencies identified on all Increment 1 Version 3 platforms in the Departure From Specification (DFS) documentation.</li> <li>- Commence implementation of Increment 1 Version 4 security upgrades and meet Information Assurance, Information Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms.</li> <li>- Commence Multi-Purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 4 CSRR baseline for LOS ANGELES and SSBN operator trainer and VIRGINIA maintenance trainer.</li> <li>- Commence CSRR Increment 1 Version 4 system engineering development and modernization for the LOS ANGELES, SSBN and VIRGINIA class submarines.</li> <li>- Commence development of platform specific builds of Increment 1 Version 4 Control and Management software for LOS ANGELES, SSBN and VIRGINIA capabilities.</li> </ul> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Complete development of platform specific builds of Control &amp; 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.</li> <li>- Complete Multi-purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 3 CSRR baseline for SSBN operator trainer.</li> <li>- 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.</li> <li>- Continue Supply Chain Risk Management (SCRM) assessment as part of Program Protection Plan revision.</li> <li>- Continue CSRR Increment 1 Version 4 system engineering development and modernization for the LOS ANGELES, SSBN and VIRGINIA class submarines.</li> <li>- Commence CSRR Increment 1 Version 4 system engineering development and modernization for the SSGN and SEAWOLF class submarines.</li> <li>- Continue development of platform specific builds of Increment 1 Version 4 Control and Management software for LOS ANGELES, SSBN and VIRGINIA capabilities.</li> <li>- Commence development of platform specific builds of Increment 1 Version 4 Control and Management software for SSGN and SEAWOLF capabilities.</li> <li>- Continue implementation of Increment 1 Version 4 security upgrades and meet Information Assurance, Information Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms.</li> </ul>			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>										<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<ul style="list-style-type: none"> <li>- Commence Federal Information System Management Act (FISMA) statutory requirement for cyber security compliance and correction of Increment 1 Version 1 - Version 4 cyber security deficiencies.</li> <li>- Continue Multi-Purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Version 4 CSRR baseline for LOS ANGELES and SSBN operator trainer and VIRGINIA maintenance trainer.</li> </ul>												
<b>Accomplishments/Planned Programs Subtotals</b>										8.653	13.903	8.805
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
• 313000: Submarine Communications	58.916	64.376	67.852	-	67.852	53.483	66.742	73.310	74.929	Continuing	Continuing	
<b>Remarks</b>												
<b>D. Acquisition Strategy</b>												
CSRR transforms LOS ANGELES, OHIO (SSBN and SSGN), VIRGINIA and SEAWOLF Class radio rooms from suites of class-specific, closed system equipment to a common design which incorporates Open System Architecture (OSA). CSRR applies a systems approach to design and implementation of Joint Maritime Communication System (JCOMS), and maximizes use of Commercial Off-The-Shelf (COTS) products and emerging technologies. Program Milestones: Increment 1 Version 4 Preliminary Design Review (PDR) 2Q FY15, Critical Design Review (CDR) 4Q FY15, Developmental Test (DT) 2Q FY17, Operational Test (OT) 1Q FY18, and Fielding Decision 2Q FY18. Increment 1 Version 5 PDR 4Q FY17, CDR 2Q FY18, and DT 4Q FY19.												
<b>E. Performance Metrics</b>												
FY15 CSRR reduces the overall cost for implementation of Command, Control, Communications Computer, Intelligence (C4I) Programs of Record (POR) 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.												



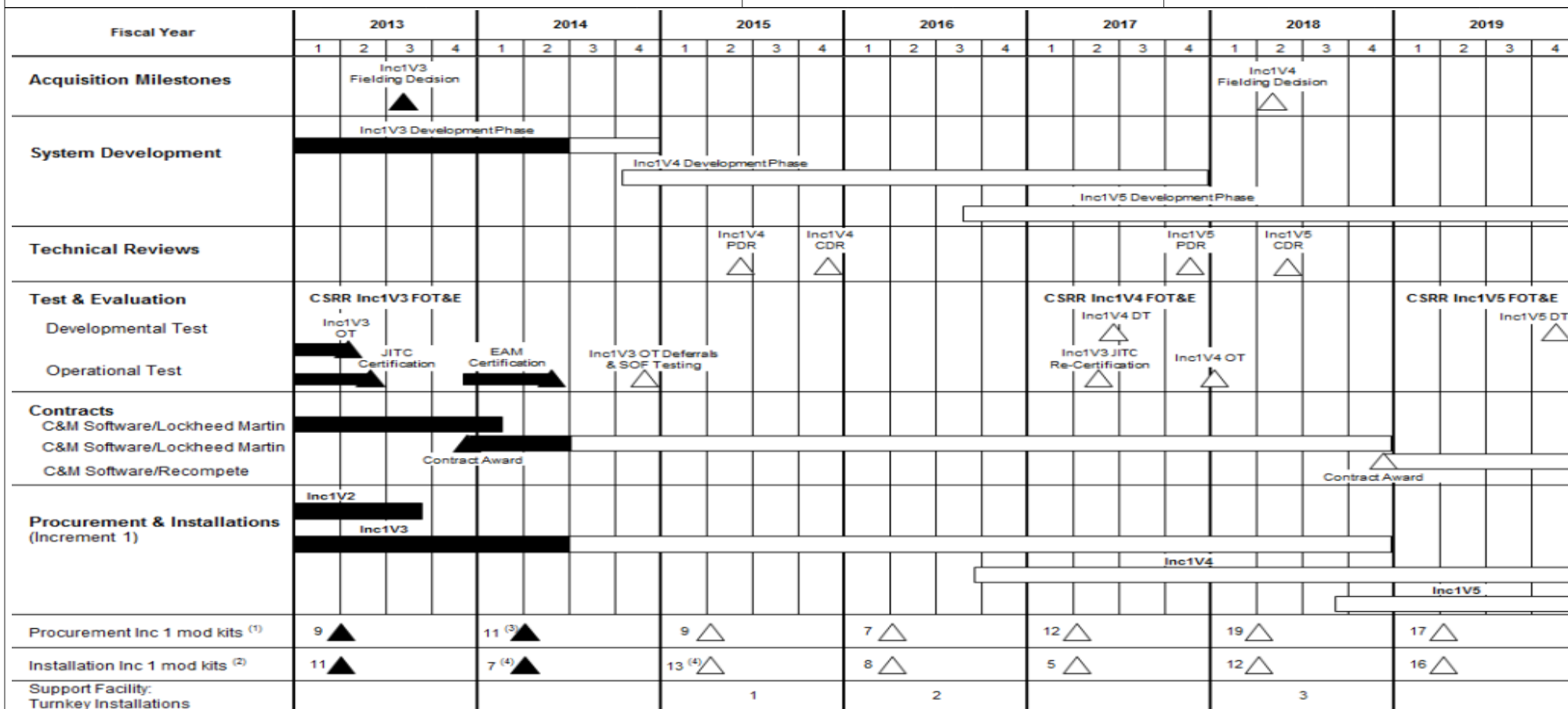
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PE 0604503N: SSN-688 & Trident Modernization  
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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604503N / SSN-688 & Trident <i>Modernization</i>
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<b>Project (Number/Name)</b>	1411 / <i>Sub Tact Comm System</i>
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<sup>(4)</sup> Installations generally begin in the second quarter but occur throughout the year based on submarine availability schedules.

<sup>(2)</sup> FY14 mod kit procurements reduced from 13 to 11 due to Program Decrease in the FY2014 Consolidated Appropriations Act.

(4) Installation of 2 mod kits delayed from FY14 to FY15 due to Fleet rescheduling of availability periods.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy Date: March 2014

Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604504N / Air Control							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	58.697	5.231	10.754	29.037	-	29.037	69.486	58.328	70.671	57.863	Continuing	Continuing
0718: MATCALs	0.600	0.629	3.624	4.103	-	4.103	2.418	0.632	0.637	0.656	Continuing	Continuing
0993: Carrier ATC	57.024	4.205	6.728	12.818	-	12.818	50.981	38.685	39.149	35.017	Continuing	Continuing
1657: ATC Improvement	1.073	0.397	0.402	0.404	-	0.404	0.401	0.406	0.414	0.423	Continuing	Continuing
3372: ATC Systems	0.000	-	-	11.712	-	11.712	15.686	18.605	30.471	21.767	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## 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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	5.633	13.754	41.603	-	41.603
Current President's Budget	5.231	10.754	29.037	-	29.037
Total Adjustments	-0.402	-3.000	-12.566	-	-12.566
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-3.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-12.307	-	-12.307
• Rate/Misc Adjustments	-	-	-0.259	-	-0.259
• Congressional General Reductions	-0.402	-	-	-	-
Adjustments					

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0604504N / <i>Air Control</i>
<p><b><u>Change Summary Explanation</u></b></p> <p>Schedule:</p> <p>Project 0718 - has been updated to reflect additional requirements for Ground/Air Task Oriented Radar System.</p> <p>Project 0993 - has been updated due to technical delays noted below under "technical".</p> <p>Project 3372 - (new project) schedule has been added to begin development of AN/SPN-46 and AN/SPN-35 Block Upgrade development program as part of the Department's precision approach landing capability (PALC) changes.</p> <p>Funding:</p> <p>FY13 reduction reflects sequestration and Congressional general reductions.</p> <p>Project 0718 - In FY15, \$1.2M has been added for G/ATOR Block 4 and \$2.3M has been added for Mode 5/S integration into ATNAVICS and for Expeditionary ATC Towers upgrades.</p> <p>Project 0993 - In FY14, funding reduced by \$3.0M for Congressional reduction. The Department reduced FY15 funding by \$27.5M to account for schedule delays.</p> <p>Project 3372 - Added funding to address the new efforts discussed under "schedule" above.</p> <p>Technical:</p> <p>Project 0993 - has experienced delays in certifying the requirements document for the AN/SPN-50(V)1 radar, thereby delaying the execution of the acquisition program.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604504N / Air Control				Project (Number/Name) 0718 / MATCAL S			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0718: MATCAL S	0.600	0.629	3.624	4.103	-	4.103	2.418	0.632	0.637	0.656	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: ASPARCS Improvements  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 2013 Accomplishments: Developed ATC Remote Capability Part 1 Engineering Change Proposal (ECP). Conducted investigation on Air Traffic Control (ATC) tower remote capability that will be compatible with both the AN/TSQ-120C and AN/TSQ-216 ATC towers.  FY 2014 Plans: Complete Tactical Air Navigation Modernization Part 1 ECP to reduce operational footprint and increase supportability and transportability.  FY 2015 Plans: 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,									0.629	0.634	2.913	
									-	-	-	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604504N / <i>Air Control</i>		<b>Project (Number/Name)</b> 0718 / MATCALs	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
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.					
<b>Title:</b> Ground/Air Task Oriented Radar System (G/ATOR) Block 4			-	2.990	1.190
<b>Articles:</b>			-	-	-
<b>Description:</b> 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 Aerial 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/TPS-73 radar and the Airport Surveillance Radar portion of the ATNAVICS also known as Air Surveillance and Precision Approach Radar Control System (ASPARCS).					
<b>FY 2013 Accomplishments:</b> N/A					
<b>FY 2014 Plans:</b> Begins software development of the Mode 5/S capability and integration of Command & Control functionality with AN/TPN-31(V) ATNAVICS. Begin efforts to achieve FAA flight certification for G/ATOR.					
<b>FY 2015 Plans:</b> Continue to achieve FAA flight certification for G/ATOR. Commence Command & Control (C2) and AN/TPN-31(V)7 integration requirements. Commence Mode 5/S development for G/ATOR.					
<b>Accomplishments/Planned Programs Subtotals</b>			0.629	3.624	4.103

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604504N / Air Control	Project (Number/Name) 0718 / MATCALs	

## C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/2815: MATCALs	5.542	7.461	16.999	-	16.999	10.112	9.041	6.281	6.424	Continuing	Continuing
• RDTE/0204460M: G/ATOR	70.217	78.208	99.106	-	99.106	79.595	82.416	32.849	20.431	Continuing	Continuing
• PMC/4650: RADAR SYSTEMS	134.813	101.941	19.595	-	19.595	42.612	31.178	28.921	29.775	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 2018, will add military air traffic control Federal Aviation Administration flight certification requirements, and the ability to integrate with AN/TPN-31 (ATNAVICS) for 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.

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**R-1 Program Element (Number/Name)**  
PE 0604504N / Air Control

**Project (Number/Name)**  
0718 / MATCALS

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2015PB - 0604504N - 0718



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604504N / <i>Air Control</i>				Project (Number/Name) 0993 / <i>Carrier ATC</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0993: <i>Carrier ATC</i>	57.024	4.205	6.728	12.818	-	12.818	50.981	38.685	39.149	35.017	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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. At closer range (8NM) a ship's Automatic Carrier Landing System (ACLS) and Independent Landing Monitor (ILM) are operationally required to affect safe landing on the moving decks of ships. The AN/SPN-41 ILM and AN/SPN-46 ACLS provide verification of aircraft approach glideslope position and precise aircraft automatic control respectively during its final approach and landing sequence to an aircraft carrier. Dual efforts are underway to improve the AN/SPN-46 system availability and supportability until at least September 2020. These efforts include various Engineering Change Proposals (ECPs), and the Life Cycle Extension (LCE) program transitional changes include a re-architecture of its radar control group process with Commercial Off the Shelf (COTS) technology, replacement of the computer group processing hardware, and conversion of system program software from CMS-2 to the more commonly used 'C' programming language. 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 radar, this project unit will include engineering efforts to identify requirements and develop a suitable replacement and bridging ECPs before the AN/SPN-43 becomes operationally ineffectual. 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)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> AN/SPN-43C	2.870	4.986	10.932
<b>Articles:</b>	-	-	-
<b>Description:</b> 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.			
<b>FY 2013 Accomplishments:</b>			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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 2013	FY 2014	FY 2015
Continued Capability Development Document and commenced Systems Requirement Document development. Developed replacement system Life Cycle Requirements Funding Summary, Life Cycle Cost Estimate, and Request for Proposal (RFP). Prepared documentation and requested Material Development Decision from designated Milestone Decision Authority.  <b>FY 2014 Plans:</b> Prepare documentation for AN/SPN-43 replacement program (AN/SPN-50(V)1) MS B decision. Prepare for source selection.  <b>FY 2015 Plans:</b> Release RFP and initiate source selection for AN/SPN-50(V)1 contract award. Continue sustainment ECPs for the AN/SPN-43C.											
Title: AN/TPX-42									1.335	1.742	1.886
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.  <b>FY 2013 Accomplishments:</b> Began multi-function console part 1 Engineering Change Proposal (ECP) for Air Traffic Control console development. Take delivery of prototype and test AN/TPX-42A(V) embedded trainer.  <b>FY 2014 Plans:</b> 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.  <b>FY 2015 Plans:</b> Complete Multi Function Console Part 1 ECP and develop the Part 2 ECP.											
Accomplishments/Planned Programs Subtotals									4.205	6.728	12.818
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/2831: Shipboard Air Traffic Control	7.769	9.140	9.366	-	9.366	9.407	9.634	9.640	9.831	Continuing	Continuing
• OPN/2832: Automatic Carrier Landing Systems	12.731	20.798	21.357	-	21.357	21.487	27.954	38.686	42.619	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014	
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604504N / Air Control				Project (Number/Name) 0993 / Carrier ATC			
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
			<u>FY 2015</u>	<u>FY 2015</u>	<u>FY 2015</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Complete</u>	<u>Total Cost</u>
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
<p>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.</p> <p>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.</p>											
<b>E. Performance Metrics</b>											
Configuration Control Board for AN/TPX-42A(V) will occur in fourth quarter FY2014.											

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

Date: March 2014

Appropriation/Budget Activity

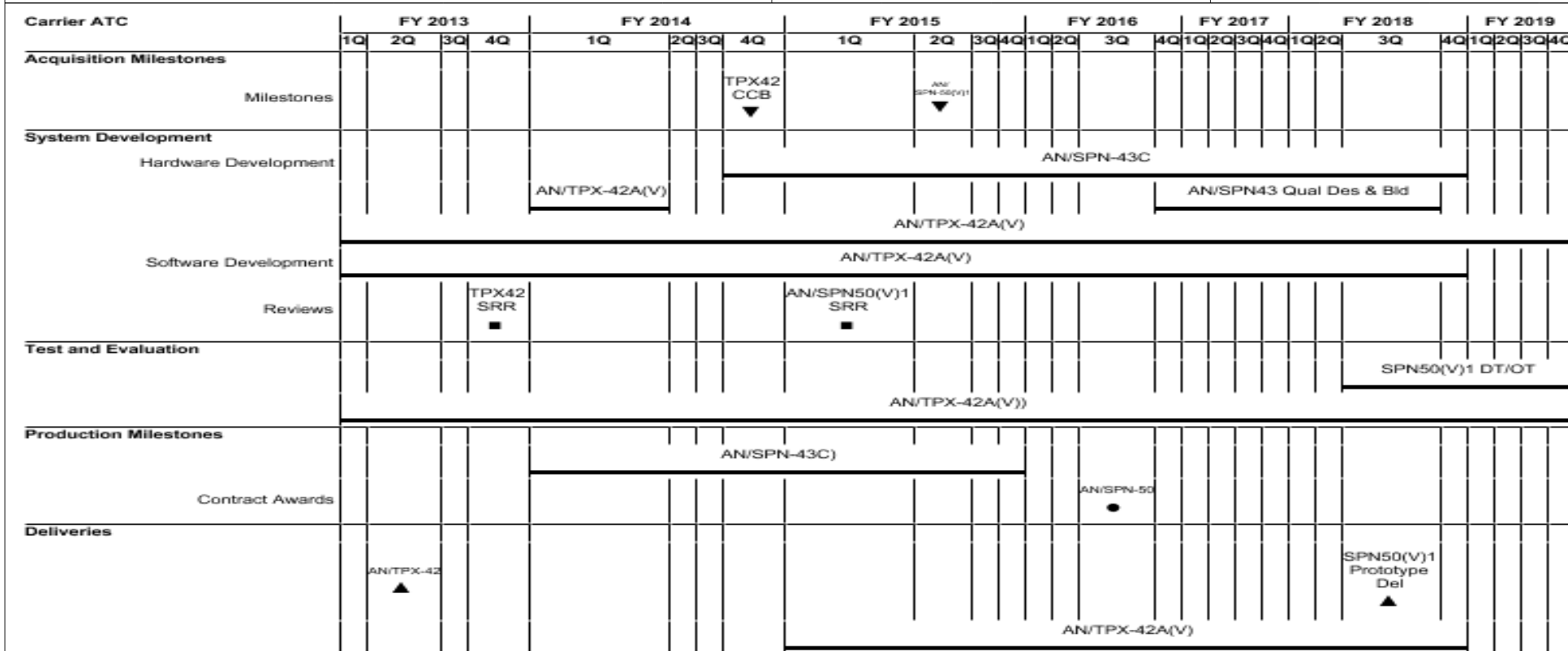
1319 / 5

R-1 Program Element (Number/Name)

PE 0604504N / Air Control

Project (Number/Name)

0993 / Carrier ATC



2015PB - 0604504N - 0993

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604504N / <i>Air Control</i>				Project (Number/Name) 1657 / <i>ATC Improvement</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1657: <i>ATC Improvement</i>	1.073	0.397	0.402	0.404	-	0.404	0.401	0.406	0.414	0.423	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> NAS MOD VIDS	0.199	0.202	0.202
<b>Articles:</b>	-	-	-
<b>Description:</b> 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.			
<b>FY 2013 Accomplishments:</b> Continued engineering development of Pre-Planned Product Improvements for VIDS to incorporate multiple weather source inputs. Continued Standard Terminal Automation Replacement System and VIDS engineering development for technology insertion. Continued engineering efforts to maintain interoperability with the FAA's next generation air traffic control system.			
<b>FY 2014 Plans:</b> 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's next generation air traffic control system.			
<b>FY 2015 Plans:</b> 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			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604504N / Air Control			Project (Number/Name) 1657 / ATC Improvement				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>									<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
development for technology insertion. Continue engineering efforts to maintain interoperability with the Federal Aviation Administration's next generation air traffic control system.											
<b>Title:</b> Fleet ATC Systems									0.198	0.200	0.202
<b>Articles:</b>									-	-	-
<b>Description:</b> 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.											
<b>FY 2013 Accomplishments:</b> Continued engineering development for NAVSKED/FACTS Technology Refresh and engineering efforts to maintain interoperability with the FAA's next generation air traffic control system.											
<b>FY 2014 Plans:</b> Continue engineering development for NAVSKED/FACTS Technology Refresh and engineering efforts to maintain interoperability with the FAA's next generation air traffic control system.											
<b>FY 2015 Plans:</b> Continue engineering development for Navy Scheduling (NAVSKED)/FACTS Technology Refresh and engineering efforts to maintain interoperability with the Federal Aviation Administration's (FAA's) next generation air traffic control system.											
<b>Accomplishments/Planned Programs Subtotals</b>									0.397	0.402	0.404
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• OPN/2840: National Air Space System Modernization	14.201	19.754	26.639	-	26.639	26.463	28.869	31.359	31.997	Continuing	Continuing
• OPN/2845: Fleet Air Traffic Control Systems	6.270	8.909	9.214	-	9.214	8.551	8.726	8.866	9.054	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
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.											

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604504N / <i>Air Control</i>	Project (Number/Name) 1657 / <i>ATC Improvement</i>

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3372: ATC Systems	-	-	-	11.712	-	11.712	15.686	18.605	30.471	21.767	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note Project 3372 is a New Start in FY2015.												
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. The result is a renewed appreciation for the value these ATC systems provide to the Fleet based on the comparative relationship between sustainment costs and overall system reliability.  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 (PALC) requirements have necessitated Life Cycle Extension (LCE) upgrades to legacy landing systems, AN/SPN-35, AN/SPN-41 and AN/SPN-46.  This is a new start in FY2015.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: AN/SPN-46 Blk IV Upgrade  Articles:									-	-	11.712	
									-	-	-	
Description: Blk IV consists of upgrades antenna pedestal, addresses transmitter obsolescence issues, and replacement of obsolete circuit cards.												



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy								<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604504N / <i>Air Control</i>				<b>Project (Number/Name)</b> 3372 / <i>ATC Systems</i>			

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b><i>FY 2013 Accomplishments:</i></b> N/A  <b><i>FY 2014 Plans:</i></b> N/A  <b><i>FY 2015 Plans:</i></b> Begin hardware and software development of the AN/SPN-46 Blk IV upgrade. Award development contract for addressing part/circuit card obsolescence.			
<b>Accomplishments/Planned Programs Subtotals</b>	-	-	11.712

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• OPN/2832: ACLS	12.731	20.798	21.357	-	21.357	21.487	27.954	38.686	42.619	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b> The Resources and Requirements Review Board (R3B) 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 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.											
<b>E. Performance Metrics</b> MDD anticipated in FY14 for upgrade of the AN/SPN-46											

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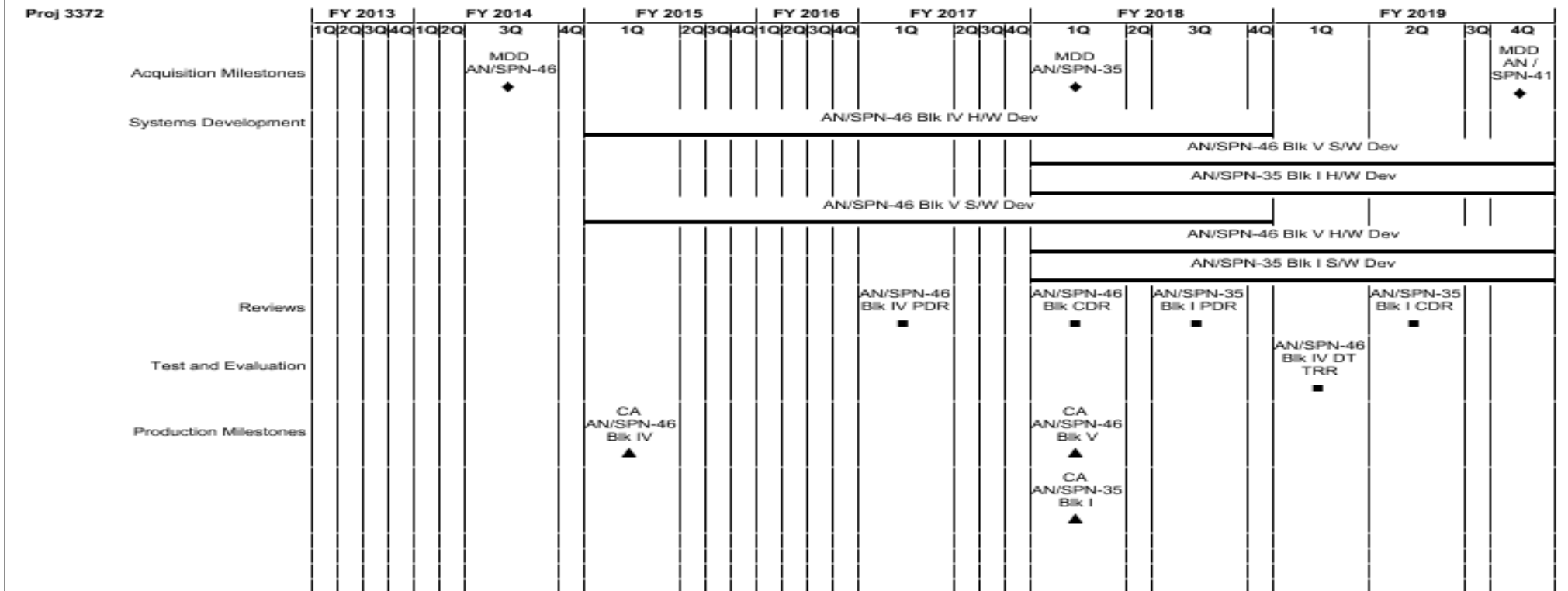
**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**  
1319 / 5

**R-1 Program Element (Number/Name)**  
PE 0604504N / Air Control

**Project (Number/Name)**  
3372 / ATC Systems



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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					<b>R-1 Program Element (Number/Name)</b> PE 0604512N / Shipboard Aviation Systems							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	403.318	58.179	69.615	122.083	-	122.083	121.226	44.886	18.706	11.781	Continuing	Continuing
2232: CV/CVN Launch and Recover	403.318	58.179	69.615	122.083	-	122.083	121.226	44.886	18.706	11.781	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## **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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	55.826	69.615	25.668	-	25.668
Current President's Budget	58.179	69.615	122.083	-	122.083
Total Adjustments	2.353	-	96.415	-	96.415
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	7.000	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	96.752	-	96.752
• Rate/Misc Adjustments	-	-	-0.337	-	-0.337

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0604512N / <i>Shipboard Aviation Systems</i>	
<ul style="list-style-type: none"> <li>• Congressional General Reductions Adjustments</li> </ul>		-4.647	- - - -
<p><b><u>Change Summary Explanation</u></b></p> <p>Cost: Added funding in FY 13, FY15, FY16 and FY17 to the Advanced Arresting Gear effort to properly price the System Development and Demonstration effort.</p> <p>Schedule:</p> <p>Advanced Arresting Gear (AAG) - The AAG program experienced technical challenges due to subcomponent design issues which were identified during integrated system testing. These subcomponents required redesign and retest. Additionally, system performance issues were identified during the Jet Car Track Site (JCTS) Performance Test Readiness Review and these issues are hampering performance test progress. Execution of the test program and completion of the System Design and Development phase have been delayed. Accordingly, the program was rebaselined driving out planned events and moving milestone C to 3rd quarter FY18.</p> <p>Aircraft Launch &amp; Recovery Equipment Modernization Improved Manually Operated Visual Landing Aid System - Due to higher program and Navy priorities, the program's scheduled events, including production representative model procurement and milestones have slipped one year.</p> <p>Aircraft Launch and Recovery Equipment Service Life Management program (SLMP) - Due to higher program and Navy priorities, SLMP scheduled events have been extended into 4th Quarter of FY19.</p> <p>Aviation Data Management and Control System (ADMACS) - ADMACS scheduled events were adjusted due to the ADMACS Blk II program undergoing a Milestone Decision Authority directed rebaseline due to software deficiencies found during final Developmental Testing shipboard testing and the resultant need to defer Initial Operational Test and Evaluation.</p> <p>Technical: Not Applicable.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2232: CV/CVN Launch and Recover	403.318	58.179	69.615	122.083	-	122.083	121.226	44.886	18.706	11.781	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	4.000	-	4.000	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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 articles will consist 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: 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 configuration in size & display. Two production representative models will be procured in FY15; 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

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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		
maintainability analyses), permit appropriate assessment, track and focus design changes where most needed. Two SLMP Mark 7 prototypes will be procured in FY 2015.					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
<b>Title:</b> Advanced Arresting Gear (AAG)  <b>Articles:</b>  <b>Description:</b> The AAG program is designing, developing, testing and fielding an aircraft arrestment system to replace the legacy Mark 7 arresting gear.  <b>FY 2013 Accomplishments:</b> Completed Jet Car Track Site (JCTS) AAG Commissioning deadload arrestment testing. Commenced JCTS AAG Performance testing. Continued AAG Hardware Environmental Qualification testing.  <b>FY 2014 Plans:</b> Complete JCTS performance testing utilizing deadloads. Complete planning and site preparations for equipment transfer and installation at the Runway Arrested Landing Site test facility.  <b>FY 2015 Plans:</b> Continue execution of Jet Car Track Site (JCTS) Performance Test events utilizing deadloads Conduct Installation and Checkout (INCO) and non-aircraft Commissioning of Advanced Arresting Gear hardware and software installed at the Runway Arrested Landing Site (RALS) test facility. Conduct CVN-78 pre-commissioning training for maintainers and operators who will participate in AAG OPEVAL. Continue development of AAG logistics products and system documentation.			49.735	55.597	109.027
			-	-	-
<b>Title:</b> Aviation Data Management and Control System (ADMACS)  <b>Articles:</b>  <b>Description:</b> 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.  <b>FY 2013 Accomplishments:</b> Conducted System Requirements Review on ADMACS software and develop software code.  <b>FY 2014 Plans:</b> Complete software development, conduct integration testing and conduct Initial Operational Test & Evaluation on CVN.  <b>FY 2015 Plans:</b> N/A			5.166	0.643	-
			-	-	-
<b>Title:</b> Compact Swaging Machine  <b>Articles:</b>			0.123	0.252	-
			-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Description:</b> 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.  <b>FY 2013 Accomplishments:</b> Completion of CSM ruggedization and terminal performance testing.  <b>FY 2014 Plans:</b> Commence fleet terminal testing, evaluation, and training of CSM.  <b>FY 2015 Plans:</b> N/A					
<b>Title:</b> Aircraft Launch & Recovery Equipment Modernization  <b>Description:</b> Improved Manually Operated Visual Landing Aid System (IMOVLAS) to improve carrier aviation operations.  <b>FY 2013 Accomplishments:</b> Removed IMOVLAS components from CVN 65 for use in developmental testing.  <b>FY 2014 Plans:</b> IMOVLAS - Begin the design, development and integration of the program, conduct Systems Requirements Review (SRR) and Preliminary Design Review (PDR).  <b>FY 2015 Plans:</b> IMOVLAS - Commence System Design and Development of two production representative models.			<b>Articles:</b> 0.086 -	1.662 -	1.766 2.000
<b>Title:</b> Aircraft Launch & Recovery Equipment (ALRE) Service Life Management Program (SLMP)  <b>Description:</b> ALRE SLMP analyzes launch and recovery equipment to determine feasible fielded equipment improvements.  <b>FY 2013 Accomplishments:</b> Continued modeling and analysis of the Mark 7 (MK-7) arresting gear and C13-2 Catapult components and subcomponents.  <b>FY 2014 Plans:</b> Continue modeling and analysis of the launch and recovery equipment. Continue design, development and testing of MK-7 components and subcomponents.  <b>FY 2015 Plans:</b>			<b>Articles:</b> 3.069 -	11.461 -	11.290 2.000

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
Procurement of Mk-7 arresting gear prototypes and commence prototype testing. Continue design, development and testing of Mk-7 components and subcomponents.												
Accomplishments/Planned Programs Subtotals										58.179	69.615	122.083
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN/4213: Aircraft Launch & Recovery Equipment	-	-	36.456	-	36.456	66.863	82.605	78.650	80.182	Continuing	Continuing	
• OPN/9020: Aircraft Launch & Recovery Equipment Spares	-	8.101	0.639	-	0.639	6.264	0.007	0.406	0.090	-	15.507	
• SCN/2001: Carrier Replacement Program	490.960	1,505.653	1,963.000	-	1,963.000	3,000.183	2,290.837	2,849.342	1,864.514	Continuing	Continuing	
• OPN/4216: Aircraft Launch & Recovery Equipment	69.312	57.502	-	-	-	-	-	-	-	-	214.998	
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 continues to design and develop 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.												



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604512N / <i>Shipboard Aviation Systems</i>	<b>Project (Number/Name)</b> 2232 / <i>CV/CVN Launch and Recover</i>
<p>Aircraft Launch &amp; 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.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>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.</p>		

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

Date: March 2014

Appropriation/Budget Activity

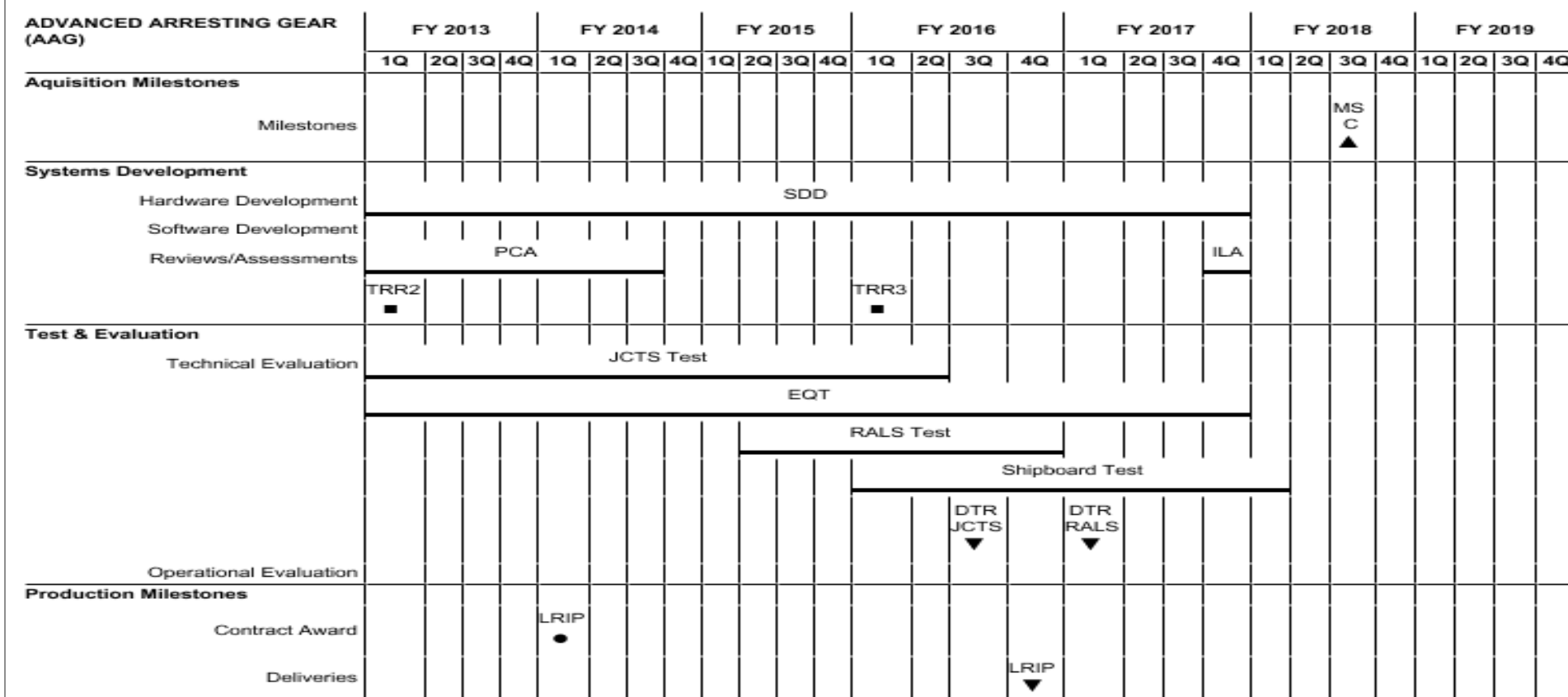
1319 / 5

R-1 Program Element (Number/Name)

PE 0604512N / Shipboard Aviation Systems

Project (Number/Name)

2232 / CV/CVN Launch and Recover



2015PB - 0604512N - 2232

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Navy</b>	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604512N / <i>Shipboard Aviation Systems</i>	<b>Project (Number/Name)</b> 2232 / <i>CV/CVN Launch and Recover</i>
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AVIATION DATA MANAGEMENT & CONTROL SYSTEM (ADMACS)	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>Systems Development</b>																												
Software and Hardware Design	Design & Dev Phase																											
Reviews			SRR ■	PDR ■																								
				CDR TRR ■ ■																								
<b>Test &amp; Evaluation</b>																												
Technical Evaluation							Integration Testing ▼	IOT&E ▼																				

2015PB - 0604512N - 2232

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PE 0604512N: *Shipboard Aviation Systems*  
Navy

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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604512N / <i>Shipboard Aviation Systems</i>	<b>Project (Number/Name)</b> 2232 / <i>CV/CVN Launch and Recover</i>
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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604512N / <i>Shipboard Aviation Systems</i>	<b>Project (Number/Name)</b> 2232 / <i>CV/CVN Launch and Recover</i>
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ALRE MODERNIZATION - Improved Manually Operated Visual Landing Aide Sys (IMOVLAS)	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>Systems Development</b>																												
Hardware/Software Development					SDD																							
Reviews							SRR ■				PDR ■	CDR ■			TRR ■													
<b>Test and Evaluation</b>																												
Technical Evaluation													IT															

2015PB - 0604512N - 2232



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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0604518N / Combat Information Center Conv
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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	48.463	0.817	-	-	-	-	-	-	-	-	-	49.280
3094: USW Decision Support	48.463	0.817	-	-	-	-	-	-	-	-	-	49.280

# The FY 2015 OCO Request will be submitted at a later date.

## A. Mission Description and Budget Item Justification

The objective of this Program Element (PE), under Project 3094, is to provide capabilities to shorten command and control (C2) decision processes for detection-to-engagement across multiple platforms, including those with low-bandwidth communications or intermittent connectivity. The Undersea Warfare Decision Support System (USW-DSS) decision support tool uses a Service Oriented Architecture (SOA) encompassing existing communication links, networks, and contact pictures comprised of sensor data from air, surface, submarine, theater, and surveillance platforms to connect sensors and weapons. The capabilities delivered by USW-DSS are critical not only for the Sea Combat Commander (SCC) but also for the Theater USW Commander (TUSWC) and Anti Submarine Warfare Commander (ASWC) to fulfill the requirement for an integrated capability to plan, conduct, and coordinate USW operations across multiple ASW platforms. USW-DSS will provide common and improved visualization, integrated USW platform sensor data sharing, reduced data entry, improved sensor performance predictions, data fusion, and reduced redundancy across USW Tactical Decision Aids (TDA). The program will provide a greater understanding of the undersea battle space by allowing the entire force (carrier/expeditionary strike group, theater, or other) to have a common and thorough understanding of the battle space with characterized uncertainties.

USW-DSS Build 2 will be hosted on the Integrated Shipboard Network System (ISNS) as one of the first Early Adopters, leveraging initial SOA Reference Implementation. USW-DSS will then be hosted on the Consolidated Afloat Networks and Enterprise Services (CANES) architecture, which will be fully SOA enabled. Build 2 Release 3 (B2R3), in response to Fleet requests, will provide improved and additional functionality and increased stability/reliability.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	0.918	-	-	-	-
Current President's Budget	0.817	-	-	-	-
Total Adjustments	-0.101	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.023	-			
• Congressional General Reductions	-0.078	-	-	-	-
Adjustments					

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0604518N / Combat Information Center Conv	
<u>Change Summary Explanation</u> Technical: Not applicable.  Schedule: Due to a reprioritization of requirements based on results of the Resources, Requirements Review Board (R3B) and the Sponsor's Program Proposal (SPP), USW-DSS will enter the sustainment phase after operational test and evaluation events in FY13. USW-DSS B2R3 will provide an incremental update of B2 to field as much capability to the Fleet as possible.		



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604518N / Combat Information Center Conv				Project (Number/Name) 3094 / USW Decision Support			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3094: USW Decision Support	48.463	0.817	-	-	-	-	-	-	-	-	-	49.280
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Project 3094 will develop the USW-DSS that will provide ASW C2 capabilities which enable the CNO vision for ASW Superiority using a "coordinated, networked force of submarines, surface ships, aircraft, and Integrated Undersea Surveillance System (IUSS) assets" with "common and unambiguous views that yield operational and tactical situational awareness in the undersea environment."												
USW-DSS provides capabilities to shorten C2 decision processes for detection-to-engagement across multiple platforms, including those with low-bandwidth communications or intermittent connectivity. The USW-DSS decision support tool uses a SOA encompassing existing communication links, networks, and contact pictures comprised of sensor data from air, surface, submarine, theater, and surveillance platforms to connect sensors and weapons. The capabilities delivered by USW-DSS are critical not only for the SCC but also for the TUSWC and ASWC to fulfill the requirement for an integrated capability to plan, conduct, and coordinate USW operations across multiple ASW platforms. USW-DSS will provide common and improved visualization, integrated USW platform sensor data sharing, reduced data entry, improved sensor performance predictions, data fusion, and reduced redundancy across USW TDAs. The program will provide a greater understanding of the undersea battle space by allowing the entire force (carrier/expeditionary strike group, theater, or other) to have a common and thorough understanding of the battle space with characterized uncertainties.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: USW-DSS Build 2 Release 3 Operational Evaluation									0.817	-	-	
									Articles: -	-	-	
FY 2013 Accomplishments: Completed USW-DSS Build 2 Release 3 Operational Evaluation in 3Q13 and performed assessment of results.												
FY 2014 Plans: N/A												
FY 2015 Plans: N/A												
Accomplishments/Planned Programs Subtotals									0.817	-	-	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604518N / <i>Combat Information Center Conv</i>				<b>Project (Number/Name)</b> 3094 / <i>USW Decision Support</i>			
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
			<u><b>FY 2015</b></u>	<u><b>FY 2015</b></u>	<u><b>FY 2015</b></u>					<u><b>Cost To</b></u>	
<u><b>Line Item</b></u>	<u><b>FY 2013</b></u>	<u><b>FY 2014</b></u>	<u><b>Base</b></u>	<u><b>OCO</b></u>	<u><b>Total</b></u>	<u><b>FY 2016</b></u>	<u><b>FY 2017</b></u>	<u><b>FY 2018</b></u>	<u><b>FY 2019</b></u>	<u><b>Complete</b></u>	<u><b>Total Cost</b></u>
• OPN/2176: <i>USW Support Equipment (Related Portion)</i>	2.054	2.690	3.589	-	3.589	3.082	2.699	4.485	0.712	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
- Hardware/Software integration contractor funded through SBIR Phase III contract.											
<b>E. Performance Metrics</b>											
- Reduce the Detect-to-Engage timeline, false contact rate, and false alarm rate by employing a SOA between the sensors and weapons.											
- ASW Search Plan/Mission Planning reduced from 6 hours to 1 hour between USW-DSS Build 1 and Build 2.											



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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b>					<b>R-1 Program Element (Number/Name)</b>							
1319: Research, Development, Test & Evaluation, Navy I BA 5: System Development & Demonstration (SDD)					PE 0604522N I (U)Advanced Missile Defense Radar (AMDR) System							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	0.000	-	-	144.706	-	144.706	247.339	100.414	43.057	41.329	Continuing	Continuing
3186: Air and Missile Defense Radar	0.000	-	-	144.706	-	144.706	247.339	100.414	43.057	41.329	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## **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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	144.706	-	144.706
Total Adjustments	-	-	144.706	-	144.706
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	147.494	-	147.494
• Rate/Misc Adjustments	-	-	-2.788	-	-2.788

## **Change Summary Explanation**

Technical: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
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)Advanced Missile Defense Radar (AMDR) System	
<div>Schedule: Not applicable.</div> <div>Cost: Reduction in FY15 due to Department's decision to reduce Contracted Services and Engineering &amp; Manufacturing Development (E&amp;MD) contract award delay reduction.</div>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604522N / (U)Advanced Missile Defense Radar (AMDR) System				Project (Number/Name) 3186 / Air and Missile Defense Radar			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3186: Air and Missile Defense Radar	-	-	-	144.706	-	144.706	247.339	100.414	43.057	41.329	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: SYSTEMS ENGINEERING  Articles:  FY 2013 Accomplishments: N/A  FY 2014 Plans: N/A  FY 2015 Plans: - Conduct Hardware Critical Design Review (CDR) - Conduct Software/System Critical Design Review (CDR) - Conduct Test Readiness Review and Commence Development Testing (DT-2) - Deliver the AMDR-S/RSC simulator - Commence test planning in support of system verification									-	-	140.987	
									-	-	-	
Title: PROGRAM MANAGEMENT SUPPORT									-	-	3.719	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy							Date: March 2014				
Appropriation/Budget Activity 1319 / 5			R-1 Program Element (Number/Name) PE 0604522N / (U)Advanced 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 2013	FY 2014	FY 2015		
Articles:							-	-	-		
FY 2013 Accomplishments: N/A											
FY 2014 Plans: N/A											
FY 2015 Plans: - Provide support to Integrated Product Teams (IPTs) and Working Groups (WGs) required for program execution of the E&MD contracts - Anaylze 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 mitigation - Provide support to the Hardware CDR and Software/System CDR - Provide support to the Test Readiness Review to facilitate start of DT-2 testing - Provide support to technical interchange meetings											
Accomplishments/Planned Programs Subtotals							-	-	144.706		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• SCN/2122: DDG 51 0204222N	-	-	-	-	-	3,201.700	3,193.200	3,250.700	3,337.400	Continuing	Continuing
• RDT&E/0604501N: AMDR	193.947	125.132	-	-	-	-	-	-	-	-	1,004.852
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.											



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604522N / (U)Advanced Missile Defense Radar (AMDR) System	<b>Project (Number/Name)</b> 3186 / Air and Missile Defense Radar
<p>Program scope consists of the following phases: a Concept Studies phase; a Technology Development phase, which included competitive prototyping; an E&amp;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).</p> <p><b><u>E. Performance Metrics</u></b></p> <ul style="list-style-type: none"> <li>- Complete Technology Development (TD) phase System Requirements Review, Test Readiness Review, TD Prototype testing, TD System Functional Review, and TD Preliminary Design Review (PDR)</li> <li>- Achieve Milestone B decision to proceed into E&amp;MD phase</li> <li>- Award E&amp;MD contract</li> <li>- Conduct E&amp;MD Phase Integrated Baseline Review</li> <li>- Conduct Hardware Delta PDR and Software/System Delta PDR</li> <li>- Conduct Hardware and Software/System CDRs</li> <li>- Complete Engineering Development Model (EDM) testing</li> <li>- Achieve Milestone C decision to proceed into production and exercise LRIP options</li> </ul>		

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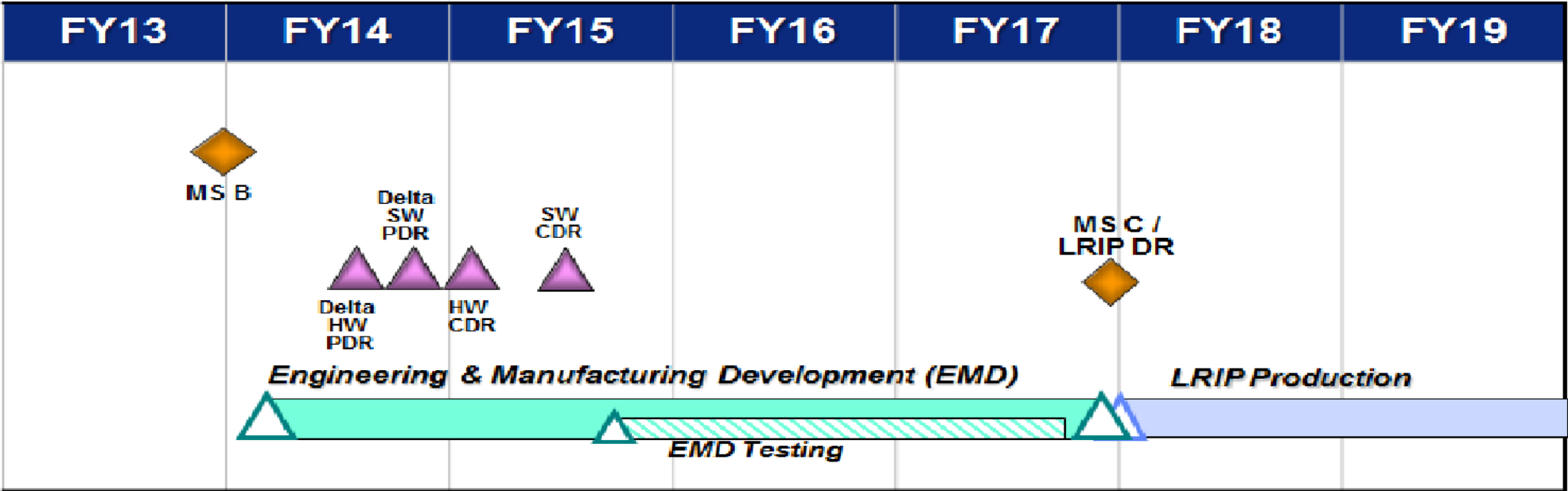
Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604522N / (U)Advanced Missile Defense Radar (AMDR) System				Project (Number/Name) 3186 / Air and Missile Defense Radar					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/CPFF	GTRI : Atlanta, GA	0.000	-		-		1.316	Dec 2014	-		1.316	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC/DD : Dahlgren, VA	0.000	-		-		8.710	Nov 2014	-		8.710	Continuing	Continuing	Continuing
Systems Engineering	WR	PMRF : Kekaha, HI	0.000	-		-		3.297	Dec 2014	-		3.297	Continuing	Continuing	Continuing
Systems Engineering	SS/CPFF	JHU/APL : Baltimore, MD	0.000	-		-		9.294	Dec 2014	-		9.294	Continuing	Continuing	Continuing
Systems Engineering	MIPR	MIT : Cambridge, MA	0.000	-		-		4.763	Dec 2014	-		4.763	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC/PHD : Port Hueneme, CA	0.000	-		-		6.633	Nov 2014	-		6.633	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC/CR : Crane, IN	0.000	-		-		2.528	Nov 2014	-		2.528	Continuing	Continuing	Continuing
Systems Engineering	WR	NRL : Washington, DC	0.000	-		-		1.641	Dec 2014	-		1.641	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	SPA-PSS : Alexandria, VA	0.000	-		-		6.263	Dec 2014	-		6.263	Continuing	Continuing	Continuing
Systems Engineering	WR	COMOPTEVFOR : Norfolk, VA	0.000	-		-		0.321	Dec 2014	-		0.321	Continuing	Continuing	Continuing
Systems Engineering	WR	SCSC Wallops : Wallops Island, VA	0.000	-		-		1.275	Dec 2014	-		1.275	Continuing	Continuing	Continuing
Systems Engineering	WR	SPAWAR : San Diego, CA	0.000	-		-		0.112	Dec 2014	-		0.112	Continuing	Continuing	Continuing
Systems Engineering	MIPR	ARL : Adelphi, MD	0.000	-		-		0.425	Dec 2014	-		0.425	Continuing	Continuing	Continuing
Systems Engineering	C/CPIF	E&MD Contractor RAYTHEON : Sudbury, MA	0.000	-		-		64.984	Dec 2014	-		64.984	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC CD : Carderock, MD	0.000	-		-		0.328	Dec 2014	-		0.328	Continuing	Continuing	Continuing
Systems Engineering	C/FFP	Alion Science : Washington, DC	0.000	-		-		0.397	Dec 2014	-		0.397	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC/PHD White Sands Detachment : Missile Range, NM	0.000	-		-		28.700	Dec 2014	-		28.700	Continuing	Continuing	Continuing

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date: March 2014</b>			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604522N / (U)Advanced Missile Defense Radar (AMDR) System						<b>Project (Number/Name)</b> 3186 / Air and Missile Defense Radar			
<b>Product Development (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Subtotal</b>			0.000	-		-		140.987		-		140.987	-	-	-
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Support Management Services	C/CPFF	SPA-PSS : Alexandria, VA	0.000	-		-		2.335	Dec 2014	-		2.335	Continuing	Continuing	Continuing
Support Management Services	Allot	PEOISW2 : Washington, DC	0.000	-		-		0.117	Dec 2014	-		0.117	Continuing	Continuing	Continuing
Support Management Services	WR	NSWC/DD : Dahlgren, VA	0.000	-		-		1.267	Dec 2014	-		1.267	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	-		-		3.719		-		3.719	-	-	-
<b>Project Cost Totals</b>			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
			0.000	-		-		144.706		-		144.706	-	-	-
<b>Remarks</b>															

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy			Date: March 2014	
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604522N / (U)Advanced Missile Defense Radar (AMDR) System		Project (Number/Name) 3186 / Air and Missile Defense Radar



Note: FY14 and prior captured under PE0604501N. Starting in FY15, effort moved to PE 0604522N. 2014-01-30 1108

CDR	Critical Design Review
DR	Decision Review
HW	Hardware
LRIP	Low Rate Initial Production
MS	Milestone
PDR	Preliminary Design Review
SFR	System Functional Review
TRR	Test Readiness Review
SW	Software

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604522N / (U)Advanced Missile Defense Radar (AMDR) System	<b>Project (Number/Name)</b> 3186 / Air and Missile Defense Radar	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 3186</b>				
Milestone B (MS B)	4	2013	4	2013
Engineering & Manufacturing Development (E&MD)	1	2014	4	2017
E&MD Hardware (HW) Delta Preliminary Design Review (PDR)	3	2014	3	2014
E&MD Software(SW)/System Delta PDR	4	2014	4	2014
E&MD HW Critical Design Review (CDR)	1	2015	1	2015
E&MD SW/System CDR	3	2015	3	2015
E&MD Testing	4	2015	4	2017
Milestone C (MS C)/Low Rate Initial Production Decision Review (LRIP DR)	4	2017	4	2017
LRIP Production	4	2017	4	2019

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604558N / New Design SSN							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	2,200.067	81.162	62.446	72.695	-	72.695	92.810	100.404	111.578	86.275	Continuing	Continuing
1947: New Design SSN HM&E	1,389.220	30.160	29.781	36.011	-	36.011	50.544	61.225	75.564	47.801	Continuing	Continuing
1950: New Design SSN Combat Sys Dev	771.359	25.810	29.876	34.114	-	34.114	34.698	36.541	33.345	35.749	Continuing	Continuing
3062: Submarine Multi-Mission Team Trainer	24.488	2.467	2.789	2.570	-	2.570	7.568	2.638	2.669	2.725	Continuing	Continuing
4500: VIRGINIA Payload Module	0.000	9.007	-	-	-	-	-	-	-	-	-	9.007
9999: Congressional Adds	15.000	13.718	-	-	-	-	-	-	-	-	-	28.718
MDAP/MAIS Code: 516												
# The FY 2015 OCO Request will be submitted at a later date.												
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.												
Project 9999: FY13 Congressional Add includes funding for Small Business Technology Insertion.												

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2015 Navy</b>	<b>Date: March 2014</b>
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604558N / <i>New Design SSN</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	165.230	121.566	252.117	-	252.117
Current President's Budget	81.162	62.446	72.695	-	72.695
Total Adjustments	-84.068	-59.120	-179.422	-	-179.422
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-59.120			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.357	-			
• Program Adjustments	-	-	-11.500	-	-11.500
• Rate/Misc Adjustments	0.001	-	-167.922	-	-167.922
• Congressional General Reductions Adjustments	-7.712	-	-	-	-
• Congressional Directed Reductions Adjustments	-90.000	-	-	-	-
• Congressional Add Adjustments	15.000	-	-	-	-

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project: 9999: Congressional Adds**

Congressional Add: *New Design SSN SBIR (Cong)*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

<b>FY 2013</b>	<b>FY 2014</b>
13.718	-
13.718	-
13.718	-

**Change Summary Explanation**

Reduced FY13 funding for Sequestration reductions.

All Projects: Reduced FY 15 funding due to the Department's decision to reduce contracted services.

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.



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PE 0604558N: *New Design SSN*  
Navy

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604558N / <i>New Design SSN</i>				Project (Number/Name) 1947 / <i>New Design SSN HM&amp;E</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1947: <i>New Design SSN HM&amp;E</i>	1,389.220	30.160	29.781	36.011	-	36.011	50.544	61.225	75.564	47.801	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> New Design SSN HM&E	24.620	13.217	19.335
<b>Articles:</b>	-	-	-
<p><b>FY 2013 Accomplishments:</b> Continued block upgrades of Ship Control algorithms and software. Continued software development for Advanced Electromagnetic silencing capability. Completed design and development of Block III Cost Reduction components and technologies including, for example, Large Area Bow (LAB) array, large diameter Virginia Payload Tube (VPT) and hatches, improved reverse osmosis units, low cost sound isolation coupling, and optimized ballast tank damping. Transitioned products from ONR's Manufacturing Technology Program (MANTECH). Continued development of concepts and technologies for Block IV Reduced Total Ownership Cost (RTOC) such as the Advanced Integrated Low Pressure Electrolyzer. Completed development of Block IV Technical Baseline. Addressed emergent reliability issues associated with HM&amp;E components. Initiated HM&amp;E obsolescence redesign for Block IV.</p> <p><b>FY 2014 Plans:</b> Complete block upgrades of Ship Control algorithms and software. Complete software development for Advanced Electromagnetic silencing capability. Continue development of concepts and technologies for Block IV Reduced Total Ownership Cost (RTOC) and integrate into Block IV design/build contract. Address emergent reliability issues associated with HM&amp;E components. Continue HM&amp;E obsolescence redesign for Block IV. Initiate development of acoustic performance improvements</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
for full scale demonstration and refine design requirements for future Virginia blocks. Continue transition of products from the Office of Naval Research Manufacturing Technology Program (MANTECH).				
<b>FY 2015 Plans:</b> Complete development of concepts and technologies for Block IV Reduced Total Ownership Cost (RTOC) and integration into Block IV technical baseline. Address emergent reliability issues associated with HM&E components. Complete HM&E obsolescence redesign for Block IV. Continue development of acoustic performance improvements for full scale demonstration and refine design requirements for future blocks with regard to updated threats. Continue transition of products from the Office of Naval Research Manufacturing Technology Program (MANTECH).				
<b>Title:</b> TEST AND EVALUATION		5.540	16.564	16.676
<b>Articles:</b>		-	-	-
<b>FY 2013 Accomplishments:</b> 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 DDS FOT&E testing, post-test analysis and reporting. Initiate developmental test plans/procedures to test the first Block III ships.				
<b>FY 2014 Plans:</b> 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. Conduct Information Awareness Vulnerability/Penetration Testing FOT&E, post-test analysis and reporting. Develop a detailed plan and conduct an operational assessment of VIRGINIA Class during CCSM Off-Hull Assembly & Test Site (COATS).				
<b>FY 2015 Plans:</b> 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. Make preparations to conduct the start of Block III FDT&E and FOT&E testing consisting of the Accreditation of Modeling & Simulation and Strike Warfare, post-test analysis and reporting. The remainder of testing (Anti-Submarine Warfare in Open Ocean and Littorals; High Density Contact Mgmt; Surface Warfare TrackEx and TorpEx is scheduled to take place in FY2016.				
Accomplishments/Planned Programs Subtotals		30.160	29.781	36.011

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• SCN/2013: VA CL	4,636.630	6,462.316	5,883.579	-	5,883.579	5,450.298	5,223.103	5,481.305	5,884.914	-	83,123.088
• O&M,N/0204283N: Sub Ops & Safety	32.433	38.919	33.938	-	33.938	32.472	28.746	29.971	30.894	Continuing	Continuing
• OPN/0942: VA CL Support Equipment	70.995	69.241	74.129	-	74.129	56.775	46.593	65.738	79.903	Continuing	Continuing

## 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 two Multi-Year Procurement (MYP) contracts the first is for the FY04-08 ships and the second was awarded in December 2008 for the FY09-13 ships. The last Block II ship, SSN 783, was delivered in June 2013. All Block III ships are awarded and under construction. The Block IV MYP is in progress with second quarter FY14 planned award date.

## 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604558N / <i>New Design SSN</i>				Project (Number/Name) 1947 / <i>New Design SSN HM&amp;E</i>					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Component Development	WR	NSWC : Carderock, MD	232.239	2.433	Dec 2012	2.750	Nov 2013	3.250	Nov 2014	-		3.250	Continuing	Continuing	Continuing
Component Development	WR	NUWC : Newport, RI	106.367	2.365	Dec 2012	1.250	Nov 2013	1.250	Nov 2014	-		1.250	Continuing	Continuing	Continuing
Component Development	WR	NRL : Washington, DC	5.218	1.100	Dec 2012	0.350	Nov 2013	0.350	Nov 2014	-		0.350	Continuing	Continuing	Continuing
Component Development	C/CPFF	Electric Boat : Groton, CT	589.879	15.105	Dec 2012	6.117	Nov 2013	9.635	Nov 2014	-		9.635	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	64.930	1.460	Dec 2012	0.600	Dec 2013	1.200	Dec 2014	-		1.200	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	22.021	0.350	Dec 2012	0.200	Dec 2013	0.500	Dec 2014	-		0.500	Continuing	Continuing	Continuing
Component Development	SS/FP	National Shipbuilding Research Program : Not Specified	3.028	0.217	Mar 2013	0.200	Mar 2014	0.400	Mar 2015	-		0.400	Continuing	Continuing	Continuing
Component Development	Various	Micellaneous : Not Specified	14.671	1.090	Dec 2012	1.250	Dec 2014	2.250	Dec 2014	-		2.250	Continuing	Continuing	Continuing
Subtotal			1,119.730	24.120		12.717		18.835		-		18.835	-	-	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation - DT&E	WR	NSWC : Carderock, MD	90.243	1.068	Nov 2012	0.849	Nov 2013	0.488	Nov 2014	-		0.488	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604558N / <i>New Design SSN</i>				Project (Number/Name) 1947 / <i>New Design SSN HM&amp;E</i>					
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation - LFT&E	WR	NSWC : Carderock, MD	1.070	0.517	Nov 2012	0.730	Nov 2013	0.730	Nov 2014	-		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	104.479	1.620	Nov 2012	11.933	Nov 2013	12.594	Nov 2014	-		12.594	Continuing	Continuing	Continuing
Test and Evaluation - OT&E	PO	COMOPTEVFOR : Norfolk, VA	14.428	0.485	Nov 2012	1.000	Nov 2013	0.900	Nov 2014	-		0.900	Continuing	Continuing	Continuing
Test and Evaluation - LFT&E	C/CPFF	Electric Boat : Groton, CT	1.290	0.125	Dec 2012	0.105	Dec 2013	0.225	Dec 2014	-		0.225	Continuing	Continuing	Continuing
Test and Evaluation - DT&E	C/CPAF	SEAPORT : Rockville, MD	19.407	0.780	Nov 2012	0.800	Nov 2013	0.700	Nov 2014	-		0.700	Continuing	Continuing	Continuing
Test and Evaluation - DT&E	C/CPFF	Progeny : Manassas, VA	4.375	0.855	Dec 2012	1.147	Dec 2013	0.999	Dec 2014	-		0.999	Continuing	Continuing	Continuing
Test and Evaluation - DT&E	Various	Micellaneous : Not Specified	11.842	0.090	Dec 2012	-		0.040	Nov 2014	-		0.040	Continuing	Continuing	Continuing
Subtotal			247.449	5.540		16.564		16.676		-		16.676	-	-	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPAF	SEAPORT : Rockville, MD	19.525	0.500	Nov 2012	0.500	Nov 2013	0.500	Nov 2014	-		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			22.041	0.500		0.500		0.500		-		0.500	-	-	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Navy										<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604558N / <i>New Design SSN</i>					<b>Project (Number/Name)</b> 1947 / <i>New Design SSN HM&amp;E</i>			
	<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	1,389.220	30.160		29.781		36.011		-		36.011	-	-	-
<b>Remarks</b>													

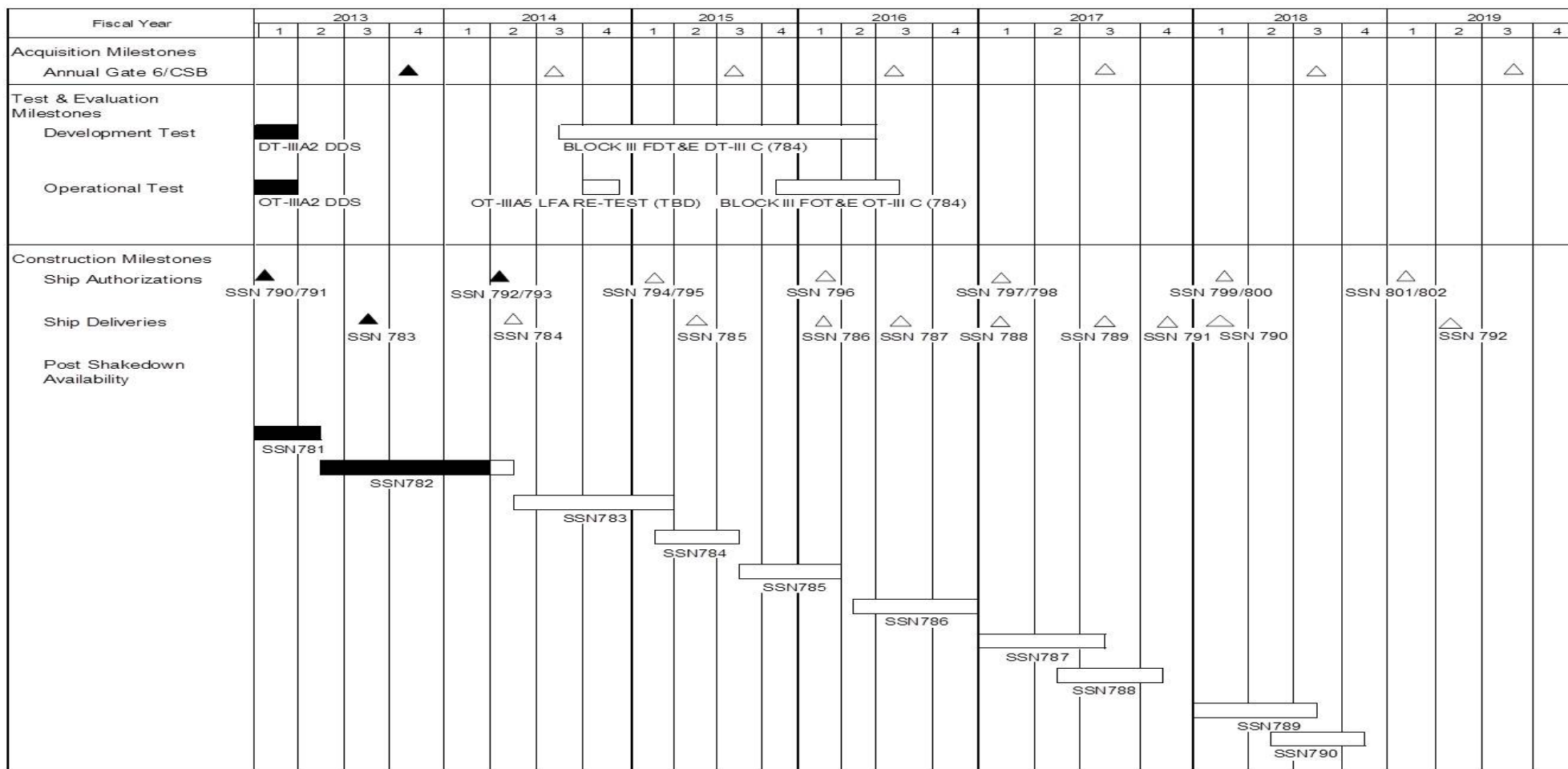
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PE 0604558N: *New Design SSN*  
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<b>R-1 Program Element (Number/Name)</b>
PE 0604558N / <i>New Design SSN</i>

<b>Project (Number/Name)</b>	1947 / New Design SSN HM&E
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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604558N / New Design SSN

Project (Number/Name)

1947 / New Design SSN HM&amp;E

## Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 1947</b>				
Post Shakedown Availability/Modernization (PSA SSN 781)	1	2013	2	2013
Ship Authorization (790/791)	1	2013	1	2013
DT-III A2 (DDS)	1	2013	1	2013
OT-III A2 (DDS)	1	2013	1	2013
Post Shakedown Availability/Modernization (PSA SSN 782)	2	2013	2	2014
Ship Delivery (SSN 783)	3	2013	3	2013
FY13 Annual Gate 6/CSB	4	2013	4	2013
Ship Authorization (792/793)	2	2014	2	2014
Post Shakedown Availability/Modernization (PSA SSN 783)	2	2014	1	2015
Block III FOT&E DT-III C	3	2014	2	2016
Ship Delivery (SSN 784)	2	2014	2	2014
FY14 Annual Gate 6/CSB	3	2014	3	2014
LFA Re-Test	4	2014	4	2014
Post Shakedown Availability/Modernization (PSA SSN 784)	1	2015	3	2015
Ship Authorization (794/795)	1	2015	1	2015
Ship Delivery (SSN 785)	2	2015	2	2015
Block III FOT&E OT-III C	4	2015	3	2016
FY15 Annual Gate 6/CSB	3	2015	3	2015
Post Shakedown Availability/Modernization (PSA SSN 785)	3	2015	1	2016
Ship Authorization (796)	1	2016	1	2016
Ship Delivery (SSN 786)	1	2016	1	2016
Post Shakedown Availability/Modernization (SSN 786)	2	2016	4	2016

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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

## 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*

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
FY16 Annual Gate 6/CSB	3	2016	3	2016
Ship Delivery (SSN 787)	3	2016	3	2016
Post Shakedown Availability/Modernization (PSA SSN 787)	1	2017	3	2017
Ship Authorization (SSNs 797/798)	1	2017	1	2017
Ship Delivery (SSN 788)	1	2017	1	2017
Post Shakedown Availability/Modernization (PSA SSN 788)	2	2017	4	2017
FY17 Annual Gate 6/CSB	3	2017	3	2017
Ship Delivery (SSN 789)	3	2017	3	2017
Post Shakedown Availability/Modernization (PSA SSN 789)	1	2018	3	2018
Ship Authorization (SSN 799/800)	1	2018	1	2018
Ship Delivery (SSN 790)	1	2018	1	2018
Post Shakedown Availability/Modernization (SSN 790)	2	2018	4	2018
FY18 Annual Gate 6/CSB	3	2018	3	2018
Ship Delivery (SSN 791)	4	2017	4	2017
Ship Authorization (SSNs 801/802)	1	2019	1	2019
FY19 Gate 6/CSB	3	2019	3	2019
Ship Delivery (SSN 792)	2	2019	2	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604558N / <i>New Design SSN</i>				Project (Number/Name) 1950 / <i>New Design SSN Combat Sys Dev</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1950: <i>New Design SSN Combat Sys Dev</i>	771.359	25.810	29.876	34.114	-	34.114	34.698	36.541	33.345	35.749	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

## 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.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604558N / <i>New Design SSN</i>	<b>Project (Number/Name)</b> 1950 / <i>New Design SSN Combat Sys Dev</i>	

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Sonar Combat Control and Architecture Subsystems  <b>Articles:</b> <b>Description:</b> Continued the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.  <b>FY 2013 Accomplishments:</b> Continue the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.  <b>FY 2014 Plans:</b> Continue the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.  <b>FY 2015 Plans:</b> Continue the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.	14.295 -	15.882 -	20.553 -
<b>Title:</b> C3I Systems Engineering  <b>Articles:</b> <b>FY 2013 Accomplishments:</b> Continued the development of System Level and other subsystem improvements to maintain VIRGINIA Class Commonality to backfit fleet.  <b>FY 2014 Plans:</b> Continue the development of System Level and other subsystem Improvements to maintain VIRGINIA Class Commonality to backfit fleet.  <b>FY 2015 Plans:</b> Continue the development of System Level and other subsystem Improvements to maintain VIRGINIA Class Commonality to backfit fleet.	11.515 -	13.994 -	13.561 -
<b>Accomplishments/Planned Programs Subtotals</b>	25.810	29.876	34.114

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• SCN/2013: VA CL	4,636.630	6,462.316	5,886.789	-	5,886.789	5,446.613	5,212.653	5,625.203	5,859.719	2,515.037	85,884.454
• O&M,N/0204283N: <i>Sub Ops &amp; Safety</i>	32.433	38.919	33.938	-	33.938	32.472	28.746	29.971	30.894	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/0942: VA CL Support Equipment	70.995	69.241	74.129	-	74.129	56.775	46.593	65.738	79.903	Continuing	Continuing

## 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 two Multi-Year Procurement (MYP) contracts the first is for the FY04-08 ships and the second was awarded in December 2008 for the FY09-13 ships. The last Block II ship, SSN 783, was delivered in June 2013. All Block III ships are awarded and under construction. The Block IV MYP is in progress with second quarter FY14 planned award date.

## 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604558N / <i>New Design SSN</i>				Project (Number/Name) 1950 / <i>New Design SSN Combat Sys Dev</i>					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	44.616	5.839	Mar 2013	7.853	Nov 2013	9.889	Nov 2014	-		9.889	Continuing	Continuing	Continuing
Advanced Display Sys (AN/UYQ-70)	SS/CPIF	Lockheed Martin : St. Paul, MN	33.202	1.085	Dec 2012	1.123	Nov 2013	1.179	Nov 2014	-		1.179	Continuing	Continuing	Continuing
Photonics	C/CPIF	Kollmorgen : Northampton, MA	54.323	1.569	May 2013	1.624	May 2014	1.753	May 2015	-		1.753	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	46.800	1.255	Nov 2012	1.299	Nov 2013	1.589	Nov 2014	-		1.589	Continuing	Continuing	Continuing
Technology Refreshment	Various	Various : TBD	20.355	-		-		-		-		-	Continuing	Continuing	Continuing
Technical Direction Agent	WR	NUWC : Newport, RI	281.665	7.066	Jan 2013	7.153	Jan 2014	7.767	Jan 2015	-		7.767	Continuing	Continuing	Continuing
Technology Refreshment/ Info. Assurance	C/CPFF	Progeny Systems : Manassas, VA	33.216	1.568	Nov 2012	1.623	Nov 2013	1.998	Nov 2014	-		1.998	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC : Carderock, MD	10.259	0.837	Dec 2012	0.866	Nov 2013	0.891	Nov 2014	-		0.891	Continuing	Continuing	Continuing
Systems Engineering	WR	SSC : Charleston, SC	6.556	0.522	Feb 2013	0.540	Nov 2013	0.550	Nov 2014	-		0.550	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC : Keyport, WA	10.708	0.236	Nov 2012	0.244	Nov 2013	0.348	Nov 2014	-		0.348	Continuing	Continuing	Continuing
Miscellaneous	Various	Various : TBD	130.676	3.118	Nov 2012	4.791	Nov 2013	5.310	Nov 2014	-		5.310	Continuing	Continuing	Continuing
Subtotal			740.531	23.095		27.116		31.274		-		31.274	-	-	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various	Various	Various : TBD	6.212	-		-		-		-		-	-	6.212	-
Subtotal			6.212	-		-		-		-		-	-	6.212	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Support Services/ETS	C/CPAF	URS : Rockville, MD	24.421	2.715	Dec 2012	2.760	Dec 2013	2.840	Dec 2014	-		2.840	Continuing	Continuing	Continuing
DAWDF	Various	Various : Various	0.195	-		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			24.616	2.715		2.760		2.840		-		2.840	-	-	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			771.359	25.810		29.876		34.114		-		34.114	-	-	-
Remarks															

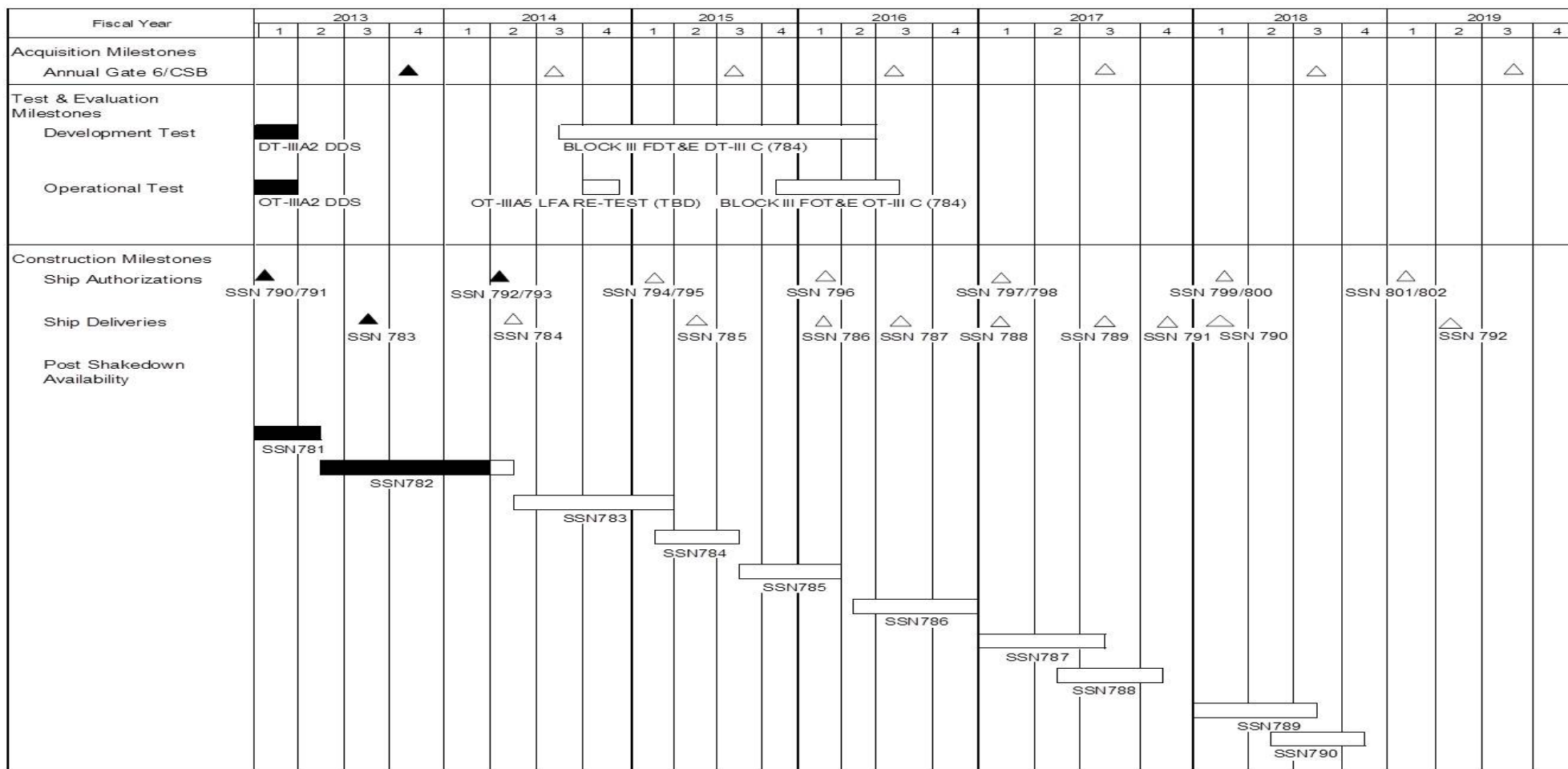
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PE 0604558N: *New Design SSN*  
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<b>R-1 Program Element (Number/Name)</b>
PE 0604558N / <i>New Design SSN</i>

<b>Project (Number/Name)</b>	1950 / New Design SSN Combat Sys Dev
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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 1950</b>				
Post Shakedown Availability/Modernization (PSA SSN 781)	1	2013	2	2013
Ship Authorization (SSN 790/791)	1	2013	1	2013
DT-III A2 (DDS)	1	2013	1	2013
OT-III A2 (DDS)	1	2013	1	2013
Post Shakedown Availability/Modernization (PSA SSN 782)	2	2013	2	2014
Ship Delivery (SSN 783)	3	2013	3	2013
FY13 Annual Gate 6/CSB	4	2013	4	2013
Ship Authorization (SSN 792/793)	2	2014	2	2014
Post Shakedown Availability/Modernization (PSA SSN 783)	2	2014	1	2015
Block III FOT&E DT-III C	3	2014	2	2016
Ship Delivery (SSN 784)	2	2014	2	2014
FY14 Annual Gate 6/CSB	3	2014	3	2014
LFA Re-Test	4	2014	4	2014
Post Shakedown Availability/Modernization (PSA SSN 784)	1	2015	3	2015
Ship Authorization (SSN 794/795)	1	2015	1	2015
Ship Delivery (SSN 785)	2	2015	2	2015
Block III FOT&E OT-III C	4	2015	2	2016
FY15 Annual Gate 6/CSB	3	2015	3	2015
Post Shakedown Availability/Modernization (PSA SSN 785)	3	2015	1	2016
Ship Authorization (SSN 796)	1	2016	1	2016
Ship Delivery (SSN 786)	1	2016	1	2016
Post Shakedown Availability/Modernization (SSN 786)	2	2016	4	2016

## UNCLASSIFIED

Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

## 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*

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
FY16 Annual Gate 6/CSB	3	2016	3	2016
Ship Delivery (SSN 787)	3	2016	3	2016
Post Shakedown Availability/Modernization (SSN 787)	1	2017	3	2017
Ship Authorization (SSNs 797/798)	1	2017	1	2017
Ship Delivery (SSN 788)	1	2017	1	2017
Post Shakedown Availability/Modernization (SSN 788)	2	2017	4	2017
FY17 Annual Gate 6/CSB	3	2017	3	2017
Ship Delivery (SSN 789)	3	2017	3	2017
Post Shakedown Availability/Modernization (SSN 789)	1	2018	3	2018
Ship Authorization (SSNs 799/800)	1	2018	1	2018
Ship Delivery (SSN 790)	1	2018	1	2018
Post Shakedown Availability/Modernization (SSN 790)	2	2018	4	2018
FY18 Annual Gate 6/CSB	3	2018	3	2018
Ship Delivery (SSN 791)	4	2017	4	2017
Ship Authorization (SSNs 801/802)	1	2019	1	2019
FY19 Annual Gate 6/CSB	3	2019	3	2019
Ship Delivery (SSN 792)	2	2019	2	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3062: Submarine Multi-Mission Team Trainer	24.488	2.467	2.789	2.570	-	2.570	7.568	2.638	2.669	2.725	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Submarine Multi-Mission Team Trainer									2.467	2.789	2.570	
									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 2013 Accomplishments:												
FY13 Developed implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays. This effort included new sensor developments and simulations to match advancements in tactical systems supported by SMMTT. This effort also integrated the APB into the SMMTT baseline along with completing and integrating the LCCA sensor.												
FY 2014 Plans:												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy								<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604558N / <i>New Design SSN</i>				<b>Project (Number/Name)</b> 3062 / <i>Submarine Multi-Mission Team Trainer</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>								<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
Develop 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 tactical systems supported by SMMTT. This effort also integrates the APB into the SMMTT baseline along with completing and integrating the LCCA sensor.  <b>FY 2015 Plans:</b> 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.											
<b>Accomplishments/Planned Programs Subtotals</b>								2.467	2.789	2.570	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• OPN/5661: <i>Submarine Training Device Mods</i>	16.438	19.599	13.498	-	13.498	20.454	23.126	21.095	31.498	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
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.											
<b>E. Performance Metrics</b>											
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.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Component Development	Reqn	NSWC/CD : Bethesda, MD	21.533	1.237	Dec 2012	1.789	Dec 2013	1.570	Oct 2014	-		1.570	Continuing	Continuing	Continuing
Component Development	C/CPFF	ARL : UT Austin	1.955	0.230	Jan 2013	-	Jan 2014	-		-		-	Continuing	Continuing	Continuing
Component Development	Reqn	NSWC/NPT : Newport, RI	1.000	1.000	Dec 2012	1.000	Dec 2013	1.000	Oct 2014	-		1.000	-	4.000	-
Subtotal			24.488	2.467		2.789		2.570		-		2.570	-	-	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			24.488	2.467		2.789		2.570		-		2.570	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																	Date: March 2014											
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										
Proj 3062	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Interface deisgn updates																												
Software Development Updates																												
Software Builds																												
Advanced Processing Build(APB) Upgrades																												
Hard Ware Tech Insertion Updates																												
SSN 21 Software Development	▲																											
SSN 21 Software Testing		▲																										
SSN 21 EDM Delivery				▲																								
TI-Ox New Sensor Simulation Development																												
TI-Ox New Sensor Simulation EDM Updates																												
2015PB - 0604558N - 3062																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604558N / <i>New Design SSN</i>	<b>Project (Number/Name)</b> 3062 / <i>Submarine Multi-Mission Team Trainer</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>Proj 3062</i></b>				
Interface deisgn updates: Interface Design Updates	1	2013	4	2017
Software Development Updates: Software Development Updates (SIM/STIM)	1	2013	4	2017
Software Builds: Software Builds	1	2013	4	2017
Advanced Processing Build(APB) Upgrades: Advanced Processing Build (APB) Upgrades	1	2013	1	2017
Hard Ware Tech Insertion Updates: Hard Ware Tech Insertion Updates	1	2013	1	2017
SSN 21 Software Development: SSN 21 Software Development	1	2013	1	2013
SSN 21 Software Testing: SSN 21 Software Testing	2	2013	2	2013
SSN 21 EDM Delivery: SSN 21 EDM Delivery	4	2013	4	2013
TI-Ox New Sensor Simulation Development: TI-0x New Sensor Simulation Development	1	2013	4	2014
TI-Ox New Sensor Simulation EDM Updates: TI-0x New Sensor Simulation EDM Updates	1	2013	2	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604558N / <i>New Design SSN</i>				Project (Number/Name) 4500 / <i>VIRGINIA Payload Module</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
4500: <i>VIRGINIA Payload Module</i>	-	9.007	-	-	-	-	-	-	-	-	-	9.007
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
<b>Note</b> Beginning in FY2014, 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.												
<b>A. Mission Description and Budget Item Justification</b> 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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>									<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
<b>Title:</b> Non-Propulsion Electronics System (NPES) Engineering  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> Develop requirements for VPM system launch control and evaluate candidate configurations for 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.  <b>FY 2014 Plans:</b> Beginning in FY2014, 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.  <b>FY 2015 Plans:</b> N/A									0.760	-	-	
									-	-	-	
<b>Title:</b> Hull, Mechanical, and Electrical (HM&E) Systems Engineering  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> Concept Design integration of the VPM including insertion of payload tube module to existing hull structure, hydrodynamic assessments, hydraulic system design, tube control interface, and internal arrangements to accommodate hardware, electronics									8.247	-	-	
									-	-	-	



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604558N / <i>New Design SSN</i>				Project (Number/Name) 4500 / <i>VIRGINIA Payload Module</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
and personnel. Design studies to assess all ship characteristics including maneuvering, signature levels, shock survivability, operational impacts and life cycle support. Products include concept arrangements.												
FY 2014 Plans: Beginning in FY2014, 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.												
FY 2015 Plans: N/A												
Accomplishments/Planned Programs Subtotals										9.007	-	-
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• SCN 2013: VA CL	4,636.630	6,462.316	5,886.789	-	5,886.789	5,446.613	5,212.653	5,463.844	5,859.719	2,515.037	85,642.328	
• O&M,N/0204283N: Sub Ops & Safety	32.433	38.919	33.938	-	33.938	32.472	28.746	29.971	30.894	Continuing	Continuing	
• OPN/0942: VA CL Support Equipment	70.995	69.241	74.129	-	74.129	56.775	46.593	65.738	79.903	Continuing	Continuing	
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 two Multi-Year Procurement (MYP) contracts the first is for the FY04-08 ships and the second was awarded in December 2008 for the FY09-13 ships. The last Block II ship, SSN 783, was delivered in June 2013. All Block III ships are awarded and under construction. The Block IV MYP is in progress with second quarter FY14 planned award date. 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												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604558N / <i>New Design SSN</i>	Project (Number/Name) 4500 / <i>VIRGINIA Payload Module</i>
Critical Design Review		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604558N / <i>New Design SSN</i>				Project (Number/Name) 4500 / <i>VIRGINIA Payload Module</i>					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Component Development	WR	NSWC : Carderock, MD	0.000	1.319	Apr 2013	-		-		-		-	-	1.319	-
Component Development	WR	NUWC : Newport, RI	0.000	1.538	Apr 2013	-		-		-		-	-	1.538	-
Component Development	C/CPFF	Electric Boat : Groton, CT	0.000	5.900	Apr 2013	-		-		-		-	-	5.900	-
Subtotal			0.000	8.757		-		-		-		-	-	8.757	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPAF	URS : Rockville, MD	0.000	0.250	Apr 2013	-		-		-		-	-	0.250	-
Subtotal			0.000	0.250		-		-		-		-	-	0.250	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	9.007		-		-		-		-	-	9.007	-
Remarks															

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604558N / <i>New Design SSN</i>	<b>Project (Number/Name)</b> 4500 / <i>VIRGINIA Payload Module</i>
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	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
<b>Proj 4500</b>																												
Top Level Requirements Set/Updated VPM Baseline																												
Ship Specifications																												
Rev A Diagrams																												
Major Arrangements																												
Design Development																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604558N / <i>New Design SSN</i>	<b>Project (Number/Name)</b> 4500 / <i>VIRGINIA Payload Module</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 4500</i></b>				
Top Level Requirements Set/Updated VPM Baseline	1	2013	4	2014
Ship Specifications	3	2014	1	2016
Rev A Diagrams	3	2014	1	2016
Major Arrangements	3	2014	1	2017
Design Development	1	2015	4	2019

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014																	
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604558N / <i>New Design SSN</i>				<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>																		
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>															
9999: <i>Congressional Adds</i>	15.000	13.718	-	-	-	-	-	-	-	-	-	28.718															
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-																	
<p># The FY 2015 OCO Request will be submitted at a later date.</p> <p><b>A. Mission Description and Budget Item Justification</b> Congressional Adds.</p> <p><b>B. Accomplishments/Planned Programs (\$ in Millions)</b></p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td align="center"><b>FY 2013</b></td> <td align="center"><b>FY 2014</b></td> </tr> <tr> <td><b>Congressional Add:</b> New Design SSN SBIR (Cong)</td> <td align="center">13.718</td> <td align="center">-</td> </tr> <tr> <td><b>FY 2013 Accomplishments:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td><b>FY 2014 Plans:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td align="right"><b>Congressional Adds Subtotals</b></td> <td align="center">13.718</td> <td align="center">-</td> </tr> </table> <p><b>C. Other Program Funding Summary (\$ in Millions)</b> N/A</p> <p><b>Remarks</b></p> <p><b>D. Acquisition Strategy</b> N/A</p> <p><b>E. Performance Metrics</b> Congressional Adds.</p>														<b>FY 2013</b>	<b>FY 2014</b>	<b>Congressional Add:</b> New Design SSN SBIR (Cong)	13.718	-	<b>FY 2013 Accomplishments:</b> N/A			<b>FY 2014 Plans:</b> N/A			<b>Congressional Adds Subtotals</b>	13.718	-
	<b>FY 2013</b>	<b>FY 2014</b>																									
<b>Congressional Add:</b> New Design SSN SBIR (Cong)	13.718	-																									
<b>FY 2013 Accomplishments:</b> N/A																											
<b>FY 2014 Plans:</b> N/A																											
<b>Congressional Adds Subtotals</b>	13.718	-																									

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604558N / <i>New Design SSN</i>				<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>					

<b>Product Development (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Rapid COTS Development	C/CPFF	Progeny Systems : Manassas, VA	15.000	13.718	Jun 2013	-		-		-		-	-	28.718	-
<b>Subtotal</b>			15.000	13.718		-		-		-		-	-	28.718	-

**Remarks**

Funding used to support a number of efforts that have high potential for increasing performance and/or reducing cost and risk for future VIRGINIA Class submarines:  
 Leveraging previous development of the Common Weapon Launcher (CWL), efforts will include:  
 Development of future technology insertion strategies and plans and critical item testing of components  
 Development of CONOPs, architectures, OMI concepts and prototype displays for future payloads associated with VIRGINIA Blocks IV/V  
 Addressing the cost and performance issues associated with current design, a new low cost replacement EDM will be developed as a potential alternative for the Light Weight Wide Aperture Array (LWWAA) electro-optic receiver cabinet  
 In response to operational fleet concerns regarding combat system reliability and data collection, a NPES wide reliability data collection, monitoring, analysis and performance prediction system will be matured for potential introduction during a future Advanced Processing Build (APB)  
 In order to support Imaging subsystem processing, a number of new technologies will be matured and introduced in future APBs to improve photonics performance to rapidly detect and classify contacts of interest in challenging environments  
 Development of vector sensors for next generation fat-line towed array to increase array acoustic performance and to support target bearing ambiguity  
 Development, prototype and maturation of wireless component sensing and network technology that will facilitate low power, non-intrusive automatic integrated monitoring of critical ship systems, in support of reduced manning initiatives.

	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	15.000	13.718	-	-	-	-	-	28.718	-

**Remarks**

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b>					<b>R-1 Program Element (Number/Name)</b>							
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					PE 0604562N / Submarine Tactical Warfare System							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	415.966	43.555	49.135	38.985	-	38.985	55.514	51.006	53.785	66.424	Continuing	Continuing
0236: SSN Comb Cont Sys Imprvmnt (ENG)	415.966	43.555	49.135	38.985	-	38.985	55.514	51.006	53.785	66.424	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## **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 (OBT), 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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	49.141	49.143	48.263	-	48.263
Current President's Budget	43.555	49.135	38.985	-	38.985
Total Adjustments	-5.586	-0.008	-9.278	-	-9.278
• Congressional General Reductions	-	-0.008			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.391	-			
• Program Adjustments	-	-	-8.457	-	-8.457

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy					<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>			<b>R-1 Program Element (Number/Name)</b> PE 0604562N / <i>Submarine Tactical Warfare System</i>		
• Rate/Misc Adjustments	-	-	-0.821	-	-0.821
• Congressional General Reductions Adjustments	-4.195	-	-	-	-
<b><u>Change Summary Explanation</u></b>					
Reduced FY13 funding for Sequestration reductions.					
Reduced FY 15 funding due to the Department's decision to reduce contracted services.					
Technical: Added Weapons Control System effort					
Added SSBN Combat System Modernization					
Reduced SWFTS R&D					
Schedule: Not applicable.					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0236: SSN Comb Cont Sys Imprvmnt (ENG)	415.966	43.555	49.135	38.985	-	38.985	55.514	51.006	53.785	66.424	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: Advanced Processor Builds  Articles:  FY 2013 Accomplishments: Continue development of APB-13 into AN/BYG-1 baseline.  FY 2014 Plans: 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.									19.284	25.848	15.145	
									-	-	-	
									Articles:			
Title: AN/BYG-1 TI-12									7.941	5.120	-	
FY 2013 Accomplishments:									-	-	-	
									Articles:			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604562N / Submarine Tactical Warfare System		<b>Project (Number/Name)</b> 0236 / SSN Comb Cont Sys Imprvmnt (ENG)	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Continue development, integration, and test of the next generation AN/BYG-1 (TI-12) for SSN 688/SSGN/VA Class submarines. <b>FY 2014 Plans:</b> Complete development, integration and test of the next generation AN/BYG-1 (TI-12) for SSN 688/SSGN/VA Class submarines. <b>FY 2015 Plans:</b> N/A					
<b>Title:</b> AN/BYG-1 TI-14  <b>FY 2013 Accomplishments:</b> Continue development, integration and test of the next generation AN/BYG-1 (TI-14) for SSN 688/SSGN/VA Class submarines. <b>FY 2014 Plans:</b> Continue development, integration and test of the next generation AN/BYG-1 (TI-14) for SSN 688/SSGN/VA Class submarines. <b>FY 2015 Plans:</b> Complete development, integration and test of the next generation AN/BYG-1 (TI-14) for SSN 688/SSGN/VA Class submarines.			4.426 <i>Articles:</i> -	7.945 -	6.734 -
<b>Title:</b> AN/BYG-1 TI-16  <b>FY 2013 Accomplishments:</b> N/A <b>FY 2014 Plans:</b> N/A <b>FY 2015 Plans:</b> Begin development, integration and test of the next generation AN/BYG-1 (TI-16) for SSN 688/SSGN/SSBN/VA Class submarines.			- <i>Articles:</i> -	- -	4.254 -
<b>Title:</b> Testing  <b>FY 2013 Accomplishments:</b> Complete DT/OT for AN/BYG-1 APB-11 on SSN 688/SSGN/Seawolf/VA Class submarines. <b>FY 2014 Plans:</b>			5.340 <i>Articles:</i> -	3.591 -	4.597 -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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 2013	FY 2014	FY 2015
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.					
Title: Weapon Control System Upgrade					
Articles:			-	-	3.500
FY 2013 Accomplishments: N/A			-	-	-
FY 2014 Plans: N/A					
FY 2015 Plans: Begin development process to modernize the Weapon Control System architecture to support various payloads.					
Title: Information Assurance (IA)					
Articles:			6.564	6.631	4.755
FY 2013 Accomplishments: Complete integration of IA Toolkit and continue IA Certification Testing on BYG-1 TI-12			-	-	-
FY 2014 Plans: 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					
Accomplishments/Planned Programs Subtotals			43.555	49.135	38.985
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 2013, 3Q 2015, 3Q 2017 and 3Q 2019.					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604562N / <i>Submarine Tactical Warfare System</i>	<b>Project (Number/Name)</b> 0236 / <i>SSN Comb Cont Sys Imprvmnt (ENG)</i>	

### 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.

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

Date: March 2014

Appropriation/Budget Activity

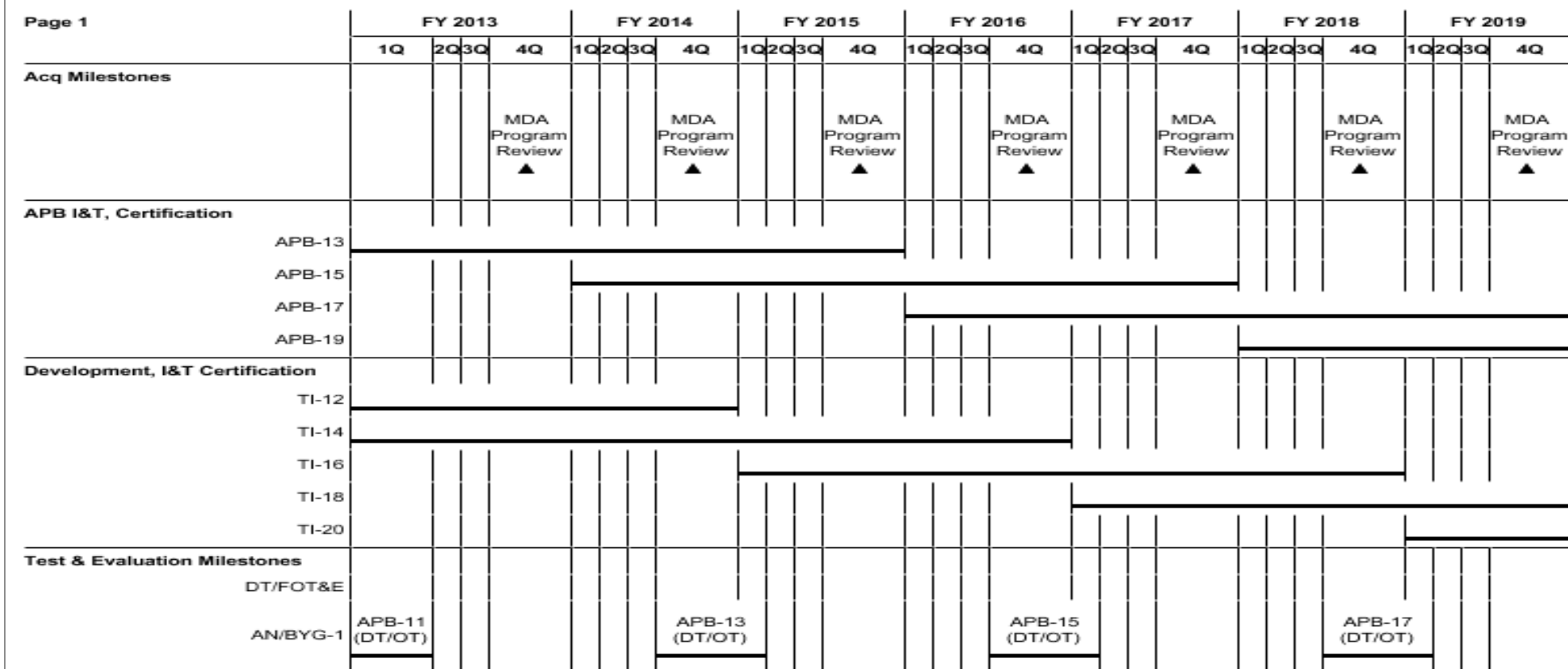
1319 / 5

R-1 Program Element (Number/Name)

PE 0604562N / Submarine Tactical Warfare System

Project (Number/Name)

0236 / SSN Comb Cont Sys Imprvmnt (ENG)



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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	673.689	165.909	187.421	48.470	-	48.470	40.275	35.376	34.322	34.540	Continuing	Continuing
1803: Ship Contract Design	85.858	15.900	3.579	2.639	-	2.639	2.588	3.234	3.205	3.276	Continuing	Continuing
2465: LHA(R) FLT Design and Total Ship Integration	184.027	25.114	30.813	10.561	-	10.561	8.785	2.493	4.376	4.532	Continuing	Continuing
3133: Ship to Shore Connectors Contract Design	94.901	0.780	0.069	-	-	-	-	-	-	-	-	95.750
3137: SSC Construction	124.255	111.917	87.388	-	-	-	-	-	-	-	-	323.560
3179: CVN-79 Total Ship Integration	132.321	9.844	11.927	15.441	-	15.441	15.095	17.466	14.646	14.983	Continuing	Continuing
3369: Hybrid Electric Drive	0.000	-	-	7.949	-	7.949	7.304	7.416	7.577	7.624	Continuing	Continuing
3374: MPF(F)	0.000	-	-	8.454	-	8.454	1.768	0.793	0.482	-	-	11.497
4007: CVN 21 LFT&E	52.327	2.354	3.645	3.426	-	3.426	4.735	3.974	4.036	4.125	Continuing	Continuing
9999: Congressional Adds	0.000	-	50.000	-	-	-	-	-	-	-	-	50.000
MDAP/MAIS Code: Other MDAP/MAIS Code(s): 333, 303, 223												
# The FY 2015 OCO Request will be submitted at a later date.												
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.												

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy I BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604567N / <i>Ship Contract Design/ Live Fire T&amp;E</i>
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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.

Project 3374 (Maritime Prepositioning Force (Future))(MPF(F)) was previously funded in the National Sealift Defense Fund Appropriation (BA 04 PE 0408042N, Project 3110 (MPF(F))). This project in FY 2015 and later is a continuation of efforts and is not a new start.

NDSF BA 04 Project 3110 MPF(F) prior year amounts: FY 2013: \$3.952M; FY 2014: \$18.681M

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	196.737	155.254	123.970	-	123.970
Current President's Budget	165.909	187.421	48.470	-	48.470
Total Adjustments	-30.828	32.167	-75.500	-	-75.500
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-17.833			
• Congressional Rescissions	-	-			
• Congressional Adds	-	50.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.315	-			
• Program Adjustments	-	-	-74.216	-	-74.216
• Rate/Misc Adjustments	0.002	-	-1.284	-	-1.284
• Congressional Recision Adjustments	-10.000	-	-	-	-
• Congressional General Reductions	-16.515	-	-	-	-
Adjustments					

## **Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 9999: *Congressional Adds*

Congressional Add: *LHA(R) FLT Design and Total Ship Integration*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

<b>FY 2013</b>	<b>FY 2014</b>
-	50.000
-	50.000
-	50.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E	
<p><b><u>Change Summary Explanation</u></b></p> <p>Cost/Funding:</p> <p>Reduced FY 13 funding for Sequestration reductions.</p> <p>Projects 1803, 2465, 3179, 3369, 4007: Reduced FY 15 funding due to the Department's decision to reduce contracted services.</p> <p>Projects 2465 and 3369: The FY 2015 funding for these two projects was reduced to properly phase program requirements in accordance with expenditures.</p> <p>Technical:</p> <p>Moved Hybrid Electric Drive efforts previously under project 1803 to new project 3369 starting in FY 2015.</p> <p>Realigned Ship to Shore Connectors projects 3133 and 3137 efforts to PE 0605220N in FY15 and out.</p> <p>Began funding new project 3374 (MPF(F)) which was previously funded in the NDSF Appropriation (BA 04 PE 0408042N, Project 3110 (MPF(F))</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014			
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
1803: Ship Contract Design	85.858	15.900	3.579	2.639	-	2.639	2.588	3.234	3.205	3.276	Continuing	Continuing	
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-			
# The FY 2015 OCO Request will be submitted at a later date.													
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.													
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015		
Title: Ship Contract Design									4.826	3.579	2.639		
									Articles: -	-	-		
FY 2013 Accomplishments:													

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
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 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.  <b>FY 2014 Plans:</b> 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 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.  <b>FY 2015 Plans:</b> N/A				
Title: DON Energy Initiative  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. Beginning in FY 2015, Hybrid Electric Drive moves to project 3369 in this program element.  FY 2013 Accomplishments:		11.074 2.000	- -	- -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
MCS integration development, initiate environmental qualification testing, initiate training, Integrated Logistic Support (ILS), and ship integration design development.												
FY 2014 Plans: N/A												
FY 2015 Plans: N/A												
Accomplishments/Planned Programs Subtotals										15.900	3.579	2.639
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN 0900: DDG Modernization	407.707	285.994	338.569	-	338.569	427.258	491.224	719.671	669.440	Continuing	Continuing	
• OPN 0960: CG Modernization	80.868	10.539	-	-	-	-	87.990	113.260	106.778	-	1,622.583	
• WPN 4223: CG Modernization	1.589	1.943	-	-	-	-	19.365	19.713	-	-	190.559	
• OPN 0140: Hybrid Electric Drive	-	-	22.704	-	22.704	41.562	42.430	43.302	44.260	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 52 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.												
DDG Modernization: DT/OT for ACB12/TI12 DDGM. Additional efforts for DDG Mod include design and development for next generation MCS software integration, and the design/development of a technical correction/solution for stanchion cracking at frame 299 Flight IIA.												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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
<p>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.</p>		

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy				Date: March 2014			
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			

Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
Acquisition Milestones	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
CG Baseline 2 Mod Design																												
CG Baseline 3 Mod Design																												
CG Class Designs																												
DDG Technical Insertion 12 Mod Design																												
DDG Technical Insertion 16 Mod Design																												
DDG Class Designs																												
Hybrid Electric Drive Contract Design & Production																												
Milestones HED Development																												
Production Milestones																												
CG Deliveries																												
Production Milestones																												
DDG Deliveries																												

CG Baseline 2 Mod Design (CG53-58)  
CG Baseline 3 Mod Design (CG59-64)  
CG Baseline 4 Mod Design (CG65-73)  
DDG Technical Insertion 12 Mod Design  
DDG Technical Insertion 16 Mod Design  
Hybrid Electric Drive (HED) Engineering  
HED EDM Award  
HED EDM Delivery  
HED LRIP



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2465: LHA(R) FLT Design and Total Ship Integration	184.027	25.114	30.813	10.561	-	10.561	8.785	2.493	4.376	4.532	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 333												
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: LHA (R) FLT 0 Design and Total Ship Integration - LHA 6									5.335	10.846	4.796	
									Articles: -	-	-	
FY 2013 Accomplishments:												
LHA 6 Continued Development Testing (DT-B1) and Operational Test and Evaluation (OT&E) preparations.												
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 Initiated Test and Evaluation Master Plan (TEMP) Rev B.												
LHA 6 Initiated LHA Class Reliability Maintainability and Availability (RMA).												
FY 2014 Plans:												
LHA 6 Complete Development Testing (DT-B1/B2)												
LHA 6 Initiate 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).												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
LHA 6 Continue Total Ship Survivability Trial (TSST) preparations. LHA 6 Continue LHA Class Reliability Maintainability and Availability (RMA).  <b>FY 2015 Plans:</b> LHA 6 Continue Development Testing (DT-B3). 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). LHA 6 Continue Total Ship Survivability Trial (TSST) preparations. LHA 6 Continue LHA Class Reliability Maintainability and Availability (RMA).				
Title: LHA (R) FLT 1 Design and Total Ship Integration - LHA 8  <b>FY 2013 Accomplishments:</b> LHA 8 Completed Gate 3 Review. LHA 8 Completed Preliminary Design/Requirements Trade Studies LHA 8 Continued Capability Development Document (CDD) and Concepts of Operations (CONOPS) preparations. LHA 8 Continued Early Industry Involvement; reviewed industry deliverables. LHA 8 Continued development of Milestone Documents. LHA 8 Continued Operational Test and Evaluation (OT&E) preparations. LHA 8 Initiated Test and Evaluation Master Plan (TEMP) Rev B. LHA 8 Initiated Contract Design. LHA 8 Continued Operational Assessment efforts for FLT 1. LHA 8 Initiated Vulnerability Assessment Report (VAR).  <b>FY 2014 Plans:</b> LHA 8 Complete Capability Development Document (CDD) and Concepts of Operations (CONOPS). LHA 8 Continue Contract Design. LHA 8 Continue Early Industry Involvement. LHA 8 Continue development of Milestone Documents. 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).		Articles: 19.779 -	19.967 -	5.765 -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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 2013	FY 2014	FY 2015
LHA 8 Continue Gate Reviews, and Defense Acquisition Board (DAB) Program Reviews.											
FY 2015 Plans: LHA 8 Conduct 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 Complete Contract Design. LHA 8 Issue Advance Procurement RFP. LHA 8 Award Advance Procurement Contract.											
Accomplishments/Planned Programs Subtotals									25.114	30.813	10.561
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• SCN/3041: LHA (R) Ships	156.478	37.700	29.093	-	29.093	280.236	1,569.309	2,348.811	-	-	4,421.627
• 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 reincorporates the well deck. AP starts in 2015 to support FY17 DD&C award.											
E. Performance Metrics											
Successfully achieve Initial Operational Capability, successfully complete Operational Test and Milestone Reviews.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	TBD	TBD : Various	4.105	19.779	Dec 2012	14.420	Feb 2014	3.259	Dec 2014	-		3.259	5.007	46.570	-
Special Studies	WR	NSWC : Panama City, FL	4.800	-		-		-		-		-	-	4.800	-
Subtotal			111.849	19.779		14.420		3.259		-		3.259	-	-	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	JITC : Fort Huachuca, AZ	3.593	0.331	Dec 2012	0.307	Feb 2014	0.041	Dec 2014	-		0.041	0.200	4.472	-
Operational Test & Evaluation	WR	OPTEVFOR/ MCOTEA : Norfolk, VA/Quantico, VA	8.845	1.000	Dec 2012	5.659	Feb 2014	4.729	Dec 2014	-		4.729	7.296	27.529	-
Live Fire Test & Evaluation	WR	NSWC : Carderock, MD	48.513	1.904	Dec 2012	6.080	Feb 2014	1.509	Dec 2014	-		1.509	4.038	62.044	-
Subtotal			60.951	3.235		12.046		6.279		-		6.279	11.534	94.045	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	C/CPFF	Various : Various	10.784	2.000	Dec 2012	4.247	Feb 2014	0.973	Dec 2014	-		0.973	1.000	19.004	-
Travel	Various	Navsea Travel : Washington, DC	0.432	0.100	Dec 2012	0.100	Jun 2014	0.050	Jun 2015	-		0.050	0.090	0.772	-
Defense Acquisition Workforce	Various	Various : Various	0.011	-		-		-		-		-	-	0.011	-
Subtotal			11.227	2.100		4.347		1.023		-		1.023	1.090	19.787	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Navy										<b>Date:</b> March 2014				
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604567N / Ship Contract Design/ Live Fire T&E					<b>Project (Number/Name)</b> 2465 / LHA(R) FLT Design and Total Ship Integration				
	<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>	184.027	25.114		30.813		10.561		-		10.561	-	-	-	
<b>Remarks</b>														

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604567N / Ship Contract Design/ Live Fire T&E			<b>Project (Number/Name)</b> 2465 / LHA(R) FLT Design and Total Ship Integration

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
<b>Proj 2465</b>																												
LHA 6 Developmental Testing																												
LHA 6 Operational Testing																												
LHA 6 Vulnerability Assessment Report (VAR)																												
LHA 8 Preliminary Design/Requirements Trade Studies																												
LHA 8 Capability Development Document (CDD) Update																												
LHA 8 Contract Design																												
LHA 8 Early Industry Involvement																												
LHA 8 Gate Reviews																												
LHA 8 Operational Assessment Efforts																												
LHA 8 Issue Advance Procurement RFP																												
LHA 8 Award Advance Procurement Contract																												

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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

## 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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 2465</b>				
LHA 6 Developmental Testing	1	2013	1	2016
LHA 6 Operational Testing	1	2013	4	2016
LHA 6 Vulnerability Assessment Report (VAR)	1	2013	2	2017
LHA 8 Preliminary Design/Requirements Trade Studies	1	2013	4	2013
LHA 8 Capability Development Document (CDD) Update	1	2013	2	2014
LHA 8 Contract Design	1	2013	4	2015
LHA 8 Early Industry Involvement	1	2013	3	2015
LHA 8 Gate Reviews	1	2013	3	2015
LHA 8 Operational Assessment Efforts	1	2013	4	2014
LHA 8 Issue Advance Procurement RFP	1	2015	1	2015
LHA 8 Award Advance Procurement Contract	4	2015	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3133: Ship to Shore Connectors Contract Design	94.901	0.780	0.069	-	-	-	-	-	-	-	-	95.750
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 303												
# The FY 2015 OCO Request will be submitted at a later date.												
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 first production craft (Craft 101), which will be operationally fielded, are funded in RDT&E under Project 3137, in this PE through FY14 and realigned to PE 0605220N in FY15 and out.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Ship to Shore Connector (Contract Des)									0.780	0.069	-	
									Articles: -	-	-	
FY 2013 Accomplishments: Executed 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, conducted Operational Test Readiness Review and Operational Assessment (OA), TEMP and LFT&E Management plan updates and LFT&E Document Coordination.												
FY 2014 Plans: Continue 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:												



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
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 2013	FY 2014	FY 2015
Under PE0605220N project 3133 will continue 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.			
Accomplishments/Planned Programs Subtotals	0.780	0.069	-

## C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTEN 0604567N: SSC Construction/3137	111.917	87.388	-	-	-	-	-	-	-	-	323.560
• SCN 5112: Ship to Shore Connector	-	-	123.233	-	123.233	258.123	278.807	442.362	627.315	2,258.573	3,988.413
• RDTEN 0605220N: Ship to Shore Connector	-	-	67.815	-	67.815	7.812	7.061	3.163	1.147	Continuing	Continuing

## Remarks

## D. Acquisition Strategy

The Test and Training craft (Craft 100) and first production craft (Craft 101) will be procured and constructed with RDT&E funds. The Detail Design and Construction contract includes options for construction of an additional seven craft, if exercised.

## E. Performance Metrics

Continue Test and Evaluation Master Plan (TEMP) updates. Continue Developmental Testing Phase B and Operational Testing Phase B.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	1.943	0.314	Nov 2012	0.069	Dec 2013	-		-		-	-	2.326	-
Live Fire Test & Evaluation	Various	Various : Various	5.331	0.466	Nov 2012	-		-		-		-	-	5.797	-
Subtotal			7.701	0.780		0.069		-		-		-	-	8.550	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date: March 2014</b>			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604567N / Ship Contract Design/ Live Fire T&E						<b>Project (Number/Name)</b> 3133 / Ship to Shore Connectors Contract Design			
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
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	-
<b>Subtotal</b>			19.558	-		-		-		-		-	-	19.558	-
			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			94.901	0.780		0.069		-		-		-	-	95.750	-
<b>Remarks</b>															

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604567N / <i>Ship Contract Design/ Live Fire T&amp;E</i>			<b>Project (Number/Name)</b> 3133 / <i>Ship to Shore Connectors Contract Design</i>

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
<b>Proj 3133</b>																												
Development Test/Operational Test B (DT/OT-B)																												
Capabilities Production Document (CPD)																												
Critical Design Review (CDR)																												
Operational Assessment (OA)																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604567N / <i>Ship Contract Design/ Live Fire T&amp;E</i>	<b>Project (Number/Name)</b> 3133 / <i>Ship to Shore Connectors Contract Design</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 3133</i></b>				
Development Test/Operational Test B (DT/OT-B)	1	2013	1	2015
Capabilities Production Document (CPD)	4	2013	4	2014
Critical Design Review (CDR)	2	2014	2	2014
Operational Assessment (OA)	3	2014	3	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3137: SSC Construction	124.255	111.917	87.388	-	-	-	-	-	-	-	-	323.560
Quantity of RDT&E Articles	1.000	1.000	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 303												
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Note: Funding for this project unit effort is realigned to PE 0605220N in FY15 and out.												
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 for the first two craft. The lead craft will be maintained as a test and training platform throughout its life cycle. The second craft (Craft 101) will be available to support IOT&E as needed, but will be a fleet asset after delivery. 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 crafts, which begin reaching extended service life in 2015. Below reflects total program funding in project 3137 between PE 0604567N and PE 0605220N.												
TEST AND TRAINING CRAFT 100:												
Plans/Basic Construction: TOTAL 226.6 (FY15 31.0)												
Change Orders: TOTAL 13.9 (FY15 3.8)												
Electronics TOTAL 9.2 (FY15 .3)												
HM&E: TOTAL 27.9 (FY15 1.3)												
Other Support: TOTAL 43.5 (FY15 7.9)												
Ordnance Total 0.05 (FY15 0.05)												
Post Delivery/Outfitting: TOTAL 2.0 (FY15 0.0)												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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		
Ship Total: TOTAL 323.2 (FY15 44.4)				
CRAFT 101: Basic Construction TOTAL 51.0 (FY15 14.7) Change Orders: TOTAL 2.2 (FY15 1.1) Electronics: TOTAL: 2.2 (FY15 .4) HM&E TOTAL: 3.7 (FY15 0.8) Other Support TOTAL: 14.1(FY15 3.0) Ordnance TOTAL 0.05 (FY15 0.05) Post Delivery/Outfitting TOTAL 2.0 (FY15 0.0) Ship Total: TOTAL 75.3 (FY15 20.0)				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
Title: SSC Construction		111.917	87.388	-
Articles:		1.000	-	-
FY 2013 Accomplishments: Commenced Detail Design and Construction planning efforts; awarded contract option for Craft 101 and commence LLTM procurement and production planning.				
FY 2014 Plans: Continue Detail Design and Construction planning efforts; continue Test and Training Craft 100 and Craft 101 LLTM procurement and production planning, conduct a Production Readiness Review and begin construction of the Test and Training Craft 100 and Craft 101.				
FY 2015 Plans: Under PE0605220N project 3137 will continue planning and construction activities for Test and Training Craft 100 and Craft 101.				
Accomplishments/Planned Programs Subtotals		111.917	87.388	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
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	

## C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTEN 0604567N: SSC Contract Design (3133)	0.780	0.069	-	-	-	-	-	-	-	-	95.750
• SCN 5112: Ship to Shore Connector	-	-	123.233	-	123.233	258.123	278.807	442.362	627.315	2,258.373	3,988.213
• RDTEN 0605220N: Ship to Shore Connector	-	-	67.815	-	67.815	7.812	7.061	3.163	1.147	Continuing	Continuing

## Remarks

## D. Acquisition Strategy

The Test and Training craft (Craft 100) and first production craft (Craft 101) will be procured and constructed with RDT&E funds. The Detail Design and Construction contract includes options for construction of an additional seven craft, if exercised.

## E. Performance Metrics

Conduct Production Readiness Review

Commence Construction of Test and Training Craft 100 and Craft 101



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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Ship Design	C/CPFF	Various : Various	8.291	3.250	Oct 2012	5.810	Nov 2013	-		-		-	-	17.351	-
Test & Trng Craft Detail Design/Construction	C/FPIF	Textron : New Orleans, LA	102.089	61.840	Oct 2012	30.510	Dec 2013	-		-		-	-	194.439	-
Test & Trng Craft Government Furnished Equipment (GFE)	Various	Various : Various	2.763	3.940	Oct 2012	3.500	Nov 2013	-		-		-	-	10.203	-
Test & Trng Craft Change Orders	C/FPIF	Textron : New Orleans, LA	0.000	1.554	Oct 2012	8.460	Nov 2013	-		-		-	-	10.014	-
Craft 101 Ship Design	C/CPFF	Alion : Washington, DC	0.000	2.900	Oct 2012	-		-		-		-	-	2.900	-
Craft 101 LLTM & Construction Planning	C/FPIF	Textron : New Orleans, LA	0.000	16.510	Dec 2012	19.550	Dec 2013	-		-		-	-	36.060	-
Craft 101 Government Furnished Equipment	Various	Various : Various	0.000	1.413	Mar 2013	1.300	Nov 2013	-		-		-	-	2.713	-
Craft 101 Change Orders	C/FPIF	Textron : New Orleans, LA	0.000	-		1.080	Dec 2013	-		-		-	-	1.080	-
Subtotal			113.143	91.407		70.210		-		-		-	-	274.760	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Studies and Analysis	Various	Various : Various	0.000	3.060	Oct 2012	3.272	Nov 2013	-		-		-	-	6.332	-
Craft 101 Studies and Analysis	Various	Various : Various	0.000	1.760	Oct 2012	1.856	Nov 2013	-		-		-	-	3.616	-
Test & Trng Craft Integrated Logistics Support	WR	NSWC : Various	1.722	3.250	Oct 2012	-		-		-		-	-	4.972	-
Craft 101 Integrated Logistics Support	WR	NSWC : Various	0.000	-		5.100	Nov 2013	-		-		-	-	5.100	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy													Date: March 2014		
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			1.722	8.070		10.228		-		-		-	-	20.020	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Construction Test Program	Various	Various : Various	0.212	1.850	Oct 2012	1.250	Nov 2013	-		-		-	-	3.312	-
Subtotal			0.212	1.850		1.250		-		-		-	-	3.312	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Contractor Engineering Support	C/CPFF	CSC/Alion : Washington DC	8.252	5.090	Jun 2013	3.930	Jun 2014	-		-		-	-	17.272	-
Travel	Various	Various : Various	0.096	0.060	Oct 2012	0.060	Nov 2013	-		-		-	-	0.216	-
Test & Trng Craft Government Engineering Support	WR	Various : Various	0.830	3.250	Oct 2012	0.910	Nov 2013	-		-		-	-	4.990	-
Craft 101 Contractor Engineering Services	WR	CSC/Alion : Washington DC	0.000	2.190	Mar 2013	0.600	Mar 2014	-		-		-	-	2.790	-
Craft 101 Government Engineering Serivces	WR	Various : Various	0.000	-		0.200	Oct 2014	-		-		-	-	0.200	-
Subtotal			9.178	10.590		5.700		-		-		-	-	25.468	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			124.255	111.917		87.388		-		-		-	-	323.560	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy							Date: March 2014			
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604567N / <i>Ship Contract Design/ Live Fire T&amp;E</i>			<b>Project (Number/Name)</b> 3137 / <i>SSC Construction</i>

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
<b>Proj 3137</b>																												
Test and Training Craft Detail Design																												
Craft 101 Option Award																												
Craft 101 LLTM & Plng																												
Capabilities Production Document (CPD)																												
Critical Design Review (CDR)																												
Production Readiness Review (PRR)																												
Test and Training Craft Construction (Start Fab)																												
Craft 101 Construction																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604567N / <i>Ship Contract Design/ Live Fire T&amp;E</i>	<b>Project (Number/Name)</b> 3137 / <i>SSC Construction</i>	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 3137</i></b>				
Test and Training Craft Detail Design	1	2013	3	2014
Craft 101 Option Award	1	2013	1	2013
Craft 101 LLTM & Plng	1	2013	1	2013
Capabilities Production Document (CPD)	4	2013	4	2014
Critical Design Review (CDR)	2	2014	2	2014
Production Readiness Review (PRR)	3	2014	3	2014
Test and Training Craft Construction (Start Fab)	3	2014	1	2017
Craft 101 Construction	4	2014	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3179: CVN-79 Total Ship Integration	132.321	9.844	11.927	15.441	-	15.441	15.095	17.466	14.646	14.983	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 223												
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: CVN-79 Total Ship Integration									9.844	11.927	15.441	
									Articles: -	-	-	
FY 2013 Accomplishments:												
Developed and submitted cost reduction ideas into Business Case Analyses (BCAs) and implemented BCAs into the cost model, thereby reducing the overall procurement cost of the ship. Provided program management, engineering and logistics support for the development of technical and logistics data required to provide life cycle support for electromechanical actuators used by multiple systems (ex. Jet Blast Deflectors and Integrated Catapult Control Station). Continued to provide engineering and technical assistance for the Underway Replenishment System. Supported the development of operational and functional requirements for the voice interior communication systems for the CVN 79. Provided design integration management and engineering support. Reviewed ship specifications to identify cost reduction initiatives related to ship design.												
FY 2014 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
Conduct an analysis of GFE obsolescence prior to installation on the ship. Other projects include 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 will identify further opportunities to move work out of the dry-dock and back onto the platen or component fabrication shops, reducing construction time and cost.												
Conduct an analysis of warfare system GFE. Projects in this area include the following: GFI review and comment (Schedule A-C input), Aviation LI-ION battery locker requirements analysis and aviation fuels operational sequencing system review. Continue 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.												
Accomplishments/Planned Programs Subtotals										9.844	11.927	15.441
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• RDTEN / 0605312N: Project Units 2208, 4004	87.573	74.638	-	-	-	-	-	-	-	-	1,709.785	
• RDTEN / 0603570N: Propulsion Plant Development (PU 2692)	58.193	57.499	60.459	-	60.459	-	-	-	-	-	1,526.813	
• SCN / 2001: Carrier Replacement Program	490.960	917.553	1,300.000	-	1,300.000	2,876.183	2,290.837	2,849.342	1,864.514	Continuing	Continuing	
• SCN / 5300: Completion of Prior Year Shipbuilding Programs	-	588.100	663.000	-	663.000	124.000	-	-	-	-	1,375.100	
• RDTEN / 0604112N: Project Units 2208, 4004	-	-	43.613	-	43.613	38.373	35.662	34.156	25.650	Continuing	Continuing	
• OMN / 1B2B: CVN 78 Ford Class Training (12BJ0)	-	-	4.907	-	4.907	12.872	2.396	-	-	-	20.175	
Remarks												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604567N / <i>Ship Contract Design/ Live Fire T&amp;E</i>	<b>Project (Number/Name)</b> 3179 / <i>CVN-79 Total Ship Integration</i>
<p><b>D. Acquisition Strategy</b></p> <p>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.</p> <p><b>E. Performance Metrics</b></p> <p>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.</p>		



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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Total Ship Integration	C/CPAF	HII : VA	78.574	4.155	Nov 2012	3.121	Nov 2013	5.411	Nov 2014	-		5.411	Continuing	Continuing	Continuing
Total Ship Integration	WR	NSWC CARDEROCK : MD	10.668	0.163	Nov 2012	0.711	Nov 2013	0.579	Oct 2014	-		0.579	Continuing	Continuing	Continuing
Total Ship Integration	WR	NSWC DAHLGREN : VA	7.794	1.080	Oct 2012	1.052	Nov 2013	1.669	Oct 2014	-		1.669	Continuing	Continuing	Continuing
Total Ship Integration	WR	NAWCAD PAX RIVER : MD	3.231	0.527	Oct 2012	1.185	Nov 2013	3.286	Oct 2014	-		3.286	Continuing	Continuing	Continuing
Total Ship Integration	WR	SPAWAR : SD	3.193	0.400	Nov 2012	0.288	Nov 2013	0.320	Oct 2014	-		0.320	Continuing	Continuing	Continuing
Total Ship Integration	C/CPFF	NAVSEA SEAPORT : DC	16.491	2.287	Jan 2013	4.021	Nov 2013	1.448	Dec 2014	-		1.448	Continuing	Continuing	Continuing
Total Ship Integration	C/CPAF	RAYTHEON : MA	5.458	0.772	Nov 2012	1.549	Dec 2013	2.127	Dec 2014	-		2.127	Continuing	Continuing	Continuing
Total Ship Integration	WR	SSC CHARLESTON : SC	0.266	0.460	Nov 2012	-		-		-		-	-	0.726	-
Total Ship Integration	C/CPFF	SAIC : VA	1.445	-		-		0.101	Dec 2014	-		0.101	-	1.546	-
Subtotal			127.120	9.844		11.927		14.941		-		14.941	-	-	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	C/CPFF	FISC : VA	0.176	-		-		0.197	Nov 2014	-		0.197	-	0.373	-
Developmental Test & Evaluation	WR	NSWC CARDEROCK : MD	4.721	-		-		-		-		-	-	4.721	-
Developmental Test & Evaluation	WR	NUWC NEWPORT : RI	0.123	-		-		-		-		-	-	0.123	-
Developmental Test & Evaluation	WR	NSWC DAHLGREN : VA	0.000	-		-		0.303	Oct 2014	-		0.303	-	0.303	-
Subtotal			5.020	-		-		0.500		-		0.500	-	5.520	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604567N / Ship Contract Design/ Live Fire T&E						<b>Project (Number/Name)</b> 3179 / CVN-79 Total Ship Integration			

Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Defense Acquisition Workforce	Various	Various : Misc	0.181	-		-		-		-		-	-	0.181	-
<b>Subtotal</b>			0.181	-		-		-		-		-	-	0.181	-

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	132.321	9.844	11.927	15.441	-	15.441	-	-	-

**Remarks**

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

Date: March 2014

Appropriation/Budget Activity

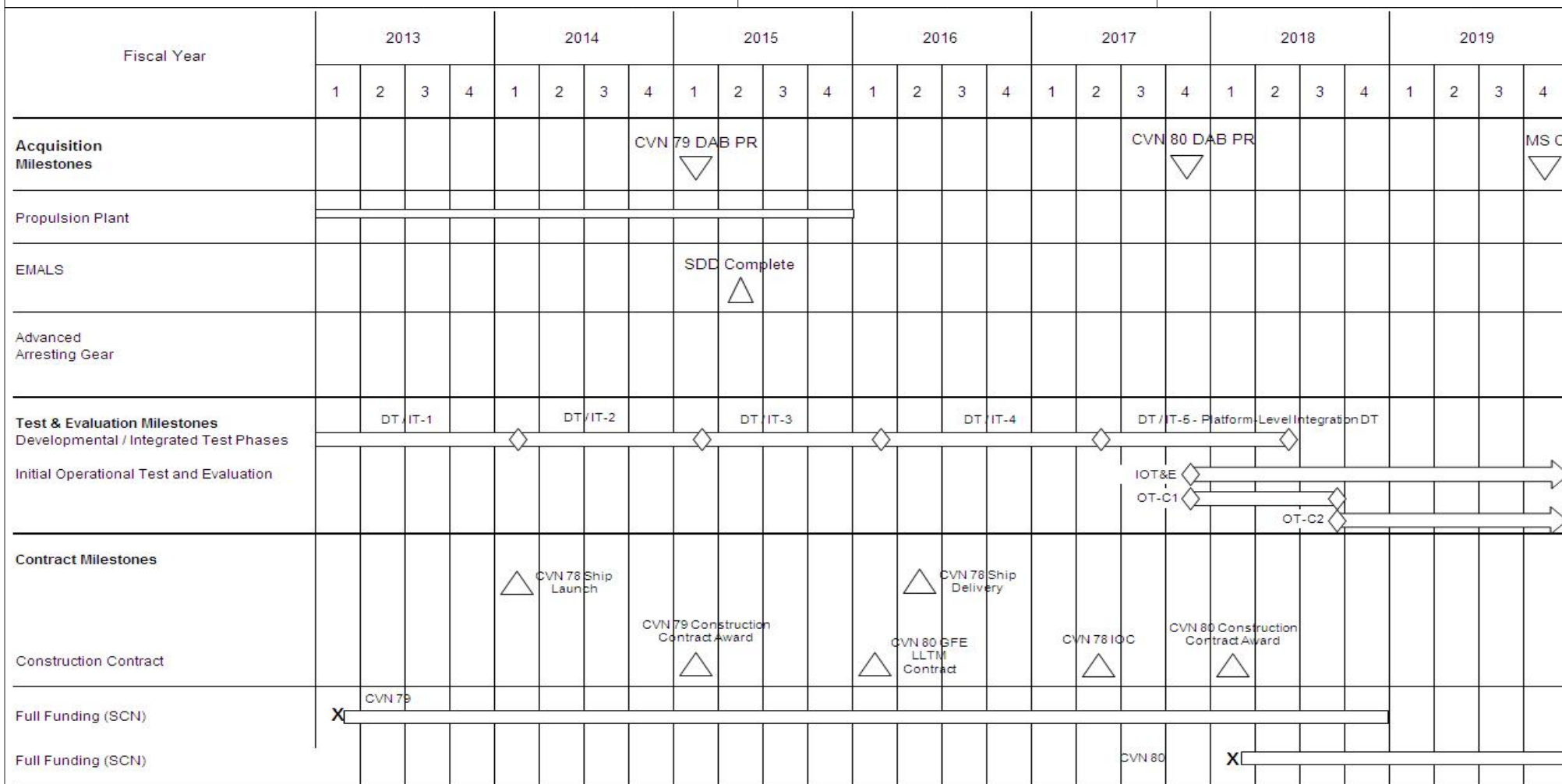
1319 / 5

R-1 Program Element (Number/Name)

PE 0604567N / Ship Contract Design/ Live Fire T&E

Project (Number/Name)

3179 / CVN-79 Total Ship Integration



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604567N / <i>Ship Contract Design/ Live Fire T&amp;E</i>	<b>Project (Number/Name)</b> 3179 / <i>CVN-79 Total Ship Integration</i>	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 3179</b>				
CVN 79 DAB PR	1	2015	1	2015
CVN 80 DAB PR	4	2017	4	2017
Milestone C	4	2019	4	2019
Propulsion Plant	1	2013	4	2015
DT/IT -1 - Development Test / Integrated Test Phase 1	1	2013	1	2014
DT/IT -2	1	2014	1	2015
DT/IT -3	1	2015	1	2016
DT/IT -4	1	2016	2	2017
DT/IT -5 - Platform-Level Integration DT Period	2	2017	2	2018
IOT&E - Initial Operational Test & Evaluation	4	2017	4	2019
OT -C1 - Initial Operational Test & Evaluation - Phase C1	4	2017	3	2018
OT -C2	3	2018	4	2019
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	1	2015	1	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	2013	4	2018
CVN 80 SCN Full Funding	1	2018	4	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3369: Hybrid Electric Drive	-	-	-	7.949	-	7.949	7.304	7.416	7.577	7.624	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013 funding for this effort is resourced under project 1803 in this program element.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
Title: DON Energy Initiative  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 2013 Accomplishments: N/A  FY 2014 Plans: N/A  FY 2015 Plans: Complete 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)										-	-	7.949
										-	-	-
										Accomplishments/Planned Programs Subtotals		
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN 0140: Hybrid Electric Drive	-	-	22.704	-	22.704	41.562	42.430	43.302	44.260	Continuing	Continuing	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604567N / <i>Ship Contract Design/ Live Fire T&amp;E</i>				<b>Project (Number/Name)</b> 3369 / <i>Hybrid Electric Drive</i>			
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
			<u>FY 2015</u>	<u>FY 2015</u>	<u>FY 2015</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Complete</u>	<u>Total Cost</u>
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
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.											
<b>E. Performance Metrics</b>											
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.											

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy				Date: March 2014			
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			

Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
Acquisition Milestones - Project 3369	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
Hybrid Electric Drive Contract Design & Production																												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604567N / Ship Contract Design/ Live Fire T&E				Project (Number/Name) 3374 / MPF(F)			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3374: MPF(F)	-	-	-	8.454	-	8.454	1.768	0.793	0.482	-	-	11.497
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
Before 2015, Project 3374 (MPF(F)) was funded in the NDSF Appropriation (BA 04 PE 0408042N, Project 3110 (Maritime Prepositioning Force (Future))). This project in FY 2015 and later is a continuation of efforts and is not a new start. NDSF BA 04 Project 3110 MPF(F) prior year amounts: FY 2013: \$3.952M; FY 2014: \$18.681M												
A. Mission Description and Budget Item Justification												
Project 3374 - Maritime Prepositioning Force (Future) - MPF(F) - Concept studies, preliminary, contract designs and technology development and testing leading to detail design, and construction award of ship systems for the initial operational capability milestone achievement that will provide a highly flexible, operational and logistics support capability to enable Expeditionary Maneuver Warfare concepts and to meet required operational capabilities with respect to Force Closure, Amphibious Task Force Integration, Sustainment and Reconstitution/Redeployment.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Engineering and Acquisition Support  Articles:  FY 2013 Accomplishments: N/A  FY 2014 Plans: N/A  FY 2015 Plans: FY15 - Continue tracking execution of Test and Evaluation schedule to Test and Evaluation Master Plan (TEMP) - Continue Initial Operational Test and Evaluation (IOT&E)for MLP Core Capability Set (CCS) - Initiate IT&E Phase B2 for Afloat Forward Staging Base (AFSB) - Continue engineering research on feasibility of transferring Office of Naval Research Technologies to MLP - Continue development of AFSB Developmental Test Program - Continue development of AFSB Operational Test Program - Continue development of AFSB Live Fire Test Program									-	-	8.454	
									-	-	-	



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy								<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604567N / <i>Ship Contract Design/ Live Fire T&amp;E</i>				<b>Project (Number/Name)</b> 3374 / <i>MPF(F)</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											
- Perform MLP Follow-On Operational Test & Evaluation (FOT&E)for MLP Core Capability Set (CCS)								<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
<b>Accomplishments/Planned Programs Subtotals</b>								-	-	8.454	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• NDSF/0401: <i>MPF MLP Acquisition</i>	140.315	22.617	-	-	-	-	-	-	-	-	162.932
• SCN/3039: <i>AFSB</i>	-	579.300	-	-	-	-	613.000	-	-	-	1,192.300
• SCN/5110: <i>AFSB/MLP Outfitting/Post Delivery</i>	-	-	21.648	-	21.648	35.633	16.451	5.770	-	-	79.502
• NDSF/5000: <i>MLP Outfitting/Post Delivery</i>	32.048	33.282	-	-	-	-	-	-	-	-	65.330
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
MPF(F) - The department deferred the MPF(F) outside the FYDP. However, in order to supplement the current maritime prepositioning force, and to provide in theater capability to support resupplying a Maritime Expeditionary Brigade, the Department is procuring 4 MLPs in the current FYDP; 2 MLPs in FY11, 1 MLP modified to an MLP AFSB variant configuration in FY12, and 1 AFSB Variant in FY14.											
<b>E. Performance Metrics</b>											
Annual Program Review											

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604567N / Ship Contract Design/ Live  
Fire T&E

Project (Number/Name)

3374 / MPF(F)

Proj 3374	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
SHIP DELIVERY												MLP 3 AFSB ◆						MLP 4 AFSB ◆										
TESTING												CCS OT&E ▲																
												AFSB DT&E																
												AFSB IT&E																
												AFSB OT&E																
												AFSB LFT&E																

2015OSD - 0604567N - 3374 NOTE: Prior to FY15 - Data in NDSF PE 0408042N Project 3110

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
4007: CVN 21 LFT&E	52.327	2.354	3.645	3.426	-	3.426	4.735	3.974	4.036	4.125	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 223												
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015
Title: CVN 21 LFT&E										2.354	3.645	3.426
										Articles: -	-	-
FY 2013 Accomplishments: Complete adjudication of final comments and updates to the CVN 78 Class LFT&E Management Plan, Revision B and route for signature. Continued the Damage Scenario-Based Engineering Analyses (DSBEAs), the Ship Vulnerability Model (SVM) analyses and the analysis documentation for VAR 4. Work with Huntington Ingalls Industries, Newport News Shipbuilding (HII-NNS) to increase the fidelity of the CVN 78 full-ship structural Finite Element Model (FEM) in support of the Modeling and Simulation (M&S) Analytical Bridge studies of the scaled Underwater Explosive (UNDEX) test events.												
FY 2014 Plans: Complete the DSBEAs for VAR 4. These analyses assess 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. Continue the SVM analyses, which includes 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												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604567N / <i>Ship Contract Design/ Live Fire T&amp;E</i>				<b>Project (Number/Name)</b> 4007 / CVN 21 LFT&E				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b> where there is a high probability of ship or mission loss to identify the equipment and / or systems that are the main contributors to the vulnerability. Begin documenting the DSBEA and SVM analyses and results in VAR 4. Complete the enhancements to the CVN 78 full-ship structural FEM, which includes adding structural details, refining the mesh size in the areas of interest and conducting quality assurance checks.  <b>FY 2015 Plans:</b> 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 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 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.										<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Accomplishments/Planned Programs Subtotals</b>										2.354	3.645	3.426
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
• RDTEN / 0603512N: <i>Project Units 2208, 4004</i>	87.573	74.638	-	-	-	-	-	-	-	-	1,709.785	
• RDTEN / 0603570N: <i>Propulsion Plant Development (PU 2692)</i>	58.193	57.499	60.459	-	60.459	-	-	-	-	-	1,526.813	
• SCN / 2001: <i>Carrier Replacement Program</i>	490.960	917.553	1,300.000	-	1,300.000	2,876.183	2,290.837	2,849.342	1,864.514	Continuing	Continuing	
• SCN / 5300: <i>Completion of Prior Year Shipbuilding Programs</i>	-	588.100	663.000	-	663.000	124.000	-	-	-	-	1,375.100	
• RDTEN / 0604112N: <i>Project Units 2208, 4004</i>	-	-	43.613	-	43.613	38.373	35.662	34.156	25.650	Continuing	Continuing	
• OMN / 1B2B: <i>CVN 78 Ford Class Training (12BJ0)</i>	-	-	4.907	-	4.907	12.872	2.396	-	-	-	20.175	
<b>Remarks</b>												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604567N / <i>Ship Contract Design/ Live Fire T&amp;E</i>	<b>Project (Number/Name)</b> 4007 / <i>CVN 21 LFT&amp;E</i>
<p><b><u>D. Acquisition Strategy</u></b></p> <p>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.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>Complete: (1) the adjudication of final comments and updates to the CVN 78 Class LFT&amp;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.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Live Fire Test & Evaluation	WR	NSWC Carderock : MD	43.713	1.415	Nov 2012	2.605	Nov 2013	2.466	Nov 2014	-		2.466	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	C/CPAF	HII : VA	8.604	0.900	Dec 2012	0.994	Nov 2013	0.960	Nov 2014	-		0.960	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	WR	NSWC Dahlgren : VA	0.000	0.039	Apr 2013	0.046	Dec 2013	-		-		-	-	0.085	-
Subtotal			52.317	2.354		3.645		3.426		-		3.426	-	-	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			52.327	2.354		3.645		3.426		-		3.426	-	-	-
Remarks															

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

Date: March 2014

Appropriation/Budget Activity

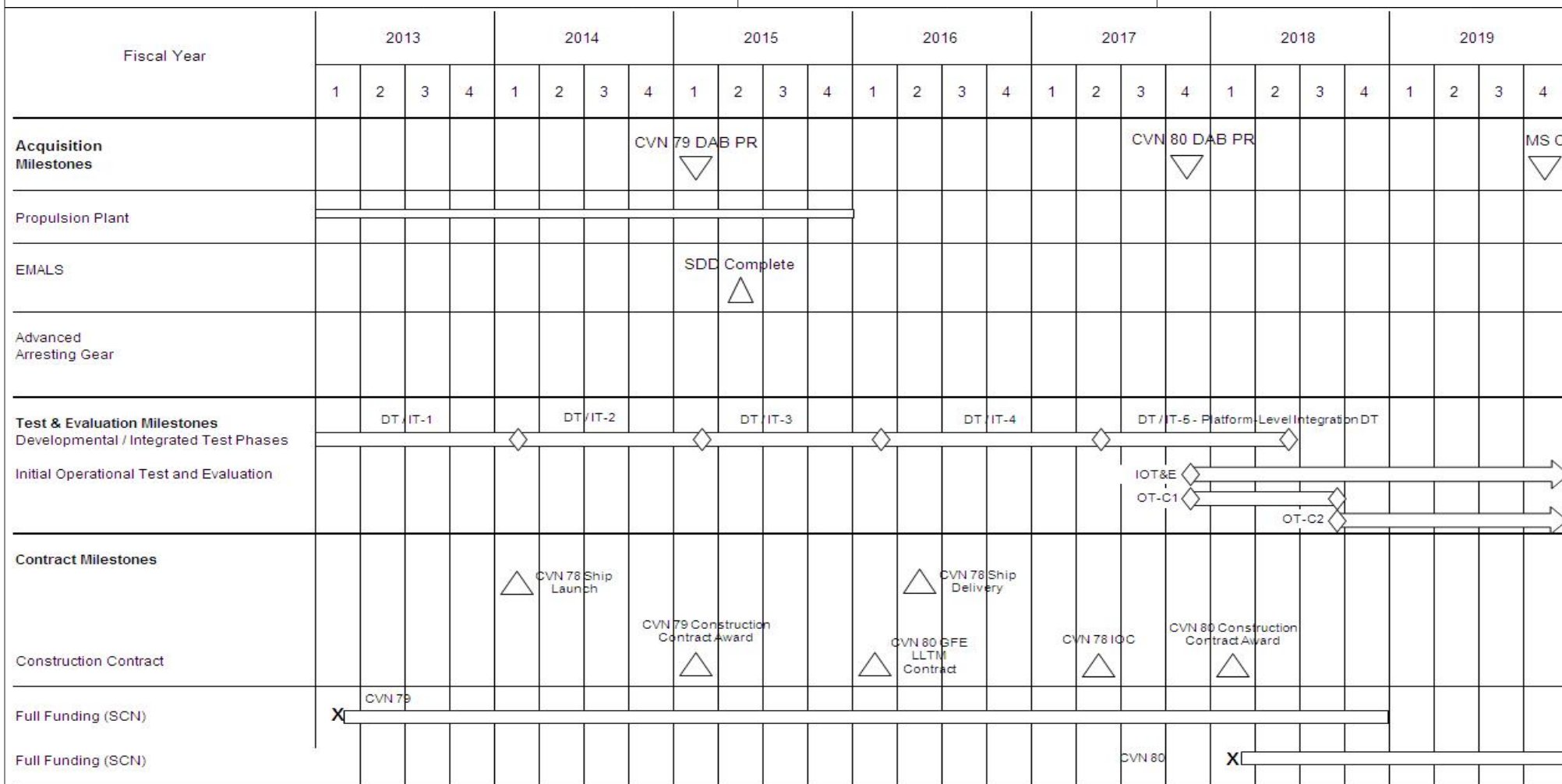
1319 / 5

R-1 Program Element (Number/Name)

PE 0604567N / Ship Contract Design/ Live Fire T&E

Project (Number/Name)

4007 / CVN 21 LFT&E



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604567N / <i>Ship Contract Design/ Live Fire T&amp;E</i>	<b>Project (Number/Name)</b> 4007 / CVN 21 LFT&E	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 4007</b>				
CVN 79 DAB PR	1	2015	1	2015
CVN 80 DAB PR	4	2017	4	2017
Milestone C	4	2019	4	2019
Propulsion Plant	1	2013	4	2015
DT/IT -1 Development Test / Integrated Test Phase 1	1	2013	1	2014
DT/IT -2	1	2014	1	2015
DT/IT -3	1	2015	1	2016
DT/IT -4	1	2016	2	2017
DT/IT -5 - Platform-Level Integration DT Period	2	2017	2	2018
IOT&E - Intial Operation Test & Evaluation	4	2017	4	2019
OT - C1 - Initial Operational Test & Evaluation - Phase C1	4	2017	3	2018
OT - C2 - Intial Operational Test & Evaluation - Phase C2	3	2018	4	2019
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	1	2015	1	2015
CVN 80 GFE LLTM Contract	1	2016	1	2016
CVN 80 Construction Contract Award	1	2018	1	2018
CVN 79 SCN Full Funding	1	2013	4	2018
CVN 80 SCN Full Funding	1	2018	4	2019



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014																																															
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604567N / Ship Contract Design/ Live Fire T&E				<b>Project (Number/Name)</b> 9999 / Congressional Adds																																																
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>																																													
9999: Congressional Adds	-	-	50.000	-	-	-	-	-	-	-	-	50.000																																													
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-																																															
<b>MDAP/MAIS Code:</b> 333																																																									
<p># The FY 2015 OCO Request will be submitted at a later date.</p> <p><b>A. Mission Description and Budget Item Justification</b></p> <p>The LHA(R) program recapitalizes the aging Amphibious Assault Ships (LHA &amp; 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.</p> <p><b>B. Accomplishments/Planned Programs (\$ in Millions)</b></p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td align="center"><b>FY 2013</b></td> <td align="center"><b>FY 2014</b></td> </tr> <tr> <td><b>Congressional Add:</b> LHA(R) FLT Design and Total Ship Integration</td> <td align="center">-</td> <td align="center">50.000</td> </tr> <tr> <td colspan="3"><b>FY 2013 Accomplishments:</b> N/A</td> </tr> <tr> <td colspan="3"><b>FY 2014 Plans:</b> LHA 8 Conduct, with industry, specification reading sessions of proposed contract design</td> </tr> <tr> <td colspan="3">LHA 8 Initiate expanded Early Industry Involvement to develop each competitors cost estimate</td> </tr> <tr> <td colspan="3">LHA 8 Initiate systematic review to identify major cost drivers and cost reduction opportunities</td> </tr> <tr> <td colspan="3">LHA 8 Initiate vendor studies and break out analysis to identify cost savings</td> </tr> <tr> <td colspan="3">Base FY 2015 Plans:</td> </tr> <tr> <td colspan="3">LHA 8 Conduct, with industry, specification reading sessions of final contract design</td> </tr> <tr> <td colspan="3">LHA 8 Complete expanded Early Industry Involvement to develop each competitors cost basis</td> </tr> <tr> <td colspan="3">LHA 8 Complete systematic review to identify major cost drivers and cost reduction opportunities</td> </tr> <tr> <td colspan="3">LHA 8 Complete vendor studies and break out analysis to identify cost savings</td> </tr> <tr> <td colspan="3">LHA 8 Issue Advance Procurement RFP</td> </tr> <tr> <td colspan="3">LHA 8 Award Advance Procurement Contract</td> </tr> <tr> <td align="right" colspan="2"><b>Congressional Adds Subtotals</b></td> <td align="center">-</td> </tr> </table>														<b>FY 2013</b>	<b>FY 2014</b>	<b>Congressional Add:</b> LHA(R) FLT Design and Total Ship Integration	-	50.000	<b>FY 2013 Accomplishments:</b> N/A			<b>FY 2014 Plans:</b> LHA 8 Conduct, with industry, specification reading sessions of proposed contract design			LHA 8 Initiate expanded Early Industry Involvement to develop each competitors cost estimate			LHA 8 Initiate systematic review to identify major cost drivers and cost reduction opportunities			LHA 8 Initiate vendor studies and break out analysis to identify cost savings			Base 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 Advance Procurement RFP			LHA 8 Award Advance Procurement Contract			<b>Congressional Adds Subtotals</b>		-
	<b>FY 2013</b>	<b>FY 2014</b>																																																							
<b>Congressional Add:</b> LHA(R) FLT Design and Total Ship Integration	-	50.000																																																							
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<b>Congressional Adds Subtotals</b>		-																																																							
<b>Congressional Adds Subtotals</b>												-	50.000																																												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604567N / Ship Contract Design/ Live Fire T&E				<b>Project (Number/Name)</b> 9999 / Congressional Adds				
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
			<u>FY 2015</u>	<u>FY 2015</u>	<u>FY 2015</u>						<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Complete</u>	<u>Total Cost</u>	
• SCN/3041: LHA (R) Ships	156.478	37.700	29.093	-	29.093	280.236	1,569.309	2,348.811	-	-	10,645.468	
• RDT&E/2465: LHA (R) FLT	25.114	30.813	10.561	-	10.561	8.785	2.493	4.376	4.532	Continuing	Continuing	
<i>Design and Total Ship Integration</i>												
<b>Remarks</b>												
<b>D. Acquisition Strategy</b>												
Acquisition Strategy document currently in development.												
<b>E. Performance Metrics</b>												
Identify LHA 8 major cost drivers and cost savings initiatives.												

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>					<b>R-1 Program Element (Number/Name)</b> PE 0604574N / <i>Navy Tactical Computer Resources</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	14.194	3.552	3.689	3.935	-	3.935	4.141	4.217	4.290	4.382	Continuing	Continuing
1353: <i>Standard Hardware</i>	14.194	3.552	3.689	-	-	-	-	-	-	-	-	21.435
3360: <i>Common Processing System (CPS)</i>	0.000	-	-	1.314	-	1.314	1.376	1.402	1.426	1.455	Continuing	Continuing
3361: <i>Common Display System (CDS)</i>	0.000	-	-	2.621	-	2.621	2.765	2.815	2.864	2.927	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

**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).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		PE 0604574N / Navy Tactical Computer Resources			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	3.889	3.689	4.477	-	4.477
Current President's Budget	3.552	3.689	3.935	-	3.935
Total Adjustments	-0.337	-	-0.542	-	-0.542
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.097	-			
• Rate/Misc Adjustments	-	-	-0.542	-	-0.542
• Congressional General Reductions Adjustments	-0.240	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1353: Standard Hardware	14.194	3.552	3.689	-	-	-	-	-	-	-	-	21.435
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: Systems Engineering									3.552	3.689	-	
									Articles: -	-	-	
FY 2013 Accomplishments: Supported CDS Technical Insertion (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. Supported technology insertion through AEGIS TI-16 common console design and development planning. Supported CPS TI-12 on multiple platforms including AEGIS Destroyers and Cruisers undergoing modernization, DDG new construction, AEGIS Ashore, CVN, UCLASS, SEWIP and SSDS Mk 2 ships. Supported technology insertion through AEGIS TI-16 CPS development effort.												
FY 2014 Plans: Continue 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. Begin development of AEGIS Common Console under CDS TI-16 Design and Production contract.												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604574N / Navy Tactical Computer Resources	<b>Project (Number/Name)</b> 1353 / Standard Hardware	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
Continue support of CPS TI-12 on multiple platforms including AEGIS Destroyers and Cruisers undergoing modernization, DDG-51 new construction, AEGIS Ashore, CVN, UCLASS, SEWIP and SSDS Mk 2 ships. Continue development of CPS TI-16.  <b>FY 2015 Plans:</b> N/A			
<b>Accomplishments/Planned Programs Subtotals</b>		3.552	3.689
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b> Contracts: CDS: TI-12 Indefinite Delivery Indefinite Quantity (IDIQ) Production continues FY13-FY16. TI-16 Design and IDIQ Production FY15 - FY21.  CPS: TI12 IDIQ Production continues FY13-FY18. TI16 Build to Print IDIQ Production FY15-FY21.			
<b>E. Performance Metrics</b> Major Milestones:  RCEM Contract Award in second quarter FY13 CPS TI-12 Build to Print Contract Award in third quarter FY14 CDS TI-12 Build to Print Contract Award in third quarter FY14 CPS/CDS TI-16 Intermediate Program Review No. 2 in first quarter FY13 CPS/CDS TI-16 Program Preliminary Design Review in third quarter FY13 CPS/CDS TI-16 Program Critical Design Review in fourth quarter FY13 CPS/CDS TI-16 Program IPR No. 3 in second quarter FY14 CPS/CDS TI16 Program Test Readiness Review in third quarter FY14 CPS/CDS TI16 Program Production Readiness Review in fourth quarter FY14			

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**  
1319 / 5

**R-1 Program Element (Number/Name)**  
PE 0604574N / Navy Tactical Computer  
Resources

**Project (Number/Name)**  
1353 / Standard Hardware

RDT&E,N/BA-5	0604574N/NAVY TACTICAL COMPUTER RESOURCES																1353/COMMON DISPLAY SYSTEM											
Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
	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
Common Processing System Common Display System TI 12																												
Common Processing System Common Display System TI 16																												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3360: Common Processing System (CPS)	-	-	-	1.314	-	1.314	1.376	1.402	1.426	1.455	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: Common Processing System (CPS)  Articles:  FY 2013 Accomplishments: N/A  FY 2014 Plans: N/A  FY 2015 Plans: Continue 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 contract award efforts for TI-16 CPS equipment.									-	-	1.314	
									-	-	-	
Accomplishments/Planned Programs Subtotals									-	-	1.314	
C. Other Program Funding Summary (\$ in Millions) N/A												



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604574N / Navy Tactical Computer Resources	<b>Project (Number/Name)</b> 3360 / Common Processing System (CPS)
<b>C. Other Program Funding Summary (\$ in Millions)</b> <b>Remarks</b>  <b>D. Acquisition Strategy</b> CPS TI-12: Continue IDIQ Production through FY14. Compete and award competitive build to print IDIQ production contract for FY14-FY18. CPS TI-16: Award build to Print IDIQ production contract for FY16-FY21.		
<b>E. Performance Metrics</b> Major Milestones:  CPS TI-12 Production Readiness Review in first quarter FY15 CPS TI-16 Production Contract Award in fourth quarter FY15 CPS TI-16 Production Readiness Review in fourth quarter FY17 CPS TI Next Intermediate Program Review No. 1 in third quarter FY17 CPS TI Next System Requirements Review in fourth quarter FY17 CPS TI Next Intermediate Program Review No. 2 in first quarter FY18 CPS TI Next Preliminary Design Review in third quarter FY18 CPS TI Next Critical Design Review in fourth quarter FY 18 CPS TI Next Intermediate Program Review No. 3 in second quarter FY19 CPS TI Next Test Readiness Review in third quarter FY19 CPS TI Next Production Readiness Review in fourth quarter FY19		

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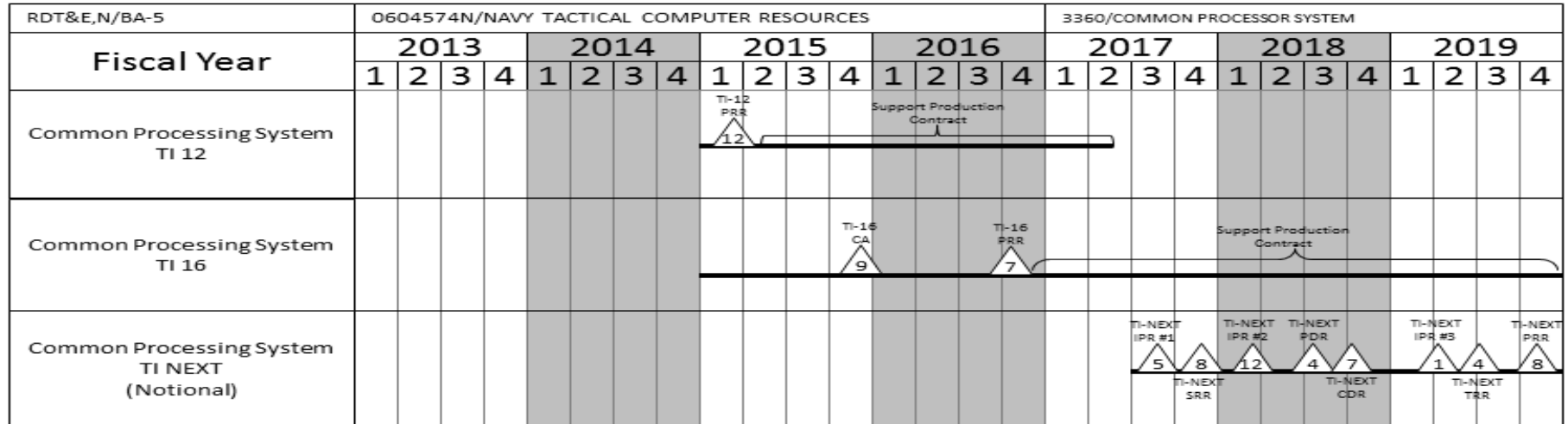
**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**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)



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3361: Common Display System (CDS)	-	-	-	2.621	-	2.621	2.765	2.815	2.864	2.927	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: Common Display System (CDS)  Articles:  FY 2013 Accomplishments: N/A  FY 2014 Plans: N/A  FY 2015 Plans: Continue 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 Console design and production contract and execute preliminary design review/critical design review for new design.									-	-	2.621	
									-	-	-	
Accomplishments/Planned Programs Subtotals									-	-	2.621	
C. Other Program Funding Summary (\$ in Millions) N/A												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604574N / Navy Tactical Computer Resources	<b>Project (Number/Name)</b> 3361 / Common Display System (CDS)
<b>C. Other Program Funding Summary (\$ in Millions)</b> <b>Remarks</b>  <b>D. Acquisition Strategy</b> Contracts: CDS Indefinite Delivery Indefinite Quantity (IDIQ) Production continues FY13-FY16.		
<b>E. Performance Metrics</b> CDS TI-12 Production Readiness Review in first quarter FY15 CDS TI-16 Production Contract Award in first quarter FY15 CDS TI-16 Preliminary Design Review in second quarter FY15 CDS TI-16 Critical Design Review in fourth quarter FY15 CDS TI-16 Test Readiness Review in first quarter FY16 CDS TI-16 Production Readiness Review in third quarter FY16 CDS TI Next Intermediate Program Review No. 1 in third quarter FY17 CDS TI Next System Requirements Review in fourth quarter FY17 CDS TI Next Intermediate Program Review No. 2 in first quarter FY18 CDS TI Next Preliminary Design Review in third quarter FY18 CDS TI Next Critical Design Review in fourth quarter FY 18 CDS TI Next Intermediate Program Review No. 3 in second quarter FY19 CDS TI Next Test Readiness Review in third quarter FY19 CDS TI Next Production Readiness Review in fourth quarter FY19		

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

Date: March 2014

<b>Appropriation/Budget Activity</b> 1319 / 5
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**R-1 Program Element (Number/Name)**  
PE 0604574N / Navy Tactical Computer  
Resources

<b>Project (Number/Name)</b>	3361 / <i>Common Display System (CDS)</i>
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RDT&E,N/BA-5	O604574N/NAVY TACTICAL COMPUTER RESOURCES																3361/Common Display System											
Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Common Display System TI 12									TI-12 PRR 12																			
Common Display System TI 16									TI-16 CA 11	2		TI-16 CDR 7		TI-16 TRR 11		TI-16 PRR 5												
Common Display System TI NEXT (Notional)																	TI-NEXT IPR #1 5		TI-NEXT IPR #2 12		TI-NEXT PDR 4		TI-NEXT CDR 7					

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604580N / (U)Virginia Payload Module (VPM)							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	0.000	-	59.120	132.602	-	132.602	167.719	193.904	159.499	27.915	Continuing	Continuing
4500: VIRGINIA Payload Module	0.000	-	59.120	132.602	-	132.602	167.719	193.904	159.499	27.915	Continuing	Continuing
MDAP/MAIS Code: 516												
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
Beginning in FY2014, there is an administrative change that will shift efforts funded from PE 0604558N (New Design SSN) / Project 4500 to PE 0604580N (VIRIGNIA Payload Module) / Project 4500. This shift is consistent with Congressional intent identified in the FY14 Appropriations Act Committee Report.												
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total				
Previous President's Budget				-	-	-	-	-				
Current President's Budget				-	59.120	132.602	-	132.602				
Total Adjustments				-	59.120	132.602	-	132.602				
• Congressional General Reductions				-	-							
• Congressional Directed Reductions				-	-							
• Congressional Rescissions				-	-							
• Congressional Adds				-	59.120							
• Congressional Directed Transfers				-	-							
• Reprogrammings				-	-							
• SBIR/STTR Transfer				-	-							
• Rate/Misc Adjustments				-	-	132.602	-	132.602				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
4500: VIRGINIA Payload Module	-	-	59.120	132.602	-	132.602	167.719	193.904	159.499	27.915	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: Non-Propulsion Electronics System (NPES) Engineering									-	15.250	19.810	
									Articles: -	-	-	
FY 2013 Accomplishments: Develop requirements for VPM system launch control and evaluate candidate configurations for 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.												
FY 2014 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. Specify and develop 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. Continue development of interfaces including software for VPM systems and existing C3I systems.												
Title: Hull, Mechanical, and Electrical (HM&E) Systems Engineering									-	43.870	112.792	
Articles:									-	-	-	



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Concept Design integration of the VPM including insertion of payload tube module to existing hull structure, hydrodynamic assessments, hydraulic system design, tube control interface, and internal arrangements to accommodate hardware, electronics and personnel. Design studies to assess all ship characteristics including maneuvering, signature levels, shock survivability, operational impacts and life cycle support. Products include concept arrangements.												
FY 2014 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. Develop 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 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 and arrangements.												
Accomplishments/Planned Programs Subtotals										-	59.120	132.602
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• SCN//2013: VIRGINIA Class Submarine	4,636.630	6,462.316	5,883.579	-	5,883.579	5,450.298	5,223.103	5,481.305	5,884.914	-	83,123.088	
• OPN/0942: VA CL Support Equipment	70.995	69.241	74.129	-	74.129	56.775	46.593	65.738	79.903	Continuing	Continuing	
• O&MN/0204283N: Sub Ops & Safety	32.433	38.919	33.938	-	33.938	32.471	28.746	29.971	30.894	Continuing	Continuing	
• RDT&E/0604558N: New Design SSN*	81.161	121.566	72.695	-	72.695	92.810	100.404	111.578	86.275	Continuing	Continuing	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
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	

## C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
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### 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 two Multi-Year Procurement (MYP) contracts the first is for the FY04-08 ships and the second was awarded in December 2008 for the FY09-13 ships. The last Block II ship, SSN 783, was delivered in June 2013. All Block III ships are awarded and under construction. The Block IV MYP is in progress with second quarter FY14 planned award date. 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

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>													<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5							<b>R-1 Program Element (Number/Name)</b> PE 0604580N / (U)Virginia Payload Module (VPM)					<b>Project (Number/Name)</b> 4500 / VIRGINIA Payload Module			
<b>Product Development (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Component Development	WR	NSWC : Carderock, MD	0.000	-		12.500	Mar 2014	21.539	Nov 2014	-		21.539	Continuing	Continuing	Continuing
Component Development	WR	NUWC : Newport, RI	0.000	-		11.250	Mar 2014	16.290	Nov 2014	-		16.290	Continuing	Continuing	Continuing
Component Development	C/CPFF	Electric Boat : Groton, CT	0.000	-		35.120	Mar 2014	94.523	Nov 2014	-		94.523	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	-		58.870		132.352		-		132.352	-	-	-
<b>Support (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Contractor Engineering Support	C/CPAF	URS : Rockville, MD	0.000	-		0.250	Mar 2014	0.250	Nov 2014	-		0.250	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	-		0.250		0.250		-		0.250	-	-	-
			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			0.000	-		59.120		132.602		-		132.602	-	-	-
<b>Remarks</b>															

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2015 Navy																<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5								<b>R-1 Program Element (Number/Name)</b> PE 0604580N / (U)Virginia Payload Module (VPM								<b>Project (Number/Name)</b> 4500 / VIRGINIA Payload Module			

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
<b>Proj 4500</b>																												
Top Level Requirements Set/Updated VPM Baseline																												
Ship Specifications																												
Rev A Diagrams																												
Major Arrangements																												
Design Development																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604580N / (U) <i>Virginia Payload Module (VPM)</i>	<b>Project (Number/Name)</b> 4500 / VIRGINIA Payload Module

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 4500</i></b>				
Top Level Requirements Set/Updated VPM Baseline	1	2013	4	2014
Ship Specifications	3	2014	1	2016
Rev A Diagrams	3	2014	1	2016
Major Arrangements	3	2014	1	2017
Design Development	1	2015	4	2019

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0604601N / Mine Development
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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	199.469	6.934	5.041	19.067	-	19.067	3.734	4.696	3.797	3.587	Continuing	Continuing
0267: Mine Improvements	199.469	6.934	5.041	19.067	-	19.067	3.734	4.696	3.797	3.587	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## 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; and (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) Submarine Launch Mobile Mine (SLMM).

Increase from FY14 to FY15 of \$15.0M is for Offensive Mining efforts. Funds will convert SLMM warheads into LDUUV delivered mines, and conduct an engineering and cost estimate study for a wide-area coverage moored torpedo mine.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	8.335	5.041	4.127	-	4.127
Current President's Budget	6.934	5.041	19.067	-	19.067
Total Adjustments	-1.401	-	14.940	-	14.940
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.500	-			
• SBIR/STTR Transfer	-0.206	-			
• Program Adjustments	-	-	0.400	-	0.400
• Rate/Misc Adjustments	-	-	14.540	-	14.540
• Congressional General Reductions Adjustments	-0.695	-	-	-	-

## Change Summary Explanation

Total Adjustments: FY13 -\$1,401K: -\$695K for Sequestration Order, -\$500K Reprogramming (AN/AQS-20) and -\$206K SBIR/Misc adjustments.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0604601N / Mine Development	
Total Adjustments: FY15 +\$14,940K: +\$15,000K Offensive Mining, \$400K for Submarine Launch Mobile Mine (SLMM) and -\$460K Misc adjustments.		



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0267: Mine Improvements	199.469	6.934	5.041	19.067	-	19.067	3.734	4.696	3.797	3.587	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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; and (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) Submarine Launch Moble Mine (SLMM); (6) Development of new offensive mining calabilities.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Product Development									3.539	2.667	16.593	
									Articles: -	-	-	
FY 2013 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 fuse safety boards. Continued to work with P-8 Aircraft mission planning software designers to include transfer of MEDAL data to their system. Began design of mine standoff delivery (Wing Kit) capability.												
FY 2014 Plans: Software Development: Modified algorithms based on testing results. Continue generating OPDATA for fast patrol boat, air cushioned vehicle, and large ship algorithms. Continue to work action items assigned by Navy and Air Force fuse safety boards. Complete modification to mine data recorder design. Continue to work with P-8 Aircraft mission planning software designers to include transfer of MEDAL data to their system. Conclude design of mine standoff delivery (Wing Kit) capability and build prototype system for evaluation.												
FY 2015 Plans: Modify algorithms based on testing results. Continue generating OPDATA for the Fast Patrol Boat, Air cushioned Vehicle, and large ship algorithyms. Continue to work action items assigned by Navy and Air Force fuse safety boards. Initiate design of future offensive mining capability, based on AOA analysis. Convert SLMM warheads into LDUUV delivered mines, and conduct an engineering and cost estimate study for a wide-area coverage moored torpedo mine.												
Title: Support									0.100	0.050	0.050	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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 2013	FY 2014	FY 2015		
Articles:							-	-	-		
FY 2013 Accomplishments: Integrated Logistics Support											
FY 2014 Plans: Integrated Logistics Support											
FY 2015 Plans: Integrated Logistics Support											
Title: Management:							0.050	0.304	0.050		
Articles:							-	-	-		
FY 2013 Accomplishments: Program Management Support and Travel											
FY 2014 Plans: Program Management Support and Travel											
FY 2015 Plans: Program Management Support and Travel											
Title: Test and Evaluation							3.245	2.020	2.374		
Articles:							-	-	-		
FY 2013 Accomplishments: Conducted in-water test to determine algorithm performance for Mod 3 system. Continued Aircraft certification.											
FY 2014 Plans: Continue Aircraft certification (to include F/A-18 and B-52). Perform test and evaluation on the MINES standoff (Wing Kit) capabiltiy.											
FY 2015 Plans: Continue Aircraft certification (to include F/A-18 and B-52).											
Accomplishments/Planned Programs Subtotals							6.934	5.041	19.067		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• WPN 3231: Quickstrike Mine	6.843	7.800	6.966	-	6.966	14.378	14.144	12.249	8.606	-	88.230

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604601N / <i>Mine Development</i>				<b>Project (Number/Name)</b> 0267 / <i>Mine Improvements</i>			
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
			<u>FY 2015</u>	<u>FY 2015</u>	<u>FY 2015</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Complete</u>	<u>Total Cost</u>
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
Procurement of Target Detecting Device (TDD) Mk 71, MK 62/63 kits, MK 65 kits and associated components.											
<b>E. Performance Metrics</b>											
N/A											

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																								Date: March 2014				
Appropriation/Budget Activity 1319 / 5												R-1 Program Element (Number/Name) PE 0604601N / Mine Development								Project (Number/Name) 0267 / Mine Improvements								
Proj 0267	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
System Development																												
Minefield Planning Tactical Decision Aid Improvements	Minefield Planning Tactical Decision Aid Improvements																											
Mines Standoff Capability	Mines Standoff Capability																											
Test and Evaluation																												
Mines Standoff Capability	Mines Stadoff Capability																											
Quickstrike Mod 3 Aircraft Certification	Quickstrike Mod 3 Aircraft Certification																											
Quickstrike Mod 3 Algorithm Development and Testing	Quickstrike Mod 3 Algorithm Development and Testing																											
Production Milestones																												
2015PB - 0604601N - 0267																												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604610N / Lightweight Torpedo Development							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	200.995	45.906	26.444	25.280	-	25.280	18.668	15.970	13.634	14.017	Continuing	Continuing
2234: Lightweight Hybrid Torpedo	200.995	36.903	26.444	25.280	-	25.280	18.668	15.970	13.634	14.017	Continuing	Continuing
9999: Congressional Adds	0.000	9.003	-	-	-	-	-	-	-	-	-	9.003

# The FY 2015 OCO Request will be submitted at a later date.

## A. Mission Description and Budget Item Justification

The Lightweight Torpedo (LWT) program designs, integrates and tests the LWT, MK54. LWT provides performance improvements in shallow water, counter-measure environments. The Engineering Development Model (EDM) contract has delivered twenty-one 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, Block Upgrade (BUG), and APB software improvements. Future APB software builds will utilize the common torpedo software to deliver software and tactics to both the MK 48 Advanced Capability (ADCAP) and MK 54 LWT. 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)

	<b><u>FY 2013</u></b>	<b><u>FY 2014</u></b>	<b><u>FY 2015 Base</u></b>	<b><u>FY 2015 OCO</u></b>	<b><u>FY 2015 Total</u></b>
Previous President's Budget	49.818	26.444	29.999	-	29.999
Current President's Budget	45.906	26.444	25.280	-	25.280
Total Adjustments	-3.912	-	-4.719	-	-4.719
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.745	-			
• Rate/Misc Adjustments	0.001	-	-4.719	-	-4.719

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy					Date: March 2014	
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)			R-1 Program Element (Number/Name) PE 0604610N / Lightweight Torpedo Development			
• Congressional General Reductions Adjustments			-5.168	-	-	-
• Congressional Directed Reductions Adjustments			-8.000	-	-	-
• Congressional Add Adjustments			10.000	-	-	-
Congressional Add Details (\$ in Millions, and Includes General Reductions)					FY 2013	FY 2014
Project: 9999: Congressional Adds						
Congressional Add: LWT SBIR (Cong)					9.003	-
Congressional Add Subtotals for Project: 9999					9.003	-
Congressional Add Totals for all Projects					9.003	-
Change Summary Explanation						
Technical: FY13 funding reductions are due to the HAAWC Contract Delay (\$8.0M); Sequestration/Rescission of (\$5.168); and SBIR (\$.745M).						
In FY15, funding reductions reflect a reduction for contracted services, underexecution, and working capital fund rate adjustments.						

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604610N / <i>Lightweight Torpedo Development</i>				Project (Number/Name) 2234 / <i>Lightweight Hybrid Torpedo</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2234: <i>Lightweight Hybrid Torpedo</i>	200.995	36.903	26.444	25.280	-	25.280	18.668	15.970	13.634	14.017	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013 delivery includes 24 MK54 Mod 1 POM units FY 2014 achievement of BUG IOC FY 2015 HAAWC Contract delivery of 6 Engineering units FY 2015 HAAWC Contract delivery of 14 POM units FY 2017 achievement of HAAWC IOC FY 2020 achievement of MK 54 Mod 1 IOC												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: MK54 Pre-Planned Product Improvement									36.903	26.444	25.280	
									Articles: 24.000	7.000	14.000	
Description: MK54 P3I includes the MK54 VLA integration and HAAWC programs.												
FY 2013 Accomplishments:												
Developed of hardware/software improvements for P3I program.												
Developed of MK54 high altitude launch capability from MPA (HAAWC).												
Conducted block upgrade operational testing.												
Conducted environmental qualification testing of hardware improvements (112 element array) on MK54 MOD 1.												
FY 2014 Plans:												
Continue development of hardware/software improvements for P3I program.												
Continue development of MK54 high altitude launch capability from MPA (HAAWC).												
Awarded HAAWC development contract and conduct MS B review.												
Complete MK54 MOD 1 qualification testing.												
Conduct MK54 MOD 1 Production Readiness Review (PRR).												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy							<b>Date:</b> March 2014				
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604610N / <i>Lightweight Torpedo Development</i>			<b>Project (Number/Name)</b> 2234 / <i>Lightweight Hybrid Torpedo</i>				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>		
Initiate MK54 Mod 1 developmental testing.  <b><i>FY 2015 Plans:</i></b> 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. Continue MK54 MOD 1 development testing.											
<b>Accomplishments/Planned Programs Subtotals</b>							36.903	26.444	25.280		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• WPN/3215: <i>MK54 Torpedo</i>	71.585	122.098	98.928	-	98.928	152.706	153.017	165.111	166.903	Continuing	Continuing
<i>Mods, MK54 Torpedo</i>											
<i>Mods, MK54 Torpedo Mods</i>											
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
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 ccst-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.											
<b>E. Performance Metrics</b>											
Milestone reviews. System engineering technical review. Earned value management reviews.											



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014																	
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604610N / <i>Lightweight Torpedo Development</i>				<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>																		
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>															
9999: <i>Congressional Adds</i>	-	9.003	-	-	-	-	-	-	-	-	-	9.003															
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-																	
<p># The FY 2015 OCO Request will be submitted at a later date.</p> <p><b>A. Mission Description and Budget Item Justification</b> Congressional add for Small Business Technology Insertion.</p> <p><b>B. Accomplishments/Planned Programs (\$ in Millions)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>FY 2013</th> <th>FY 2014</th> </tr> </thead> <tbody> <tr> <td><b>Congressional Add:</b> LWT SBIR (Cong)</td> <td>9.003</td> <td>-</td> </tr> <tr> <td><b>FY 2013 Accomplishments:</b> Procure MK54 Mod 1 common test sets, perform pre-production efforts, and middleware enhancements.</td> <td></td> <td></td> </tr> <tr> <td><b>FY 2014 Plans:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;"><b>Congressional Adds Subtotals</b></td> <td>9.003</td> <td>-</td> </tr> </tbody> </table> <p><b>C. Other Program Funding Summary (\$ in Millions)</b> N/A</p> <p><b>Remarks</b></p> <p><b>D. Acquisition Strategy</b> Congressional add.</p> <p><b>E. Performance Metrics</b> Congressional add.</p>														FY 2013	FY 2014	<b>Congressional Add:</b> LWT SBIR (Cong)	9.003	-	<b>FY 2013 Accomplishments:</b> Procure MK54 Mod 1 common test sets, perform pre-production efforts, and middleware enhancements.			<b>FY 2014 Plans:</b> N/A			<b>Congressional Adds Subtotals</b>	9.003	-
	FY 2013	FY 2014																									
<b>Congressional Add:</b> LWT SBIR (Cong)	9.003	-																									
<b>FY 2013 Accomplishments:</b> Procure MK54 Mod 1 common test sets, perform pre-production efforts, and middleware enhancements.																											
<b>FY 2014 Plans:</b> N/A																											
<b>Congressional Adds Subtotals</b>	9.003	-																									

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604654N / JT Service EOD
--	--

COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	266.436	7.394	8.897	8.985	-	8.985	9.178	9.400	9.529	9.744	Continuing	Continuing
1829: <i>Expl Ord Disp Proc</i>	266.436	7.394	8.897	8.985	-	8.985	9.178	9.400	9.529	9.744	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## 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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	10.099	8.897	10.304	-	10.304
Current President's Budget	7.394	8.897	8.985	-	8.985
Total Adjustments	-2.705	-	-1.319	-	-1.319
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.015	-			
• Rate/Misc Adjustments	-	-	-1.319	-	-1.319

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014		
Appropriation/Budget Activity		R-1 Program Element (Number/Name)				
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		PE 0604654N / JT Service EOD				
• Congressional General Reductions	-0.690	-	-	-	-	-
Adjustments						
• Congressional Directed Reductions	-2.000	-	-	-	-	-
Adjustments						
<b><u>Change Summary Explanation</u></b>						
Program Adjustments: FY15 \$1.319M in Total MISC Adjustments.						
Technical: Not applicable.						
Schedule: Not applicable.						

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1829: Expl Ord Disp Proc	266.436	7.394	8.897	8.985	-	8.985	9.178	9.400	9.529	9.744	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Render-Safe Procedures (RSP) Development	3.795	4.237	3.837
<b>Articles:</b>	-	-	-
<b>FY 2013 Accomplishments:</b> Analyzed and exploit foreign ordnance items and develop render-safe procedures for new ordnance domestic and foreign.			
<b>FY 2014 Plans:</b> Identify, reverse engineer, analyze and exploit ordnance items for the purpose of developing EOD Render-Safe procedures.			
<b>FY 2015 Plans:</b> Exploit and analyzed high priority foreign threat ordnance items, and develop render-safe procedures for new domestic and foreign ordnance for the EOD community.			
<b>Title:</b> Improvised Nuclear Device (IND) Countermeasures	2.164	2.588	2.738
<b>Articles:</b>	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604654N / JT Service EOD	<b>Project (Number/Name)</b> 1829 / Expl Ord Disp Proc	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<b>FY 2013 Accomplishments:</b> Developed procedures and information for EOD responders to IND and WMD incidents and maintain technologies to stay ahead of the evolving IND and WMD threats.			
<b>FY 2014 Plans:</b> Analyze and exploit IND and WMD threats for the purpose of developing EOD procedures to combat those threats.			
<b>FY 2015 Plans:</b> Develop specialized procedures for EOD response elements to stay ahead of the response to IND and EMS threats.			
<b>Title:</b> Foreign Mine Acquisition  <b>Articles:</b>		1.435 -	2.072 -
<b>FY 2013 Accomplishments:</b> Acquired and analyze foreign mines of the highest priority for exploitation and development of countermeasures procedures.			
<b>FY 2014 Plans:</b> Acquire acquisition of foreign mines resulting for analysis and exploitation resulting in countermeasure procedures.			
<b>FY 2015 Plans:</b> Acquire high priority foreign threat naval mines for the purpose of the exploitation and the development of procedures to counter these foreign mines.			
<b>Accomplishments/Planned Programs Subtotals</b>		7.394	8.897
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
This is a non-acquisition program.			
<b>E. Performance Metrics</b>			
Analyzed and exploited foreign and domestic ordnance resulting in the development of 131 validated render-safe procedures and the development of 1,875 procedures providing ordnance key identification features, safety information and other technical details for the Joint Service EOD community. Also developed and validated 485 IED / WMD countermeasures procedures.			

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b>					<b>R-1 Program Element (Number/Name)</b>							
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					PE 0604703N / Personnel, Trng, Sim, & Human Factors							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	9.850	5.224	4.233	7.669	-	7.669	8.293	7.926	8.069	8.222	Continuing	Continuing
1822: Manpower Pers & Human Fact System	9.850	5.224	4.233	7.669	-	7.669	8.293	7.926	8.069	8.222	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## **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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	7.348	6.233	7.669	-	7.669
Current President's Budget	5.224	4.233	7.669	-	7.669
Total Adjustments	-2.124	-2.000	-	-	-
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-	-2.000	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	-	-	-	-
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	-	-	-	-	-
• SBIR/STTR Transfer	-0.117	-	-	-	-
• Program Adjustments	-	-	0.500	-	0.500
• Rate/Misc Adjustments	-	-	-0.500	-	-0.500
• Congressional General Reductions Adjustments	-0.007	-	-	-	-
• Congressional Directed Reductions Adjustments	-2.000	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0604703N / Personnel, Trng, Sim, & Human Factors
<div>Change Summary Explanation</div> <div>Technical: Not applicable.</div> <div>Schedule: Not applicable.</div>		



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1822: Manpower Pers & Human Fact System	9.850	5.224	4.233	7.669	-	7.669	8.293	7.926	8.069	8.222	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: Manpower Pers & Human Fact System									5.224	4.233	7.669	
									Articles: 8.000	6.000	5.000	
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 2013 Accomplishments:												
- Continued transitioning of Future Naval Warfighter Capabilities (FNWC) Capable Manpower products.												
- Continued Training and Supply Chain Management Decision Support Systems integration and transition.												
- Completed Improved Manpower and Personnel Integration Tool.												
- 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.												
- Completed Virtual World Virtual Training.												
- Transferred GFMDI project to PE 0605013N.												
- Completed Fleet Ride Reserve Component (RC) to Active Component (AC).												
- Started CNRC Applicant Relationship Management (ARM).												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604703N / <i>Personnel, Trng, Sim, &amp; Human Factors</i>	<b>Project (Number/Name)</b> 1822 / <i>Manpower Pers &amp; Human Fact System</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
- Small Business Innovative Research (SBIR).  <b>FY 2014 Plans:</b> - 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. - Continue development of Training Capacity Tradeoff Model. - Continue enhancement of products delivered via World Class Modeling. - Continue CNRC Applicant Relationship Management (ARM). - Small Business Innovative Research (SBIR).  <b>FY 2015 Plans:</b> - 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. - Continue development of Training Capacity Tradeoff Model. - Continue enhancement of products delivered via World Class Modeling. - Complete CNRC Applicant Relationship Management (ARM). - Start NMRS Advanced Analytics. - Start NWC Web/KM. - Continue development of NWC Web/KM. - Small Business Innovative Research (SBIR).			
<b>Accomplishments/Planned Programs Subtotals</b>		5.224	4.233
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b> N/A			
<b>E. Performance Metrics</b> 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			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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
<p>successful S&amp;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.</p>		

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

Date: March 2014

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

Proj 1822	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Future Naval Warfighter Capabilities (FNWC) Capable Manpower Products					FNWC																							
			▲	▼				▲	▼																			
Training/Supply Chain Mgmt Decision Support Systems Integration/Transition																												
	▲		▼		▲			▼	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼
Improved Manpower and Personnel Integration Tool					IMPI																							
			▲	▼																								
FNWC CM Refresh Early Prototypes																												
	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼
Training Capacity Tradeoff Model																												
	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼
WCM Enhancements																												
	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼
Virtual World Virtual Training																												
	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼	▲			▼
Applicant Relationship Management					ARM																							
			▲	▼				▲	▼	▼																		
NMRS Advanced Analytics																												
NWC KM and Web																												

2015PB - 0604703N - 1822 Up=Demonstration; Down=Prototype & Documentation

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604727N / Joint Standoff Weapon Systems							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	876.342	5.490	0.442	4.400	-	4.400	0.409	0.433	0.436	0.444	3.353	891.749
2068: Joint Standoff Weapon (JSOW)	876.342	5.490	0.442	4.400	-	4.400	0.409	0.433	0.436	0.444	3.353	891.749
MDAP/MAIS Code: 766												
# The FY 2015 OCO Request will be submitted at a later date.												
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 FYDP 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 2013-2015 includes funding for development, integration, qualification and follow-on developmental and operational test and evaluation of a Network Enabled Weapon (NEW) 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 2013-2015 includes funding to integrate new functionality of the Common Unique Planning Component (CUPC) into the joint mission planning systems and precision guided munitions planning system.												
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 NATO aircraft.												

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604727N / <i>Joint Standoff Weapon Systems</i>
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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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	5.518	0.442	0.425	-	0.425
Current President's Budget	5.490	0.442	4.400	-	4.400
Total Adjustments	-0.028	-	3.975	-	3.975
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.004	-			
• Rate/Misc Adjustments	0.002	-	3.975	-	3.975
• Congressional General Reductions Adjustments	-0.026	-	-	-	-

**Change Summary Explanation**

Schedule: In March 2013 the JSOW program awarded a modification to the FRP7 and FRP8 contracts to add an annual delivery schedule to production AUR's. The deliveries were adjusted to incorporate this modification. The annual delivery schedule will continue in FRP9 and beyond.

Integrated Test IT-V and IT-VI were added in 2nd Qtr FY14 in order to align the JSOW C-1 with the F/A-18 H10 Operational Flight Program.

The contract was awarded in June 2013. FRP13 was removed due to FY17-FY19 production deferral.

JSOW C-1 IOC was moved from 4QFY14 to 3QFY15

FRP12 Deliveries were added and will begin in 3QFY17

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2068: Joint Standoff Weapon (JSOW)	876.342	5.490	0.442	4.400	-	4.400	0.409	0.433	0.436	0.444	3.353	891.749
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: Network Enabled Weapon (NEW)  Articles:  Description: Develop and integrate the NEW moving maritime target capability into JSOW-C, termed AGM-154C-1.  FY 2013 Accomplishments: Continued weapon qualification and follow-on Operational Test (OT) efforts.  FY 2014 Plans: Continue 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.									5.392	0.342	4.298	
									-	-	-	
Title: JSOW Common Unique Planning Component (CUPC)  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 2013 Accomplishments:									0.098	0.100	0.102	
									-	-	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
Resumed interoperability efforts for JSOW C-1.												
FY 2014 Plans: Continue interoperability efforts for JSOW C-1.												
FY 2015 Plans: Continue interoperability efforts for JSOW C-1.												
Accomplishments/Planned Programs Subtotals										5.490	0.442	4.400
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• USN WP,N BLI 223000: JSOW	120.201	117.594	130.759	-	130.759	159.940	-	-	-	1,764.705	4,202.148	
Remarks FY15 OSD MSR production deferral beginning FY17 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 (EMD) 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.												



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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering	MIPR	National Security Agency : Maryland	0.814	0.181	Nov 2012	-		-		-		-	-	0.995	0.995
System Engineering	WR	NAWCWD : China Lake, CA	110.003	0.322	Aug 2013	0.142	Nov 2013	0.199	Nov 2014	-		0.199	-	110.666	-
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	681.867	-		-		-		-		-	-	681.867	-
Subtotal			792.684	0.503		0.142		0.199		-		0.199	-	793.528	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development - JMPS	SS/CPFF	Lockheed Martin Systems Integration : King of Prussia, PA	5.620	0.098	Aug 2013	0.100	Dec 2013	0.102	Dec 2014	-		0.102	5.075	10.995	5.075
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	8.007	-		-		-		-		-	-	8.007	-
Subtotal			13.627	0.098		0.100		0.102		-		0.102	5.075	19.002	-
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Int Test and Evaluation	WR	NAWCWD : China Lake, CA	33.662	-	Apr 2013	0.100	Nov 2013	-		-		-	-	33.762	-
Oper Test and Evaluation	WR	COMOPTEVFOR : Norfolk, VA	10.865	4.889	Aug 2013	0.100	May 2014	4.099	Oct 2014	-		4.099	-	19.953	-
Subtotal			44.527	4.889		0.200		4.099		-		4.099	-	53.715	-

## UNCLASSIFIED

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604727N / Joint Standoff Weapon Systems				<b>Project (Number/Name)</b> 2068 / Joint Standoff Weapon (JSOW)					

Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	-
<b>Subtotal</b>			25.504	-		-		-		-		-	-	25.504	-

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	876.342	5.490	0.442	4.400	-	4.400	5.075	891.749	-

**Remarks**

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

Date: March 2014

Appropriation/Budget Activity

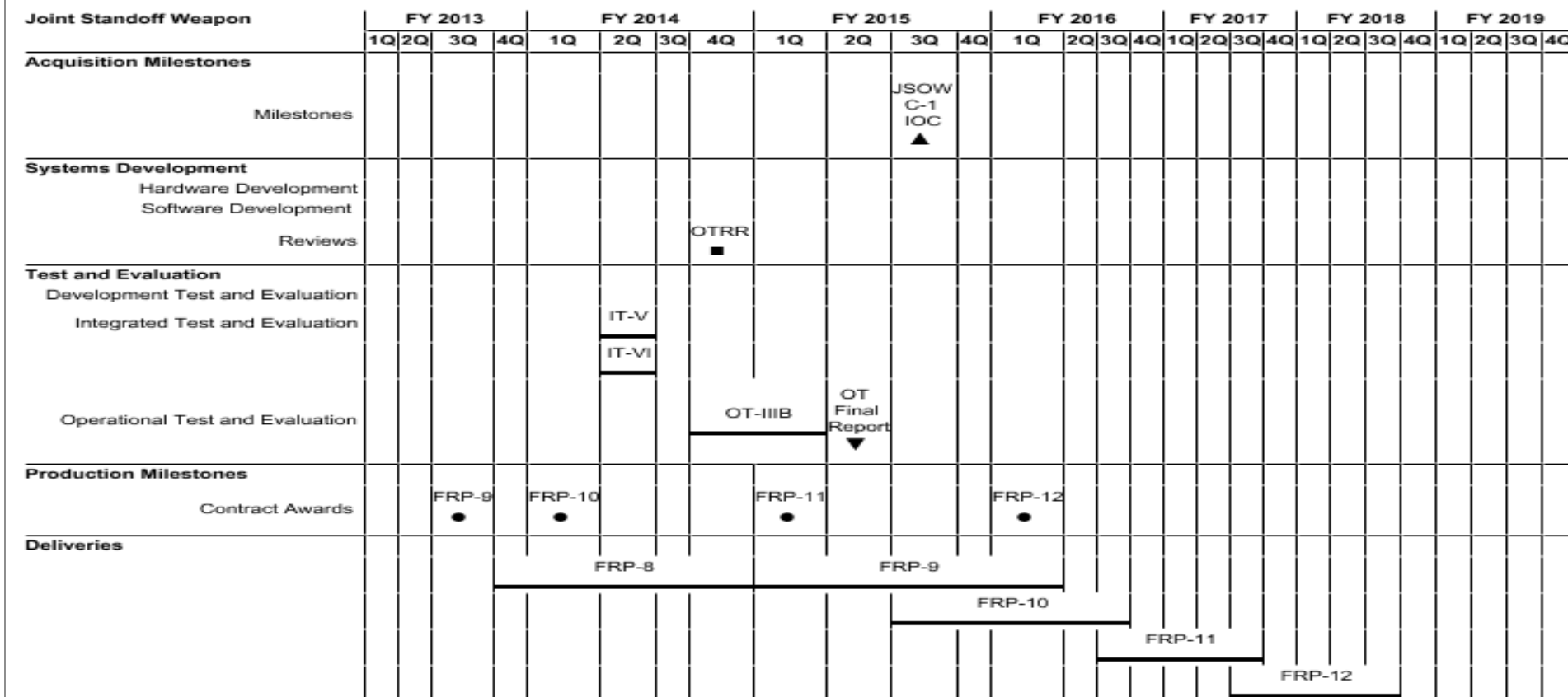
1319 / 5

R-1 Program Element (Number/Name)

PE 0604727N / Joint Standoff Weapon Systems

Project (Number/Name)

2068 / Joint Standoff Weapon (JSOW)



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604727N / <i>Joint Standoff Weapon Systems</i>	<b>Project (Number/Name)</b> 2068 / <i>Joint Standoff Weapon (JSOW)</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>Joint Standoff Weapon</i></b>				
Acquisition Milestones: Milestones: Initial Operational Capability C-1	3	2015	3	2015
Systems Development: Reviews: Operational Test Readiness Review	4	2014	4	2014
Test and Evaluation: Integrated Test and Evaluation: Network Enabled Weapon/ Moving Target/AGM-154C-1 Integrated Test (IT-V)	2	2014	2	2014
Test and Evaluation: Integrated Test and Evaluation: Network Enabled Weapon/ Moving Target/AGM-154C-1 Integrated Test (IT-VI)	2	2014	2	2014
Test and Evaluation: Operational Test and Evaluation: Network Enabled Weapon/ Moving Target/AGM-154C-1 Operational Test (OT-IIIB)	4	2014	1	2015
Test and Evaluation: Operational Test and Evaluation: AGM-154C-1 JSOW Operational Test Agency Follow-On Evaluation Report OT-IIIB Final Report	2	2015	2	2015
Production Milestones: Contract Awards: FRP-9 Award AGM-154C-1	3	2013	3	2013
Production Milestones: Contract Awards: FRP-10 Award AGM-154C-1	1	2014	1	2014
Production Milestones: Contract Awards: FRP-11 Award AGM-154C-1	1	2015	1	2015
Production Milestones: Contract Awards: FRP-12 Award AGM-154C-1	1	2016	1	2016
Deliveries: FRP-8 Deliveries- AGM-154C-1	4	2013	4	2014
Deliveries: FRP-9 Deliveries- AGM-154C-1	1	2015	1	2016
Deliveries: FRP-10 Deliveries- AGM-154C-1	3	2015	3	2016
Deliveries: FRP-11 Deliveries- AGM-154C-1	3	2016	3	2017
Deliveries: FRP-12 Deliveries- AGM-154C-1	3	2017	3	2018

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					PE 0604755N / Ship Self Def (Detect & Cntrl)							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	721.472	78.226	95.604	56.889	-	56.889	116.837	120.762	127.440	81.200	Continuing	Continuing
2178: QRCC	698.591	72.425	88.340	50.530	-	50.530	109.806	114.206	120.100	76.014	Continuing	Continuing
3172: Joint Non-Lethal Weapons	21.256	5.058	5.170	4.213	-	4.213	4.851	4.377	5.195	3.006	Continuing	Continuing
3306: Integrated Swimmer Defense (ISD)	1.625	0.743	1.013	1.026	-	1.026	1.044	1.086	1.082	1.106	Continuing	Continuing
3358: SSDS Training Improvement Program	0.000	-	1.081	1.120	-	1.120	1.136	1.093	1.063	1.074	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## A. Mission Description and Budget Item Justification

This program element consolidates currently ongoing and planned programmatic 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 detect and control functions necessary to meet the rigorous SSD requirements.

Quick Reaction Combat Capability (QRCC, PU2178) / Ship Self Defense System (SSDS) Training Improvement Program (PU3358): Multi-sensor integration, parallel processing and the coordination of hard-kill / soft-kill capabilities in an automated, doctrine-based response to the ASCM threats 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). The SSDS Training Improvement Program (PU 3358) is for the integration of Total Ship Training Capability (TSTC) improvements into the SSDS Advanced Capability Build (ACB) and Technology Insertion (TI) efforts under QRCC (PU 2178).

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.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy			Date: March 2014			
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0604755N / Ship Self Def (Detect & Cntrl)				
<p>SSDS MK2 integrates new combat system war-fighting capabilities and improvements on phased basis via ACB, TI, the Fire Control Loop Improvement Project (FCLIP), and Accelerated Mid-Term Interoperability Improvement Project (AMIIP). 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 ACB capabilities.</p> <p>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.</p> <p>Non-Lethal Weapons (PU 3172) provides a long range laser warning and dazzle systems 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.</p>						
B. Program Change Summary (\$ in Millions)		FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget		87.662	130.360	118.266	-	118.266
Current President's Budget		78.226	95.604	56.889	-	56.889
Total Adjustments		-9.436	-34.756	-61.377	-	-61.377
• Congressional General Reductions		-	-0.006			
• Congressional Directed Reductions		-	-34.750			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-1.907	-			
• Program Adjustments		-	-	-49.095	-	-49.095
• Rate/Misc Adjustments		0.001	-	-12.282	-	-12.282
• Congressional General Reductions Adjustments		-7.530	-	-	-	-
Change Summary Explanation						
FY 2013 Reductions includes sequestration, SIBR/STTR Transfer, and Miscellaneous rate adjustments.						
FY14 Changes includes Congressional Program Decreases for Project 2178 and 3172 and Miscellaneous rate adjustments.						
FY15 Changes includes Program Reduction for Project 2178, Department's decision to reduce contracted services, and miscellaneous rates adjustments.						

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
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)	
<p>For Project 2178, FY15 program changes includes reductions in Project 2178 for a 2-year delay in the SSDS MK 2 Advanced Capability Build (ACB)-16; 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. With the delay, ACB-16 has been re-designated 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 MK 2 ships will receive ACB-12 capability baseline and specific fire control loop improvements, in lieu of ACB-16.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2178: QRCC	698.591	72.425	88.340	50.530	-	50.530	109.806	114.206	120.100	76.014	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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.

SSDS MK2 integrates new combat system war-fighting capabilities and improvements on phased basis via ACB, TI, the Fire Control Loop Improvement Project (FCLIP), and Accelerated Mid-Term Interoperability Improvement Project (AMIIP). 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 ACB capabilities.

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 displays (AN/UYQ-70 and Common Display System) and command table for human-system interface, commercially based network 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.



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604755N / <i>Ship Self Def (Detect &amp; Cntrl)</i>	<b>Project (Number/Name)</b> 2178 / <i>QRCC</i>
<p>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.</p> <p>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 Pre-Planned Product Improvement (P3I) Commercial off the Shelf (COTS) Tech Refresh. 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 was rehosted existing tactical computer program applications to the Open Architecture Computing Environment (OACE) specifications with equipment suites concurrent with P3I COTS Tech Insertion (TI) cycles, prior to migration and integration with other 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. 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. 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 is programmed for FY14 installation after land-based Combat System Integration and Certification Testing with 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 JUWL up-link, RAM Block 2 and CV-TSC); integration of new interfaces with SEWIP Block 2 ES, and MH-60R; integration of Common Processors System and Common Display System; and expansion of SSDS MK 2 Local Area Network (LAN) to OA Combat System LAN. 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-20 (previously designated as ACB-16) and TI-16. ACB-20 warfighting improvement integration plan candidates include FCLIP, AMIIP-next, SEWIP Block 2 with automated radar designation decoy launch, SEWIP Block 3 with Electronic Attack, ESSM Block 2 missile, CIWS, interoperability with IFF Mode 5/S and Joint Strike Fighter, integration of sensor / track data from multiple MH-60R Helicopters, Total Ship Training Capability (TSTC) updates and GCCS-M Data Exchange via CANES. TI-16 will include common enterprise COTS Hardware / Software products for computing, storage, display, network switching, conversion, and information assurance devices to support system and equipment modernization driven by COTS obsolescence. Funds were added in FY13 for the integration and test of SSDS MK2 Link16 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.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604755N / Ship Self Def (Detect & Cntrl)	Project (Number/Name) 2178 / QRCC		
The 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 in the lead ships for specific ship class Combat System configuration and Live Fire testing in the Self Defense Test Ship. 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 Self Defense Test Ship (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 in the SDTS in FY07/08/09 in the CVN/LHD/LPD configurations. FOT&E of ESSM integration with SSDS MK 2 was initiated in the CVN class in FY08 and will extend through FY14. FOT&E for the CVN class SSDS MK 2 Mod 1B P3I OACE COTS TI was conducted in FY09. Future FOT&E includes the LHA 6 SSDS MK 2 Mod 4B configuration with the RAM Block 2 missile, ESSM, AMIIP and FCLIP; 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 2013	FY 2014	FY 2015
Title: SSDS MK2 Development Test & Evaluation			21.261	21.992	17.127
Articles:			-	-	-
FY 2013 Accomplishments:					
For CVN/LPD24/LHA 6 SSDS MK2 Mod 1B/2B/4B Configurations with RAM Block 2 integration and Linux OACE:					
- Conduct Land Based system integration and engineering test at Wallops Island for LHA 6;					
- Conduct Live Fire At Sea Testing for LHA 6 in the SDTS - Enterprise Test 05 Phase 1.					
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 Wallops Island (WI) and Combat System Test (CST) at Integrated Combat System Test Facility (ICSTF), NSWC-Dahlgren for CVN70/74/77 for certification Objective Quality Evidence (OQE).					
For LSD SSDS MK2 Mod 5C configuration with the Phalanx CIWS Block 1B Baseline 2, RAM Block 2 and CPS/CDS equipment:					
- Complete Land Based system integration test and initiate engineering and Combat System Test (CST) at WI for LSD 50.					
For CVN78 SSDS MK2 Mod 6C configuration with DBR, CEC, UPX-29, PL STM and OACE equipment:					
- Initiate Land Based system integration and engineering tests for CVN78 SSDS MK2 Engineering Software Releases for DBR Track capabilities at Wallops Island. This includes integration with CEC, TPX-42, and PL STM.					
FY 2014 Plans:					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604755N / <i>Ship Self Def (Detect &amp; Cntrl)</i>	<b>Project (Number/Name)</b> 2178 / <i>QRCC</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p>For CVN/LPD24/LHA6 SSDS MK2 Mod 1B/2B/4B Configurations with RAM Block 2 integration, Linux OACE, and AMIIP / FCLIP phase 1:</p> <ul style="list-style-type: none"> <li>- Conduct Land Based Development Test at WI and CST at ICSTF for CVN 68/71/75/76 and LHA6 for certification.</li> <li>- Conduct Live Fire At Sea Testing for LHA 6 in SDTS - Enterprise Test 05 Phase 2.</li> </ul> <p>For CVN/LHD/LPD SSDS MK2 MOD 1A/2A/3A configurations with AMIIP/FCLIP phase 1:</p> <ul style="list-style-type: none"> <li>- 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.</li> </ul> <p>For LSD SSDS MK2 Mod 5C configuration with the Phalanx CIWS Block 1B Baseline 2, RAM Block 2 and CPS/CDS equipment:</p> <ul style="list-style-type: none"> <li>- Complete Engineering Tests, Development Test / Operational Assessment, and CST at WI for LSD50.</li> </ul> <p>For CVN78 SSDS MK2 Mod 6C configuration with DBR, CEC, TPX-42, PL STM, UPX-29, ESSM, MK29 launcher, RAM Block2, and TPX-42.</p> <ul style="list-style-type: none"> <li>- Conduct Land Based system integration and engineering tests for CVN78 SSDS MK2 Engineering Software Releases at Wallops Island for the fire control loop including 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. The testing will also include integration test with TPX-42, TADIL and Air Control.</li> </ul> <p><b>FY 2015 Plans:</b></p> <p>For CVN/LPD24/LHA6 SSDS MK2 Mod 1B/2B/4B Configurations with RAM Blk 2 integration, Linux OACE, and AMIIP/FCLIP phase 1:</p> <ul style="list-style-type: none"> <li>- Conduct DT/OT (IIIH Phase2 / ET06) and CSSQT on LHA6.</li> </ul> <p>For LSD SSDS MK2 Mod 5C configuration with the Phalanx CIWS Block 1B Baseline 2, RAM Block 2 and CPS/CDS equipment:</p> <ul style="list-style-type: none"> <li>- Conduct DT/OT-III(I) Phase 2 / ET14 and Combat System Ship Qualification Trial (CSSQT) on LSD50.</li> <li>- Conduct Live Fire At Sea Testing for LSD MOD 5C in SDTS - Enterprise Test 12.</li> </ul> <p>For CVN78 SSDS MK2 Mod 6C configuration with DBR, CEC, TPX-42, PL STM, UPX-29, ESSM, MK29 launcher, and RAM Block2.</p> <ul style="list-style-type: none"> <li>- Conduct 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.</li> </ul>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604755N / <i>Ship Self Def (Detect &amp; Cntrl)</i>	<b>Project (Number/Name)</b> 2178 / <i>QRCC</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
- Conduct Combat System Assessment (CSA) Test at Wallops Island to deliver an integrated Combat System software package for CVN78 Combat System Light-off during construction.			<b>FY 2015</b>
<b>Title:</b> SSDS MK2 Product Development-Advanced Capability Builds (ACB)/Technology Insertion		51.164	66.348
<b>Articles:</b>		-	33.403
<b>FY 2013 Accomplishments:</b> Perform SSDS MK 2 System Development including 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, Engineering Development Model (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, DT&E (land-based and at-sea).  For LSD SSDS MK 2 Mod 5C Tech Insertion, conduct pre and post certification support for Land Based engineering tests, development tests, and Combat System certification test for Objective Quality Evidence (OQE). This includes data analysis, resolution of software trouble reports and technical support.  For CVN 78 SSDS MK 2 Mod 6C, complete software code and unit test for phase 1 of software development for DBR track capability and DBR power and cooling system integration; and complete software IPRs for the design of phase 2 software for integration of ESSM with (Joint Universal Weapons Link (JUWL) up-link, RAM Block2, TADIL-J and Air Control.  For SSDS MK2 AMIIP / FCLIP 1 for designated in-service carriers, complete software development and integration of SSDS MK2 Link 16 improvements. Transition to Combat System interoperability and certification testing.  For ACB 20, initiate threat and capability analysis to support Capability Phasing Plan (CPP) and Concept Of Integration (COI) for mission essential Combat System capability improvements (FCLIP, AMIIP and C4I integration).  For TI-16, initiate engineering for Combat System/SSDS MK2 equipment architecture and SSDS MK2 equipment system requirement documents/specifications.		-	-
<b>FY 2014 Plans:</b> Perform SSDS MK 2 System Development including 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,			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604755N / <i>Ship Self Def (Detect &amp; Cntrl)</i>	<b>Project (Number/Name)</b> 2178 / <i>QRCC</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p>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, DT&amp;E (land-based and at-sea).</p> <p>For CVN 78 SSDS MK 2 Mod 6C, complete 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 FY16 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.</p> <p>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 the LHD 2 CAPSTONE modernization.</p> <p>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.</p> <p>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 (FCLIP, AMIIP and C4I integration).</p> <p>For SSDS MK2 TI-16, initiate full scale development of specific TI-16 equipment. Conduct IPR, System Requirement Review (SRR) and System Functional Review (SFR) for SSDS MK2 TI-16 physical architecture. Initiate equipment design and conduct Preliminary Design Review (PDR).</p> <p><b>FY 2015 Plans:</b></p> <p>Perform SSDS MK 2 System Development including 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, DT&amp;E (land-based and at-sea).</p> <p>For CVN 78 SSDS MK 2 Mod 6C, complete SSDS MK2 software design, code, test, and integration for the CVN78 PSA/CSSQT baseline including AMIIP. Complete FSIT 2 and Factory Qualification Test(FQT) 1 and provide support for Land Based integration</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604755N / Ship Self Def (Detect & Cntrl)				Project (Number/Name) 2178 / QRCC				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
and engineering tests. Continue development of operator and maintenance training courses for SSDS MK 2 Mod 6C ACB-12/ TI-12.												
For LHD 2 SSDS MK2 MOD 3C ACB12 / TI12, complete the SSDS MK2 software modifications and integration for the LHD 2 CAPSTONE modernization.												
For SSDS MK2 ACB-20, complete Capability Phasing Plan and Concept of Integration for the mission essential Combat System Capability improvements (FCLIP, AMIIP and C4I integration).												
Accomplishments/Planned Programs Subtotals										72.425	88.340	50.530
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN/5239: SSDS	52.875	51.858	30.763	-	30.763	63.732	60.187	60.184	61.351	Continuing	Continuing	
• RD TEN/0603382N: Advanced Combat System Technology	1.345	-	-	-	-	-	-	-	-	Continuing	Continuing	
• RD TEN/0603658N: Cooperative Engagement	50.058	52.572	43.578	-	43.578	73.429	63.082	75.334	76.764	Continuing	Continuing	
• RD TEN/0603582N: Combat System Integration	33.208	-	11.528	-	11.528	24.147	23.033	21.377	21.825	Continuing	Continuing	
• RD TEN/0604307N: Surface Combatant Cmbt Sys Eng	232.441	202.528	180.118	-	180.118	274.021	178.667	184.402	234.750	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 P3I COTS Tech Insertion.												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604755N / <i>Ship Self Def (Detect &amp; Cntrl)</i>	<b>Project (Number/Name)</b> 2178 / QRCC
<p>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, and the software migration of ACB12 to TI16 for Amphibious Assault Ships (LHD/LPD). For SSDS MK2 TI-16, the SSDS project will 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.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>Requirement Documents</p> <ul style="list-style-type: none"> <li>- Capability Development Document (CDD) for Ship Self Defense System (SSDS) MK2 approved 19 December 2013.</li> <li>- Test and Evaluation Master Plan (TEMP No. 1400) For Ship Self Defense System (SSDS) Revision B, 5 Mar 2008.</li> </ul> <p>Background</p> <ul style="list-style-type: none"> <li>- SSDS MK1 OPEVAL was successfully completed June 1997 with a Milestone III approval in March 1998</li> <li>- SSDS MK2 MOD 1 FOT&amp;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).</li> <li>- SSDS MK 2 Mod 2 FOT&amp;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).</li> <li>- SSDS MK 2 Mod 3A FOT&amp;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).</li> <li>- SSDS MK2 FOT&amp;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).</li> </ul> <p>Status</p> <ul style="list-style-type: none"> <li>- The Director, Operational Test and Evaluation (DOT&amp;E) FY 2012 Annual Report 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.</li> </ul>		

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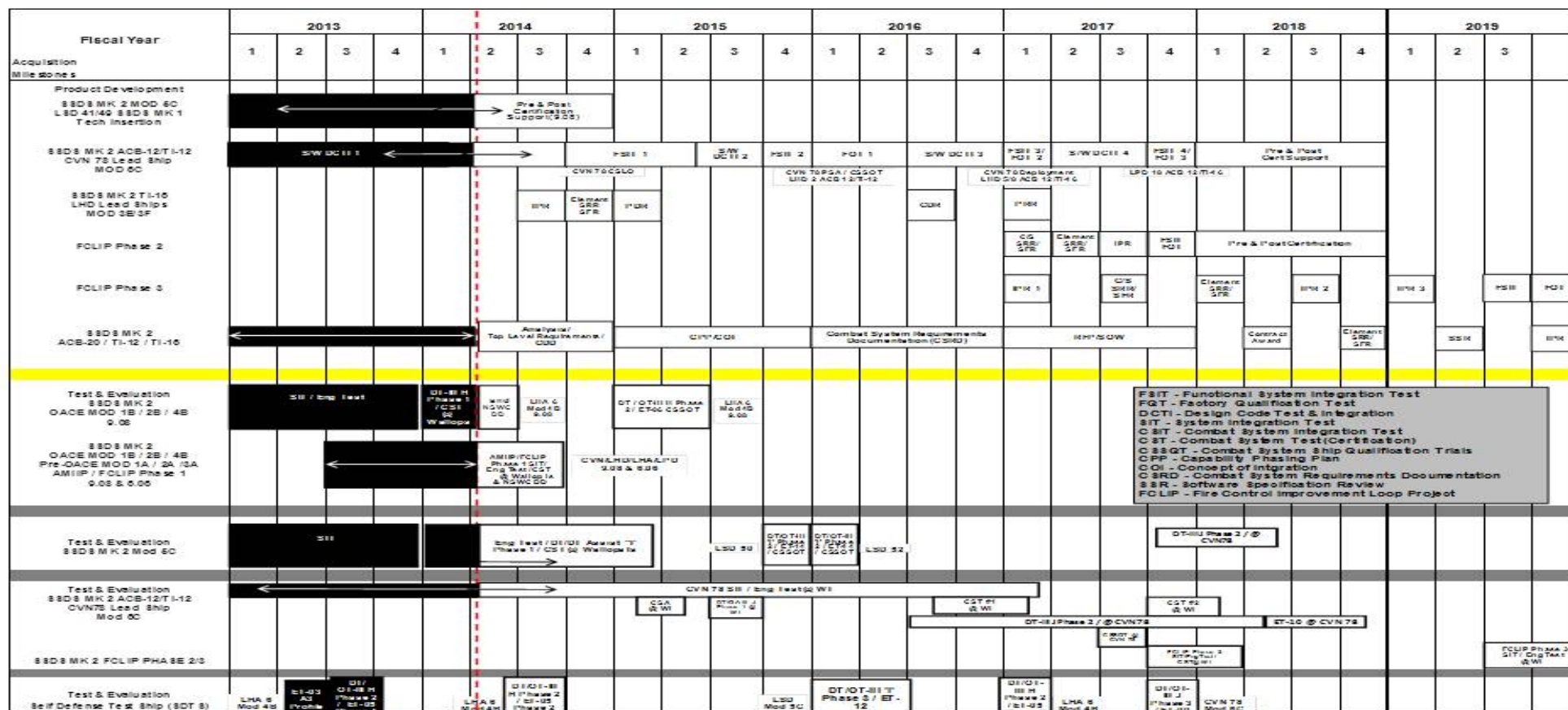
<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604755N / <i>Ship Self Def (Detect &amp; Cntrl)</i>	<b>Project (Number/Name)</b> 2178 / <i>QRCC</i>
<p>- SSDS was assessed 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.</p> <p>- 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.</p> <p>- OPNAV N96 is working with PEO IWS, DASN, and COTF to address the shortfalls in performance testing with the following initiatives:</p> <p>a. Continue to 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.</p> <p>b. Expand the use of Modeling and Simulation. Exploit the PRA test-bed model for system engineering and predictive analysis.</p> <p>c. Consider high return self-defense improvements through the POM process with FCLIP and Advanced Capability Builds (ACB).</p> <p>- Corrective actions will be validated by follow-on testing during the FY14 to FY17 time period: CVN 68 class / LHA 6 SDTS events; verification of Correction of Deficiencies (VCD); new targets &amp; threat representations; and expansion of PRA test-bed to the CVN 78 and LHA 6 ship classes.</p>		



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Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity  
1319 / 5R-1 Program Element (Number/Name)  
PE 0604755N / Ship Self Def (Detect & Cntrl)Project (Number/Name)  
2178 / QRCC

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3172: Joint Non-Lethal Weapons	21.256	5.058	5.170	4.213	-	4.213	4.851	4.377	5.195	3.006	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 hailing devices. Current efforts are focused on the Long-Range Ocular Interrupter (LROI), which 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 2013	FY 2014	FY 2015	
Title: Joint Non-Lethal Weapons Development									3.658	3.170	2.813	
									Articles: -	-	8.000	
FY 2013 Accomplishments:												
Updated the LROI Program Life Cycle Cost Estimate (PLCCE) to account for development of 290 systems. Initiated development of LROI as a Rapid Deployment Capability (RDC) and developed the RDC Acquisition Strategy. Completed LROI System Requirements Review (SRR) and System Functional Review (SFR).												
FY 2014 Plans:												
Support engineering design and development for LROI RDC. Perform Preliminary Hazard Assessment and Safety Hazard Analysis. The increase in FY 2014 funding is driven by the higher-cost engineering and design activities such as refining concept designs, procuring/manufacturing hardware, manufacturing prototypes, conducting engineering assessments of prototypes, fabricating production representative models (PRMs), and conducting performance evaluations of PRMs. Concurrently, we will be developing LROI program of record transition strategy and documentation in accordance with Department of Defense statutory and regulatory requirements.												
FY 2015 Plans:												
Complete LROI RDC system design and development, conduct environmental testing, and deploy initial 8 systems to Navy Expeditionary Combat Command (NECC). Develop all statutory and regulatory documentation required to support the milestone												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy							<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604755N / Ship Self Def (Detect & Cntrl)			<b>Project (Number/Name)</b> 3172 / Joint Non-Lethal Weapons			

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
decision. Conduct Laser Safety Review Board, develop training manuals, and Operations & Maintenance Guide. Continue program of record documentation development and complete the program of record transition strategy.						
<b>Title:</b> Non-Lethal Weapons Testing				1.400	2.000	1.400
<b>Articles:</b>				-	-	4.000
<b>FY 2013 Accomplishments:</b> Developed LROI RDC Test Plans. Procured long-lead test article components.						
<b>FY 2014 Plans:</b> Perform engineering assessment and testing of LROI subassemblies.						
<b>FY 2015 Plans:</b> Perform Quick Reaction Assessment (QRA) testing on LROI test assets. Perform developmental testing in an operational setting and conduct environmental testing on LROI test assets.						
<b>Accomplishments/Planned Programs Subtotals</b>				5.058	5.170	4.213

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• OPN/8128: NCW Forces Active	0.350	0.518	1.236	-	1.236	0.440	5.940	6.418	8.061	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
The initial LROI systems are being designed, developed and deployed as an RDC. The Naval Surface Warfare Center Dahlgren Division (NSWC DD) is designing and developing the LROI RDC systems. A Technical Data Package (TDP) will be developed in conjunction with the RDC which will be included in the Request for Proposal (RFP) to industry. The RFP including the TDP will be provided to industry to solicit offers for the production of 290 LROI systems.											
<b>E. Performance Metrics</b>											
Complete engineering manufacturing design and technical data package. Develop Joint Capabilities Integration and Development System (JCIDS)-based requirements document including key system attributes and key performance parameters.											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014																																																						
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604755N / <i>Ship Self Def (Detect &amp; Cntrl)</i>				<b>Project (Number/Name)</b> 3306 / <i>Integrated Swimmer Defense (ISD)</i>																																																							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>																																																				
3306: <i>Integrated Swimmer Defense (ISD)</i>	1.625	0.743	1.013	1.026	-	1.026	1.044	1.086	1.082	1.106	Continuing	Continuing																																																				
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-																																																						
<p># The FY 2015 OCO Request will be submitted at a later date.</p> <p><b>A. Mission Description and Budget Item Justification</b>            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.</p> <p><b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b></p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td align="center"><b>FY 2013</b></td> <td align="center"><b>FY 2014</b></td> <td align="center"><b>FY 2015</b></td> </tr> <tr> <td><b>Title:</b> Integrated Swimmer Defense</td> <td align="right">0.743</td> <td align="right">1.013</td> <td align="right">1.026</td> </tr> <tr> <td align="right"><b>Articles:</b></td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> </tr> <tr> <td colspan="4"><b>FY 2013 Accomplishments:</b> Developed project documentation. Finalized P-SPEC.</td> </tr> <tr> <td colspan="4"><b>FY 2014 Plans:</b> Gain CPD approval and release/award Test Article contract.</td> </tr> <tr> <td colspan="4"><b>FY 2015 Plans:</b> Receive Test Articles and begin integrated Test &amp; Evaluation. Gain TEMP approval.</td> </tr> <tr> <td align="right" colspan="2"><b>Accomplishments/Planned Programs Subtotals</b></td> <td align="right">0.743</td> <td align="right">1.013</td> </tr> </table> <p><b>C. Other Program Funding Summary (\$ in Millions)</b></p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td align="center"><b>FY 2013</b></td> <td align="center"><b>FY 2014</b></td> <td align="center"><b>FY 2015 Base</b></td> <td align="center"><b>FY 2015 OCO</b></td> <td align="center"><b>FY 2015 Total</b></td> <td align="center"><b>FY 2016</b></td> <td align="center"><b>FY 2017</b></td> <td align="center"><b>FY 2018</b></td> <td align="center"><b>FY 2019</b></td> <td align="center"><b>Cost To Complete</b></td> <td align="center"><b>Total Cost</b></td> </tr> <tr> <td>• OPN/8128: <i>ISD</i></td> <td align="center">-</td> <td align="right">1.587</td> <td align="right">0.461</td> <td align="center">-</td> <td align="right">0.461</td> <td align="right">0.025</td> <td align="right">2.895</td> <td align="right">2.818</td> <td align="right">3.722</td> <td align="center">Continuing</td> <td align="center">Continuing</td> </tr> </table> <p><b>Remarks</b></p>														<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Title:</b> Integrated Swimmer Defense	0.743	1.013	1.026	<b>Articles:</b>	-	-	-	<b>FY 2013 Accomplishments:</b> Developed project documentation. Finalized P-SPEC.				<b>FY 2014 Plans:</b> Gain CPD approval and release/award Test Article contract.				<b>FY 2015 Plans:</b> Receive Test Articles and begin integrated Test & Evaluation. Gain TEMP approval.				<b>Accomplishments/Planned Programs Subtotals</b>		0.743	1.013		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	• OPN/8128: <i>ISD</i>	-	1.587	0.461	-	0.461	0.025	2.895	2.818	3.722	Continuing	Continuing
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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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)
<b>D. Acquisition Strategy</b> 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.		
<b>E. Performance Metrics</b> User Operational Evaluation Systems (UOES) will culminate defined set of system capabilities and limitations. Define level specifications and technical data packages.		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3358: SSDS Training Improvement Program	-	-	1.081	1.120	-	1.120	1.136	1.093	1.063	1.074	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
The SSDS Training Improvement Program project (PU 3358) effort is dependent on the execution of the SSDS MK2 ACB-20 and TI-16 efforts under PU 2178 (QRCC). PU 3358 funds the integration of Total Ship Training Capability (TSTC) improvements into the SSDS MK2 ACB-20 baseline and TI-16 configuration. The integrated SSDS MK2 TSTC improvements will be included in the SSDS MK2 ACB-20 and TI-16 documentation, testing and certification. The planning schedule for SSDS MK2 ACB-20 and TI-16 are documented in QRCC Project (PU 2178).												
A. Mission Description and Budget Item Justification												
The SSDS Training Improvement Program project is for the integration of Total Ship Training Capability (TSTC) improvements into the SSDS MK2 Advanced Capability Build (ACB-20) and Technology Insertion (TI-16) development efforts. 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 a common method for integrated control of simulated air and surface vehicles including Identification Friend and Foe (IFF), for an Integrated Air Asset Simulation / Stimulation unit, and for the use of SSDS MK2 TI-16 Open Architecture Computing Environment (OACE) for TSTC integration.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: New Accomplishment/Planned Program Entry									-	1.081	1.120	
									Articles: -	-	-	
FY 2013 Accomplishments: N/A												
FY 2014 Plans: Initiate Integrated Combat System engineering to determine top level requirements, capability phasing plan and concept of integration for the 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 and physical architecture including SSDS MK2 TI-16 physical architecture to integrate TSTC.												
Accomplishments/Planned Programs Subtotals									-	1.081	1.120	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> 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.		
<b>E. Performance Metrics</b> Requirement Documents - Ship Self Defense System (SSDS) Operational Requirement Document (ORD) 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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**Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0604756N / Ship Self Def (Engage: Hard Kill)
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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	610.388	52.815	43.303	96.937	-	96.937	120.542	79.394	190.523	165.559	Continuing	Continuing
0167: 5in Rolling Airframe Missile	203.589	1.250	1.315	12.705	-	12.705	14.425	13.317	6.064	0.833	Continuing	Continuing
0173: NATO Sea Sparrow	374.017	30.863	41.988	84.232	-	84.232	106.117	66.077	144.459	146.384	Continuing	Continuing
3342: Griffin Missile	32.782	20.702	-	-	-	-	-	-	-	-	-	53.484
9081: Phalanx CIWS SEARAM	0.000	-	-	-	-	-	-	-	40.000	18.342	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## 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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	64.079	50.209	82.731	-	82.731
Current President's Budget	52.815	43.303	96.937	-	96.937
Total Adjustments	-11.264	-6.906	14.206	-	14.206
• Congressional General Reductions	-	-0.006			
• Congressional Directed Reductions	-	-6.900			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.058	-			
• SBIR/STTR Transfer	-1.710	-			
• Program Adjustments	-	-	20.100	-	20.100
• Rate/Misc Adjustments	-0.001	-	-5.894	-	-5.894
• Congressional General Reductions	-5.495	-	-	-	-
Adjustments					

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0604756N / Ship Self Def (Engage: Hard Kill)	
<p><b><u>Change Summary Explanation</u></b></p> <p>The funding increase in FY15 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 System 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 1A and Block 2 Missiles, launcher software updates and updated interface to the combat system. FY15 funding increases also supports ESSM block 2 risk reduction and dual band transceiver development. The increases were offset by a decrease to the ESSM program due to Department decision to reduce contracted services and a decrease due to underexecution.</p>		

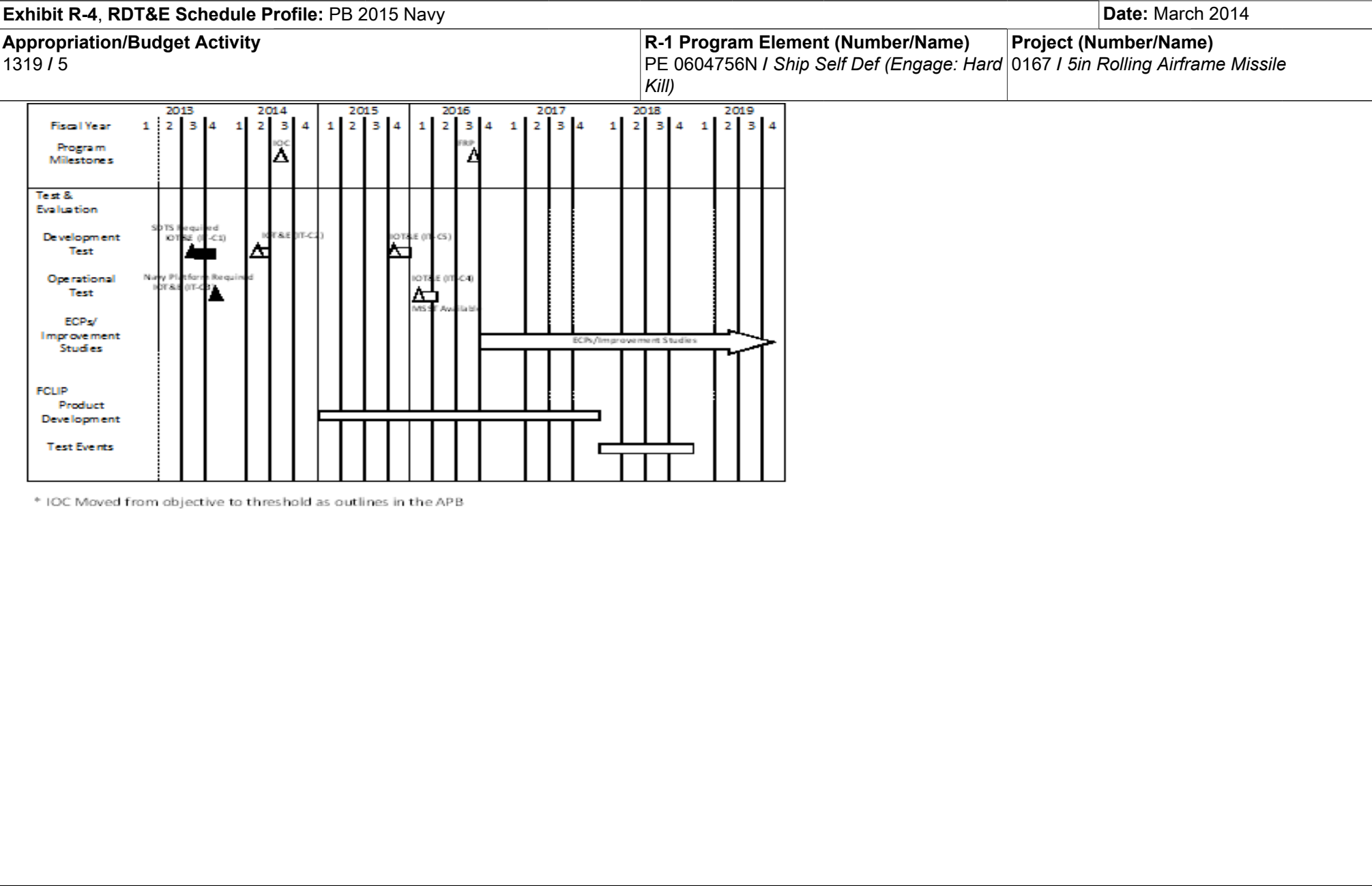
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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604756N / Ship Self Def (Engage: Hard Kill)				Project (Number/Name) 0167 / 5in Rolling Airframe Missile			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0167: 5in Rolling Airframe Missile	203.589	1.250	1.315	12.705	-	12.705	14.425	13.317	6.064	0.833	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 FY16, 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 2013	FY 2014	FY 2015	
Title: Rolling Airframe Missile Block 2 Development and Test  Articles:									1.164	1.236	12.628	
									-	-	-	
FY 2013 Accomplishments: Funded Block 2 integrated Operational Test and Evaluation (OT&E) (Development and Operational) IT-C1 and IT-C3 testing, analysis, incorporation of any changes and associated efforts to achieve Initial Operational Capability (IOC) decision.												
FY 2014 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 Full Rate Production (FRP) decision.												
FY 2015 Plans: Funds ongoing Integrated OT&E (Development and Operational) IT-C5 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 FCLIP process. Funding will deliver software baseline changes to the RAM Block 1A and Block 2 Missiles, launcher software updates and updated interface to the combat system.												
Title: Rolling Airframe Missile Block 2 Travel									0.086	0.079	0.077	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy							<b>Date:</b> March 2014				
<b>Appropriation/Budget Activity</b> 1319 / 5			<b>R-1 Program Element (Number/Name)</b> PE 0604756N / <i>Ship Self Def (Engage: Hard Kill)</i>			<b>Project (Number/Name)</b> 0167 / <i>5in Rolling Airframe Missile</i>					
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											
							<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>		
<i>Articles:</i>							-	-	-		
<b>FY 2013 Accomplishments:</b> Funded Program Office (PO) travel to support program/testing as required by program schedule and in accordance with travel reduction mandate.											
<b>FY 2014 Plans:</b> Funds PO travel to support program/testing as required by program schedule and in accordance with travel reduction mandate.											
<b>FY 2015 Plans:</b> Funds PO travel to support program/testing as required by program schedule and in accordance with travel reduction mandate.											
<b>Accomplishments/Planned Programs Subtotals</b>							1.250	1.315	12.705		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN 5238: RAM GMLS	1.074	0.491	-	-	-	-	-	-	-	Continuing	Continuing
• WPN 2242: RAM	60.371	65.943	80.792	-	80.792	82.249	83.748	104.438	106.518	Continuing	Continuing
• OPN 5231: <i>Ship Missile Support Equipment</i>	-	-	4.373	-	4.373	1.655	1.436	1.460	1.490	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b> The RAM Program uses directed sole source contracts with Raytheon Missile Systems Company, Tucson, AZ.											
<b>E. Performance Metrics</b> Successfully complete DT/OT. Achieve IOC decision and support a FRP decision.											

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0173: NATO Sea Sparrow	374.017	30.863	41.988	84.232	-	84.232	106.117	66.077	144.459	146.384	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

## **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 Warfare (AAW), Anti-Surface Warfare (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 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.
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.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
<p><b>Title:</b> Evolved SEASPARROW Missile (ESSM) testing</p> <p><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b> Conducted US-unique Developmental Test/Operational Testing (DT/OT) firings from Self Defense Test Ship (SDTS) and carriers (DT/OT-D2, DT/OT-D3). 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. Conducted ESSM DT/OT firings on SDTS (DT/OT-D7) in support of Ship Self Defense (SSDS) Open Architecture (OA) integration and uplink development. Provided the U.S. share of cooperative efforts associated with ESSM engineering studies and other development initiatives.</p> <p><b>FY 2014 Plans:</b> Continue ESSM SSDS integration testing on CVN platforms. Conduct US-unique Developmental Test/Operational Testing (DT/OT) firings from SDTS and carriers (DT/OT-D2, DT/OT-D3). Conduct 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. Conduct ESSM DT/OT firings on SDTS (DT/OT-D7) in support of SSDS Open Architecture integration and uplink development. This provides for the U.S. share of cooperative efforts associated with ESSM engineering studies and other development initiatives.</p> <p><b>FY 2015 Plans:</b> 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.</p>		8.614 -	9.207 -	9.800 -
<p><b>Title:</b> NATO SEASPARROW Objective Configuration (OC)</p> <p><b>Articles:</b></p> <p><b>Description:</b> 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).</p> <p><b>FY 2013 Accomplishments:</b> Developed the artifacts to support the OC program, team formation and tasking, contract supports including the Statement of Work (SOW) development, and all related review and adjudication of FY 13 meetings. Held several pre-review meetings and SE Integrated Product Team (IPT) Reviews and to date all requirements have been reviewed by the Technical Review Team/ Navy Review Team. Worked closely with Raytheon Integrated Defense System (RIDS), Portsmouth and RIDS Electronic Warfare</p>		8.903 -	4.080 -	- -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
Center (EWC) to drive and monitor Design Agent (DA) efforts and tasking. Preparations ongoing to support a Mk57 Mod (14)/(15) System Requirements Review (SSR)/System Functional Review (SFR).  <b>FY 2014 Plans:</b> The OC FY14 RDTE funding is 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. The SETR events planned include an October FY14 SSR/PDR and a CDR in March of FY14. Software code and unit test will proceed from CDR culminating in initial OCP2 software FQT/delivery in 3Q14.  <b>FY 2015 Plans:</b> NA				
Title: NATO Sea Sparrow Combat System Integraton Technical Direction Agent (TDA)  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> Acted as the TDA for NSSMS/Mk91 Systems. JHU/APL provided engineering support for the development of the Mk57 Mod (14)/ (15) and other Combat Systems support including Risk Mitigation. NSSMS TDA and SSDS TDA groups provided a top level review and update of the LHD Class P&CR documents, along with participation in the review of all Artifacts for OC Program and OC System Engineering (SE) Integrated Product Team (IPT) group meetings to date.  <b>FY 2014 Plans:</b> Continue as TDA for NSSMS/Mk91 System. Support will be provided to the OC ongoing efforts and well as any other N-20 directed combat systems support needs. APL will provide SE support in the development of the Mk29 Guided Missile Launching System (GMLS) Mid Life Upgrade.  <b>FY 2015 Plans:</b> 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.		0.263 -	0.272 -	0.282 -
Title: STALKER LONG RANGE EO/IR/LRF SYSTEM  <b>Articles:</b>  <b>Description:</b> 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/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.		5.083 -	2.429 -	1.500 -



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Tested Stalker Long Range EO/IR/LRF System on multiple ship configurations. Developed tactics, techniques and procedures, and different Concept of Operations (CONOPS). Determined optimum production configuration of controllers, video distribution, and changes in capability required for common system for LHA/LHD and CVN missions. Identified capability and configuration changes during developmental testing to avoid costly engineering changes during production.				
FY 2014 Plans: Transition Active/Passive Dual Imaging Sensor (AP/DIS IR) improvement to Stalker to improve environmental performance via active/passive Short Wave Infra Red. System improves maritime target identification with increased range and resolution at night and through haze penetration/clutter reduction.				
FY 2015 Plans: Speed to Fleet				
Title: Evolved SEASPARROW Blk 2 Risk Reduction		8.000	26.000	65.650
Articles:		-	-	-
FY 2013 Accomplishments: Performed risk reduction with consortium partners to reduce technology risk, determine and mature the appropriate set of technologies to be integrated into a full system.				
FY 2014 Plans: Continue work on the risk reduction phase to prepare for entry into the Engineering, Manufacturing, and Development (E&MD) phase of the program in FY15 with a planned IOC of FY2020. Tasks include conducting critical experiments and analysis required to mature the design to support and conduct PDR; procuring laboratory and test assets; Hardware (H/W) and Software (S/W) development; and releasing the E&MD RFP.				
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.				
Title: Dual Band Transceiver (DBT)		-	-	7.000
Articles:		-	-	-
FY 2013 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
N/A												
FY 2014 Plans: 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.												
Accomplishments/Planned Programs Subtotals										30.863	41.988	84.232
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• WPN 2307: ESSM	48.233	76.749	119.434	-	119.434	99.697	102.307	101.938	134.479	Continuing	Continuing	
• OPN 5237: NATO SEA SPARROW	8.227	58.368	-	-	-	-	-	-	-	Continuing	Continuing	
• OPN 5231: Ship Missile Defense	-	-	24.749	-	24.749	39.803	30.802	31.339	31.950	-	158.643	
Remarks												
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.												
E. Performance Metrics												
Successfully complete Developmental Test/Operational testing.												

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

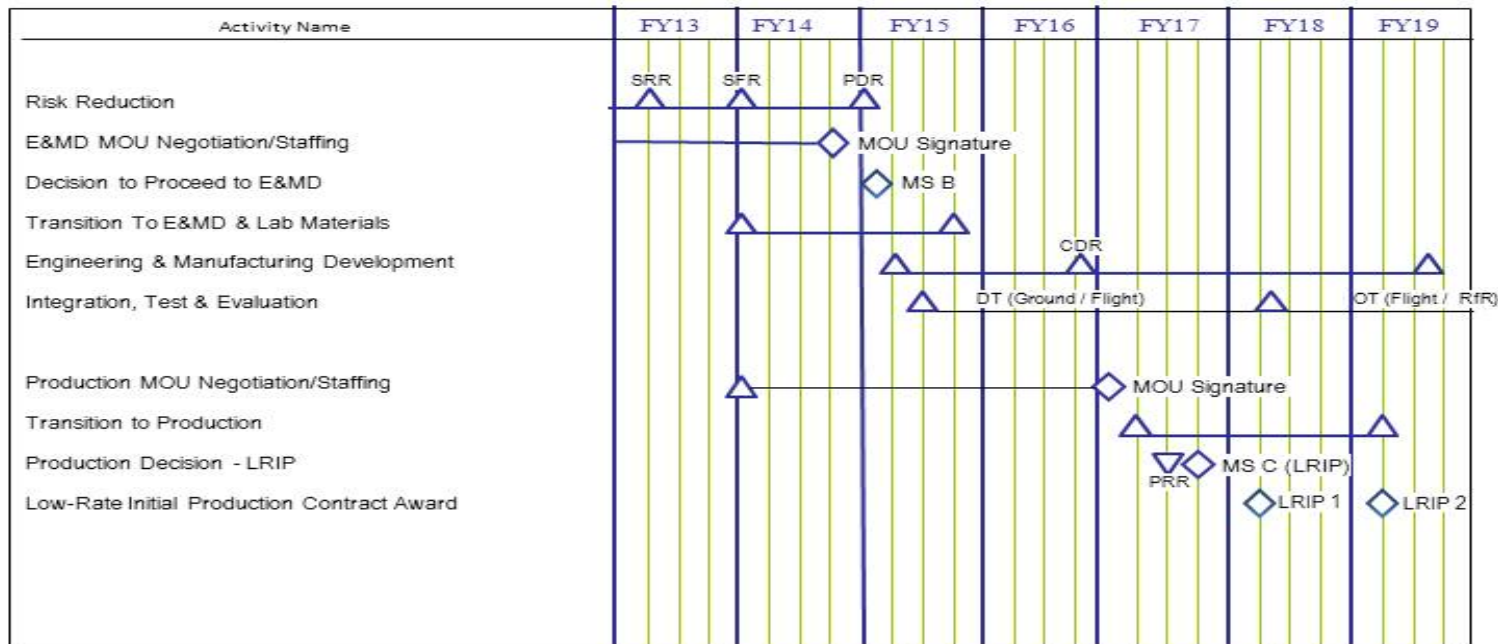
Date: March 2014

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0604756N / Ship Self Def (Engage: Hard Kill)

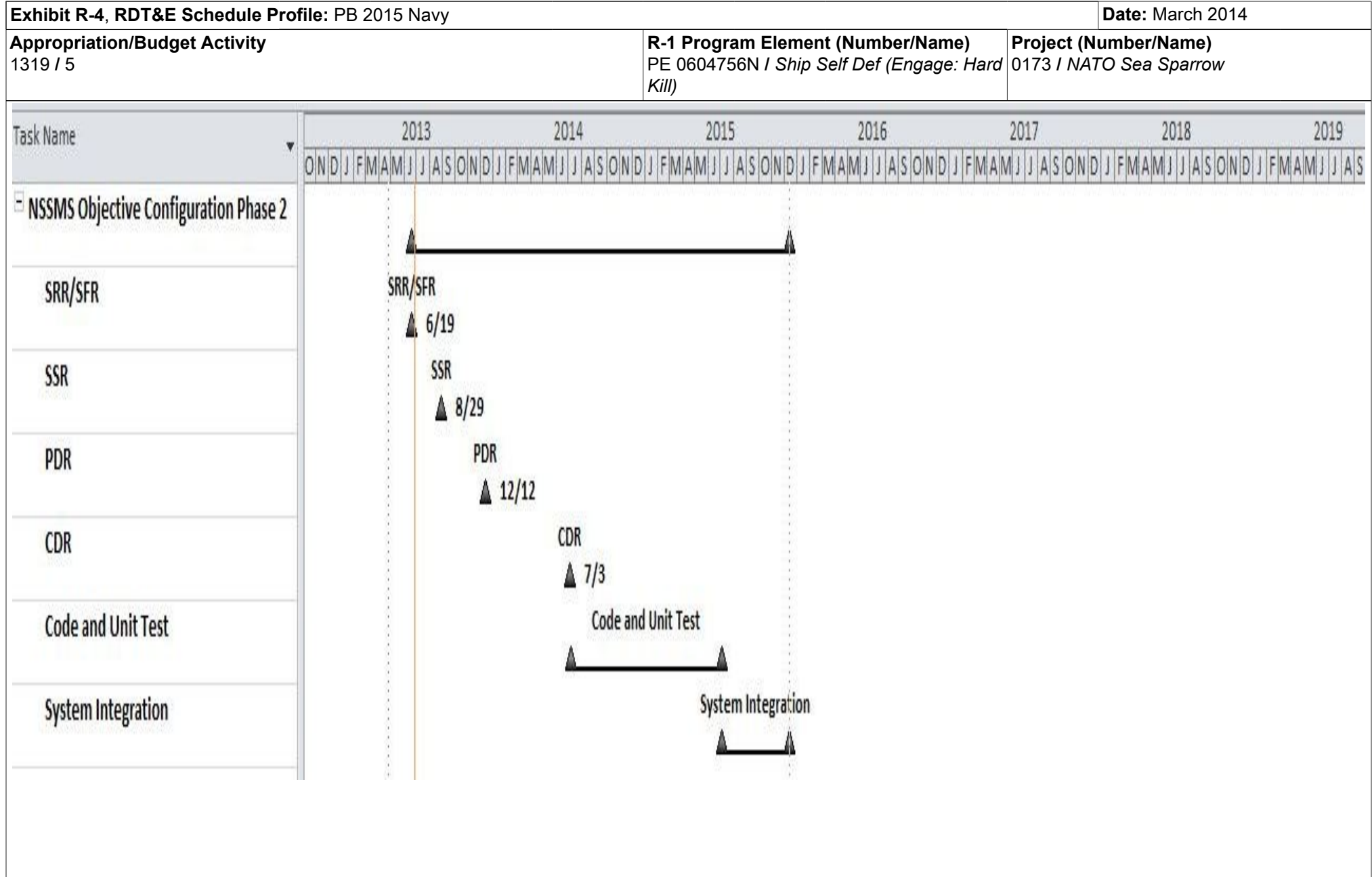
Project (Number/Name)  
0173 / NATO Sea Sparrow

## ESSM Block 2 POA&M



Attachment A

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604756N / Ship Self Def (Engage: Hard Kill)				Project (Number/Name) 3342 / Griffin Missile			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3342: Griffin Missile	32.782	20.702	-	-	-	-	-	-	-	-	-	53.484
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
The purpose of this program is to develop and deliver Counter-Swarm Small Boat defense capabilities for the Surface Fleet. There are two (2) primary efforts supporting this mission area listed below:												
1. Rapid Deployment Capabilities (RDCs)												
- Patrol Coastal(PC) with Griffin Missile System (GMS)												
- Littoral Combat Ship (LCS) Missile Module with GMS												
2. Shoulder Launched Missile System												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
Title: Griffin Missile System (GMS) Rapid Deployment Capabilities (RDCs)										14.869	-	-
										Articles: -	-	-
FY 2013 Accomplishments:												
Final year of PC Griffin RDTE funding. Mod 0 installed August 2013 and system IOC reached January 2014. Conducted Guided Test Vehicle (GTV)/structural test firing of Griffin missile and Quick Reaction Assessment (QRA) with Commander Operational Test and Evaluation Force (COMOPTEVFOR). Performed Delta live-fire testing events as required to prove out performance enhancements, comply with latest safety/Information Assurance directives and support Fleet required in-theater tests. Completed lead PC design, develop training and logistics support, obtain safety approvals for system deployment and formulate the OCONUS Alteration Installation Team (AIT) plan. Continued procurement planning for forward deployed PC hardware. Hardware and software upgrade continued to be implemented based on results of operational assessment. GMS fielded on PC ships. Continue to integrate a version of the Griffin missile with updated Operational Flight Software intended to improve performance against faster targets and in higher wind environments. This Mod 1 update included achieving full SAASM compliance, incorporating an "Indoctrination State" into the Battle Management Software (BMS), addressing Mod 0 sensor Boresight alignment issues, performing a service life analysis of the Griffin missile and incorporation of the sensor into the Patrol Coastal's dry air system. A live fire test of the Mod 1 system is planned for July 2014 and final certification of the system (including safety, logistics, Information Assurance) is planned for late September prior to the expiration of the RDTE funds. Live Fire testing events for PC GMS will occur in March 2014 in U.S. 5th Fleet (C5F) Area Of Responsibility (AOR).												
FY 2014 Plans:												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy								<b>Date:</b> March 2014			
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0604756N / <i>Ship Self Def (Engage: Hard Kill)</i>				<b>Project (Number/Name)</b> 3342 / <i>Griffin Missile</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>								<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
NA											
<b>FY 2015 Plans:</b> NA											
<b>Title:</b> Shoulder Launched Missile Systems								5.833	-	-	
<b>Articles:</b>								-	-	-	
<b>FY 2013 Accomplishments:</b> Javelin Shoulder Launched Missile effort is to meet the requirement to qualify the Javelin Block I missile system for operational use aboard MSC ships. Javelin approval for deployment on ships will require limited delta qualification of selected Electromagnetic Radiation Operations (EMRO), Electromagnetic Vulnerability (EMV), and Hazards of Electromagnetic Radiation to Ordnance (HERO) environments and testing to those environments to qualify the system for safe operation on surface ships. Ship checks to determine firing locations and address MSC ship safety issues has been completed. Conducted HERO and EMV testing, Redstone Arsenal, AL. Final WSERB review will occur in February, 2014.											
<b>FY 2014 Plans:</b> NA											
<b>FY 2015 Plans:</b> NA											
<b>Accomplishments/Planned Programs Subtotals</b>								20.702	-	-	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• WPN/2264: <i>Stand Off Precision Guided Munitions (SOPGM)</i>	-	6.278	1.810	-	1.810	0.436	0.435	0.443	0.453	Continuing	Continuing
• OPN/5543: <i>Items Less Than \$5 Million</i>	0.639	5.799	6.562	-	6.562	5.186	2.087	1.681	1.790	Continuing	Continuing
• OMN/1D4D: <i>Griffin Missile System Budget</i>	-	1.567	2.888	-	2.888	2.982	3.281	3.791	3.826	-	18.335
<b>Remarks</b>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604756N / <i>Ship Self Def (Engage: Hard Kill)</i>	<b>Project (Number/Name)</b> 3342 / <i>Griffin Missile</i>
<p><b><u>D. Acquisition Strategy</u></b></p> <p>RDCs consist of GMS integrated on PC and LCS. The Program Office manages development and integration of the GMS on surface ships. GMS consists of Griffin B Block II Missile procured via Raytheon sole source contract with U.S. Army Joint Attack Munitions System (JAMS) program office; BriteStar EO/IR Laser Designator procured by Navy Surface Weapon Center (NSWC) Crane on a FFP contract with Forward Looking Infra Red Systems. The Missile Launcher and Battle Management System are developed at NSWC Dahlgren and NSWC Corona.</p> <p>NAWC China Lake is developing the China Lake Spike shoulder fired missile. Javelin missiles are procured through Marine Corps System Command (MARCORSYSCOM) and Armament Research Development and Engineering Center (ARDEC) program offices. Naval Surface Missions Program Office (PEO IWS3S) is qualifying the Javelin Missile for shipboard firing at Redstone Arsenal and NSWC Dahlgren.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>Successful completion of QRA for GMS Mar 2013. Qualification of Javelin missile for use aboard Military Sealift Command ships.</p>		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604756N / <i>Ship Self Def (Engage: Hard Kill)</i>				<b>Project (Number/Name)</b> 9081 / <i>Phalanx CIWS SEARAM</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
9081: <i>Phalanx CIWS SEARAM</i>	-	-	-	-	-	-	-	-	40.000	18.342	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
<p># The FY 2015 OCO Request will be submitted at a later date.</p> <p><b>A. Mission Description and Budget Item Justification</b>            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 so as to achieve acceptable Operational Availability for 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 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.</p> <p><b>B. Accomplishments/Planned Programs (\$ in Millions)</b>            N/A</p> <p><b>C. Other Program Funding Summary (\$ in Millions)</b>            N/A</p> <p><b>Remarks</b></p> <p><b>D. Acquisition Strategy</b>            The Phalanx Close-In Weapons System (CIWS) is a fast reaction, rapid fire, computer controlled radar and 20mm gun designed to engage Anti-Ship Missiles (ASM). This funding provides support for CIWS System improvements to include Technology Refresh for current fleet population and Next Generation CIWS for future ships. This work will be completed via future sole source contracts to Raytheon Missile Systems.</p> <p><b>E. Performance Metrics</b>            Successfully complete Developmental Test/Operational Testing.</p>												



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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	794.317	125.203	114.799	134.564	-	134.564	97.478	93.494	125.772	161.445	Continuing	Continuing
0954: Shipboard EW Improvement Program	434.583	18.193	17.921	13.421	-	13.421	14.635	15.088	15.428	15.865	Continuing	Continuing
2190: NULKA Decoy	52.308	2.267	4.611	4.651	-	4.651	1.852	2.040	2.150	7.110	Continuing	Continuing
3227: SEWIP Block 2	177.918	28.872	5.968	0.400	-	0.400	0.414	0.426	0.438	0.451	Continuing	Continuing
3316: Advanced Offboard EW	22.395	22.445	23.132	44.451	-	44.451	40.064	38.900	69.732	99.828	Continuing	Continuing
3321.: SEWIP Block 3	107.113	53.426	58.300	71.641	-	71.641	40.513	37.040	38.024	38.191	Continuing	Continuing
3362: E-NULKA	0.000	-	4.867	-	-	-	-	-	-	-	-	4.867
MDAP/MAIS Code: 582												
# The FY 2015 OCO Request will be submitted at a later date.												
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												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy			Date: March 2014			
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)				
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.						
3321 - SEWIP Block 3 will provide an Electronic Attack (EA) capability improvement required for the SLQ-32(V) system to keep pace with the threat. SEWIP Block 3 will provide 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.						
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. Due to changes in the security classification guidance, this program will transfer to a classified portion of the budget starting in FY15.						
B. Program Change Summary (\$ in Millions)		FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget		151.489	164.799	210.407	-	210.407
Current President's Budget		125.203	114.799	134.564	-	134.564
Total Adjustments		-26.286	-50.000	-75.843	-	-75.843
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-50.000			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-2.347	-			
• Program Adjustments		-	-	-59.982	-	-59.982
• Rate/Misc Adjustments		0.001	-	-15.861	-	-15.861
• Congressional General Reductions Adjustments		-11.940	-	-	-	-
• Congressional Directed Reductions Adjustments		-12.000	-	-	-	-
Change Summary Explanation						
FY 2013 reductions include sequestration, general, and rates/miscellaneous adjustments.						
FY 2015 reductions include re-phasing of Advanced Offboard EW Decoy program, Naval EW system tech change, Departments decision to reduce Contracted Services and to properly phase program requirements with expenditures, and other rate/miscellaneous adjustments.						

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0954: Shipboard EW Improvement Program	434.583	18.193	17.921	13.421	-	13.421	14.635	15.088	15.428	15.865	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015	
Title: Block 1B3									6.018	5.988	0.600	
									Articles: -	-	-	
FY 2013 Accomplishments: Continued integration and testing.												
FY 2014 Plans: Complete integration and testing of EDMs. Conduct At-Sea testing.												
FY 2015 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
Complete Full Rate Production (FRP) Decision Review (DR).				
Title: EW RCIP		8.510	11.933	12.821
Articles:		-	-	-
FY 2013 Accomplishments: Continued development of EW RCIP #1. Awarded development contract for RCIP #2. Identified and prioritized capability gaps in support of release of RFI/RFP for future (RCIP #3) RCIP candidates.				
FY 2014 Plans: Identify 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. Award RCIP #3 contract. Evaluate RCIP technologies production readiness. Successfully demonstrate and validate RCIP capabilities.				
FY 2015 Plans: Identify 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. Award RCIP #4 contract. Evaluate RCIP technologies production readiness. Successfully demonstrate and validate RCIP capabilities.				
Title: V(4) Electronic Surveillance Enhancements (ESE)		0.500	-	-
Articles:		-	-	-
Description: Due to ship availability delays, V(4)ESE Initial Operational Test & Evaluation (IOT&E) was conducted in second quarter FY13.				
FY 2013 Accomplishments: Conducted IOT&E. Analyzed and corrected deficiencies. Completed MS-C DR.				
FY 2014 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
N/A												
FY 2015 Plans: N/A												
Title: Shipboard Integration										3.165	-	-
Articles:										-	-	-
FY 2013 Accomplishments: Completed development of capability to use and integrate ES controls and data between ALQ210 (on the MH60R) and AN/SLQ-32.												
FY 2014 Plans: N/A												
FY 2015 Plans: N/A												
Accomplishments/Planned Programs Subtotals										18.193	17.921	13.421
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• 0204228N/2312: OPN BA-2 AN/SLQ-32(V)	79.950	150.353	214.582	-	214.582	237.938	339.173	379.358	503.719	Continuing	Continuing	
• 24575N & 72827N/1C2C: OMN BA-1 AN/SLQ-32(V)	6.453	7.688	6.943	-	6.943	7.271	8.288	8.175	8.285	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.												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i>	<b>Project (Number/Name)</b> 0954 / <i>Shipboard EW Improvement Program</i>
<p>Successfully identify RCIP capabilities.</p> <p>Successfully identify and assess RCIP Science &amp; Technology candidates.</p> <p>Award development contract for RCIP #1.</p> <p>Successfully demonstrate and validate RCIP capabilities.</p> <p>Award development contract for RCIP #2.</p> <p>Award development contract for RCIP #3.</p> <p>Award development contract for RCIP #4.</p>		

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

Date: March 2014

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

Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
	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									△	Block 1B3 FRP DR																		
Development																												
	1B3 HGHS Development & Integration																											
	ALQ210 Integration																											
	EW Rapid Capability Insertion Process (RCIP)																											
Test and Evaluation																												
Milestones	1B3 Integration & Test																											
Development Test									△	1B3 TECHEVAL																		
Operational Test									△	1B3 IOT&E																		

# UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2190: NULKA Decoy	52.308	2.267	4.611	4.651	-	4.651	1.852	2.040	2.150	7.110	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015
Title: NULKA Decoy Subsystem  Articles:  FY 2013 Accomplishments: Conducted NULKA decoy subsystem integration and improvements to include Effectiveness Studies, Engineering Studies, Fly Out Tactics and open architecture transition.  FY 2014 Plans: Continue 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.										2.267	2.405	2.523
										-	-	-
Title: NULKA Software  Articles:  FY 2013 Accomplishments: N/A  FY 2014 Plans: Conduct NULKA software Product Line Architecture (PLA) Demonstration.  FY 2015 Plans:										-	2.206	-
										-	-	-



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
N/A												
Title: CVN AT-SEA TEST										-	-	2.128
Articles:										-	-	-
FY 2013 Accomplishments: N/A												
FY 2014 Plans: N/A												
FY 2015 Plans: Conduct At-Sea test of NULKA CVN capabilities.												
Accomplishments/Planned Programs Subtotals										2.267	4.611	4.651
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN/5530: Anti-Ship Missile Decoy System	27.355	62.361	-	-	-	-	-	-	-	-	619.550	
• OMN/12CR0 (1C2C): Nulka	3.713	5.530	5.177	-	5.177	5.442	6.292	6.213	6.447	Continuing	Continuing	
• OPN/5231: Ship Missile Support Equipment	-	-	35.756	-	35.756	33.046	58.430	61.920	64.242	Continuing	Continuing	
Remarks												
Due to DON directed OPN Line Item (LI) Consolidation commencing in FY15, LI 530 was consolidated under LI 5231 in FY15 and in the outyears.												
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.												

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PE 0604757N: *Ship Self Def (Engage: Soft Kill/EW)*  
Navy

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PE 0604757N / Ship Self Def (Engage: Soft Kill/EW)

2190 / *NULKA Decoy*[illegible]

## PLA - Product Line Architecture

Note: CVN Class DT moved from 4Q 2014 to 2Q 2015 based on new CNO availability dates.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604757N / Ship Self Def (Engage: Soft Kill/EW)				<b>Project (Number/Name)</b> 3227 / SEWIP Block 2			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
3227: SEWIP Block 2	177.918	28.872	5.968	0.400	-	0.400	0.414	0.426	0.438	0.451	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
<b>A. Mission Description and Budget Item Justification</b> 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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>										<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> SEWIP Block 2										28.872	5.968	0.400
<b>Articles:</b>										-	-	-
<b>FY 2013 Accomplishments:</b> Continued integrated testing. Completed E&MD of SEWIP Block 2.												
<b>FY 2014 Plans:</b> Conduct At-Sea testing. Analyze and correct deficiencies.												
<b>FY 2015 Plans:</b> Analyze and correct deficiencies.												
<b>Accomplishments/Planned Programs Subtotals</b>										28.872	5.968	0.400
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
• 0204228N/2312: OPN BA-2 AN/SLQ-32(V)	79.950	150.353	214.582	-	214.582	237.938	339.173	379.358	530.719	Continuing	Continuing	
• 0204575N/1C2C: OMN BA-1 AN/SLQ-32(V)6	-	2.708	5.440	-	5.440	6.516	12.519	12.361	12.630	Continuing	Continuing	
<b>Remarks</b>												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i>	<b>Project (Number/Name)</b> 3227 / <i>SEWIP Block 2</i>
<p><b><u>D. Acquisition Strategy</u></b></p> <p>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.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>Successfully achieve Block 2 MS C / LRIP DR.</p> <p>Successfully complete Block 2 Initial Operational Test &amp; Evaluation (IOT&amp;E).</p> <p>Successfully achieve Block 2 Full Rate Production (FRP) DR.</p>		

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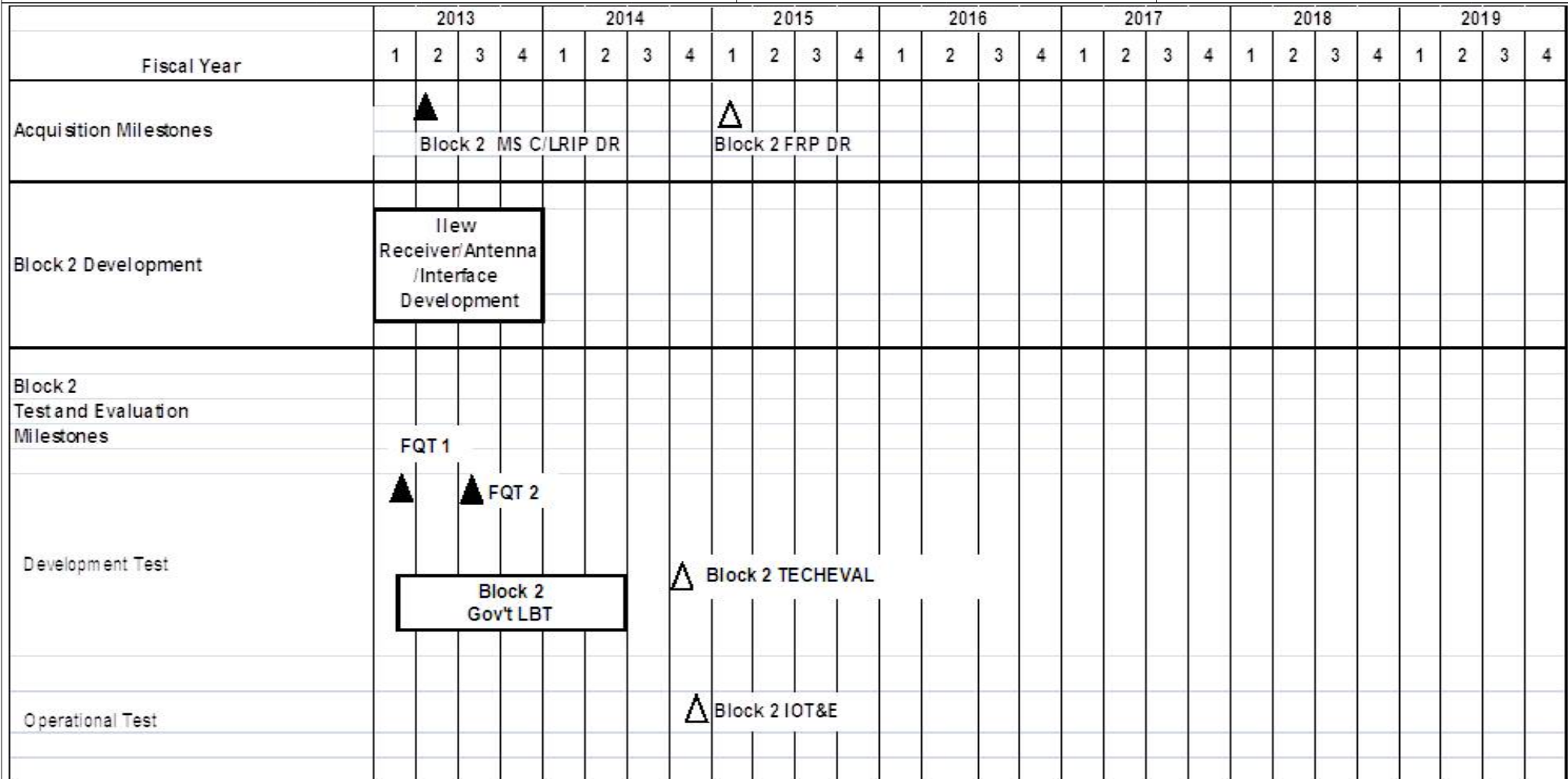
**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**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



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3316: Advanced Offboard EW	22.395	22.445	23.132	44.451	-	44.451	40.064	38.900	69.732	99.828	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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.												
FY15 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)												
Title: AOEW - Decoy Development Effort (DDE)  Articles:  FY 2013 Accomplishments: - Completed Analysis of Alternatives. - Conducted design and engineering studies. - Continued development of concepts of operation. - Continued derivation of systems requirements. - Continued interoperability analysis. - Continued acquisition documentation development.  FY 2014 Plans: - Continue development of concepts of operation. - Continue interoperability analysis. - Complete acquisition documentation development. - Initiate onboard/offboard EW coordinator development.									FY 2013	FY 2014	FY 2015	
									18.097 -	20.632 -	44.451 -	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>										<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
- Commence AOEW SKC integration  <b>FY 2015 Plans:</b> - Continue development of concepts of operation. - Continue interoperability analysis. - Continue AOEW integration. - Award competitive development contract for decoy Technology Development/Engineering & Manufacturing Development (E&MD)												
<b>Title:</b> AOEW - Rapid Response Effort (RRE)  <b>FY 2013 Accomplishments:</b> - Completed evaluation, integration, and testing of decoy capability. - Commenced RRE installation.  <b>FY 2014 Plans:</b> - Develop conops and tactics. - Complete RRE installation.  <b>FY 2015 Plans:</b> N/A										<b>Articles:</b> 4.348 -	2.500 -	- -
<b>Accomplishments/Planned Programs Subtotals</b>										22.445	23.132	44.451
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
• OPN/5530: Anti-Ship Missile Decoy System	27.355	62.361	-	-	-	-	-	-	-	-	158.739	
• OPN/5231: Ship Missile Support Equipment	-	-	35.756	-	35.756	33.046	58.430	61.920	64.242	Continuing	Continuing	
<b>Remarks</b>												
<b>D. Acquisition Strategy</b>												
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 will be procured for evaluation, integration and testing.												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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>E. Performance Metrics</b>  For the DDE: Complete Analysis of Alternatives. Complete systems requirements definition. Award Technology Development/E&MD contract.  For the RRE: Complete evaluation and integration. Complete testing of commercially available decoys.		



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

Date: March 2014

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

Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
	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)																												
Development	DDE Analysis of Alternatives																											
	RRE Integration																											
	DDE Concept Development																											
									DDE Technology Development / Engineering and Manufacturing Development (E&MD)																			
Test & Evaluation																												
Development Test	RRE Test																											
									RRE Install																			

RRE: Rapid Response Effort

DDE: Decoy Development Effort

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3321.: SEWIP Block 3	107.113	53.426	58.300	71.641	-	71.641	40.513	37.040	38.024	38.191	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
SEWIP Block 3 will provide an Electronic Attack (EA) capability improvement required for the AN/SLQ-32(V) system to keep pace with the threat. SEWIP Block 3 will provide 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) system to support an urgent operational need.												
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 2013	FY 2014	FY 2015	
Title: SEWIP Block 3 Government Engineering									24.968	31.681	19.928	
									Articles: -	-	-	
FY 2013 Accomplishments:												
Continued Milestone (MS) B preparation and acquisition documentation.												
Continued system engineering.												
Completed Technology Readiness Assessment(TRA).												
FY 2014 Plans:												
Continue system engineering.												
Complete MS B preparation and acquisition documentation.												
Commence SKC software development.												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
Conduct MS B. Conduct Integrated Baseline Review (IBR). Award Preliminary Design and Engineering and Manufacturing Development (E&MD) contract. <b>FY 2015 Plans:</b> Continue system engineering. Continue SKC software development.				
<b>Title:</b> SEWIP Block 3 Development  <b>FY 2013 Accomplishments:</b> Continued Surface Electronic Warfare Team Trainer (SEWTT) development. <b>FY 2014 Plans:</b> Continue SEWTT development. Commence Preliminary Design. Conduct System Functional Review (SFR) and Systems Requirements Review (SRR). <b>FY 2015 Plans:</b> Continue SEWTT development. Commence Engineering and Manufacturing Development (E&MD) Conduct Preliminary Design Review (PDR) Complete Preliminary Design Conduct Critical Design Review (CDR).		<b>Articles:</b> 0.500 -	14.225 -	51.713 -
<b>Title:</b> TEWM Development  <b>FY 2013 Accomplishments:</b> Continued development of modifications to the TEWM system. <b>FY 2014 Plans:</b> Complete development of modifications to the TEWM system. <b>FY 2015 Plans:</b> N/A		<b>Articles:</b> 18.787 -	0.996 -	- -
<b>Title:</b> TEWM Testing		4.320 -	8.039 -	- -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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 2013	FY 2014	FY 2015
<b>FY 2013 Accomplishments:</b> Continued TEWM test planning and coordination. Continued TEWM Simulator and Radar test platform support. Commenced testing.  <b>FY 2014 Plans:</b> Complete TEWM testing. Complete TEWM Simulator and Radar test platform support.  <b>FY 2015 Plans:</b> N/A					
<b>Title:</b> TEWM System Engineering  <b>Articles:</b>			1.317 -	2.366 -	- -
<b>FY 2013 Accomplishments:</b> Continued TEWM systems engineering and integration.  <b>FY 2014 Plans:</b> Complete TEWM systems engineering and integration.  <b>FY 2015 Plans:</b> N/A					
<b>Title:</b> Speed to Fleet- Transportable Electronic Warfare Module (TEWM)  <b>Articles:</b>			3.534 -	0.993 -	- -
<b>FY 2013 Accomplishments:</b> - Refined design shortfalls based on operator feedback and FY 2012 test results. - Conducted local field testing of all improvements design, and completed drawings. - Completed and delivered two units.  <b>FY 2014 Plans:</b> - Continue to test equipment at sea.  <b>FY 2015 Plans:</b> N/A					
Accomplishments/Planned Programs Subtotals			53.426	58.300	71.64

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
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				
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• 0204228N/2312: AN/SLQ-32	79.950	150.353	214.582	-	214.582	237.938	339.173	379.358	503.719	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. 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. Award Preliminary Design/E&MD Contract Complete TEWM development. Complete TEWM integration and testing. Achieve Block 3 MS C / LRIP DR. Complete laboratory and at-sea testing against captive carry simulators.												

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

Date: March 2014

Appropriation/Budget Activity

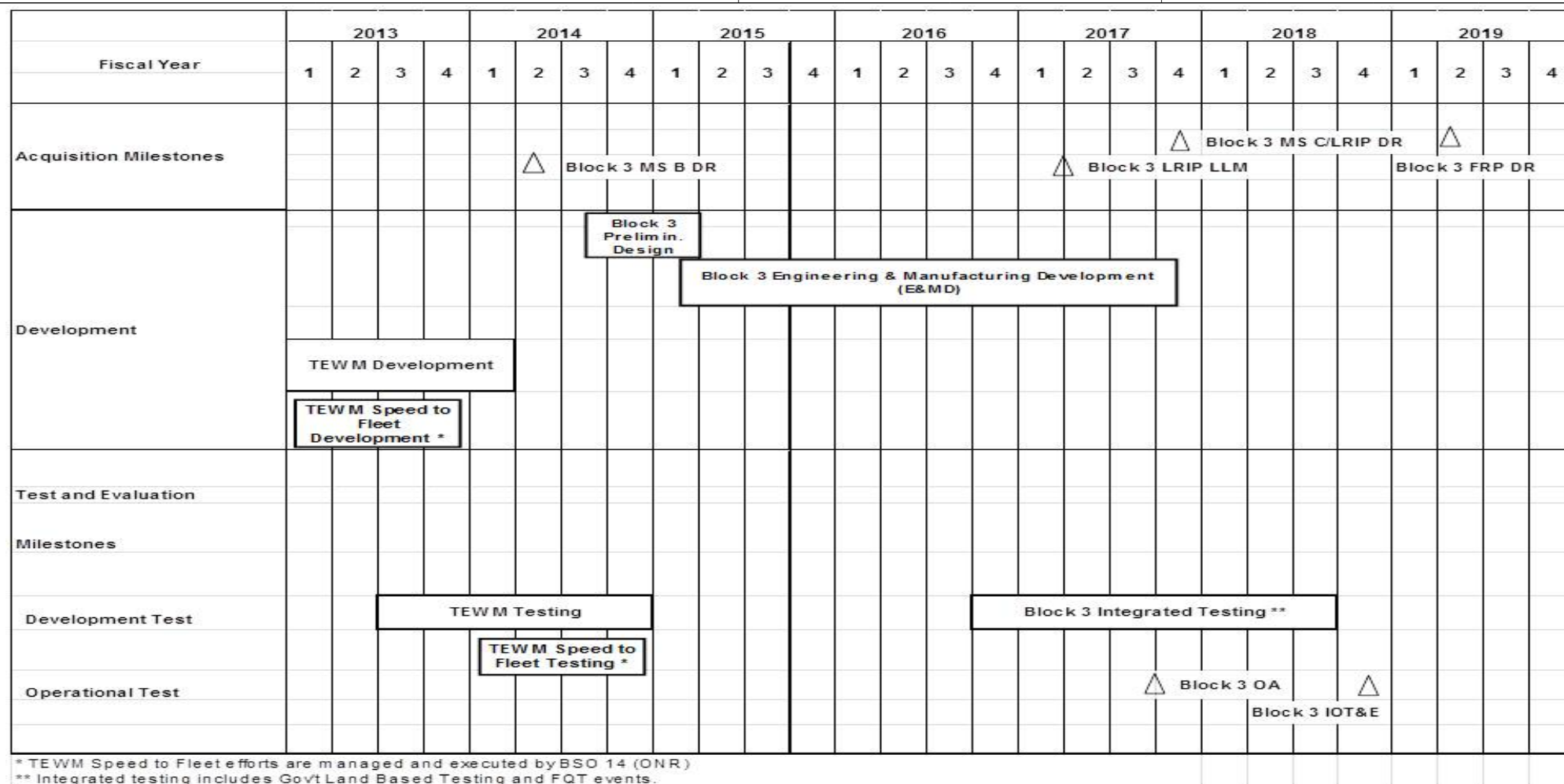
1319 / 5

R-1 Program Element (Number/Name)

PE 0604757N / Ship Self Def (Engage: Soft Kill/EW)

Project (Number/Name)

3321. / SEWIP Block 3



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014																														
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i>				<b>Project (Number/Name)</b> 3362 / <i>E-NULKA</i>																															
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>																												
3362: <i>E-NULKA</i>	-	-	4.867	-	-	-	-	-	-	-	-	4.867																												
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-																														
<p># The FY 2015 OCO Request will be submitted at a later date.</p> <p><b>A. Mission Description and Budget Item Justification</b>  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. Due to changes in the security classification guidance, this program will transfer to a classified portion of the budget starting in FY15.</p> <p><b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>FY 2013</th> <th>FY 2014</th> <th>FY 2015</th> </tr> </thead> <tbody> <tr> <td><b>Title:</b> E-Nulka Decoy</td> <td>-</td> <td>4.867</td> <td>-</td> </tr> <tr> <td><b>Articles:</b></td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td><b>FY 2013 Accomplishments:</b> N/A</td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>FY 2014 Plans:</b>  <ul style="list-style-type: none"> <li>- Define system requirements and specifications.</li> <li>- Conduct modeling and simulation.</li> <li>- Initiate development of Acquisition Documentation.</li> </ul> </td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>FY 2015 Plans:</b> N/A</td> <td></td> <td></td> <td></td> </tr> <tr> <td><b>Accomplishments/Planned Programs Subtotals</b></td> <td>-</td> <td>4.867</td> <td>-</td> </tr> </tbody> </table> <p><b>C. Other Program Funding Summary (\$ in Millions)</b> N/A</p> <p><b>Remarks</b></p> <p><b>D. Acquisition Strategy</b>  E-Nulka is a new start program in FY14 which supports the engineering development/enhancement of the payload receiver, transmitter, signal processor and power supply. The E-Nulka payload will be competitively contracted and developed to be integrated into the existing Nulka flight vehicle. The payload builds on technologies</p>														FY 2013	FY 2014	FY 2015	<b>Title:</b> E-Nulka Decoy	-	4.867	-	<b>Articles:</b>	-	-	-	<b>FY 2013 Accomplishments:</b> N/A				<b>FY 2014 Plans:</b> <ul style="list-style-type: none"> <li>- Define system requirements and specifications.</li> <li>- Conduct modeling and simulation.</li> <li>- Initiate development of Acquisition Documentation.</li> </ul>				<b>FY 2015 Plans:</b> N/A				<b>Accomplishments/Planned Programs Subtotals</b>	-	4.867	-
	FY 2013	FY 2014	FY 2015																																					
<b>Title:</b> E-Nulka Decoy	-	4.867	-																																					
<b>Articles:</b>	-	-	-																																					
<b>FY 2013 Accomplishments:</b> N/A																																								
<b>FY 2014 Plans:</b> <ul style="list-style-type: none"> <li>- Define system requirements and specifications.</li> <li>- Conduct modeling and simulation.</li> <li>- Initiate development of Acquisition Documentation.</li> </ul>																																								
<b>FY 2015 Plans:</b> N/A																																								
<b>Accomplishments/Planned Programs Subtotals</b>	-	4.867	-																																					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604757N / <i>Ship Self Def (Engage: Soft Kill/EW)</i>	<b>Project (Number/Name)</b> 3362 / E-NULKA
and concepts currently in development by the Office of Naval Research (ONR). Due to changes in the security classification guidance, this program will transfer to a classified portion of the budget starting in FY15.		
<b>E. Performance Metrics</b> Complete system requirements development. Complete system development and integration. Complete development testing.		



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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**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	2013				2014				2015				2016				2017				2018				2019			
	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
<b>Acquisition Milestones (TBD)</b>																												
<b>Sy stem s Development Milestones</b>																												
<b>Test &amp; Evaluation Milestones</b>																												
<b>Developm ent Test</b>																												
<b>Operational Test</b>																												

**NOTE:** Due to changes in the security classification guidance, this program will transfer to a classified portion of the budget starting in FY15.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604761N / <i>Intelligence Engineering</i>
--	---

COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	0.000	-	1.984	0.200	-	0.200	4.389	4.244	4.320	4.402	Continuing	Continuing
3103: <i>Intelligence Engineering</i>	0.000	-	1.984	0.200	-	0.200	4.389	4.244	4.320	4.402	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

**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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	-	1.984	0.200	-	0.200
Current President's Budget	-	1.984	0.200	-	0.200
Total Adjustments	-	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

**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.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3103: Intelligence Engineering	-	-	1.984	0.200	-	0.200	4.389	4.244	4.320	4.402	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
<b>A. Mission Description and Budget Item Justification</b> (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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>										<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Intelligence Engineering										-	1.984	0.200
<b>Articles:</b>										-	-	-
<b>FY 2013 Accomplishments:</b> N/A												
<b>FY 2014 Plans:</b> Foreign Materiel Acquisition \$1.984												
<b>FY 2015 Plans:</b> Foreign Materiel Acquisition \$.200												
<b>Accomplishments/Planned Programs Subtotals</b>										-	1.984	0.200
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A												
<b>Remarks</b>												
<b>D. Acquisition Strategy</b> 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.												
<b>E. Performance Metrics</b> Program direction is dependent upon guidance provided by 6 warfare area planning groups.												

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604771N / <i>Medical Development</i>
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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	53.579	37.426	28.458	8.287	-	8.287	9.935	9.586	9.353	9.601	Continuing	Continuing
0933: <i>Medical/Dental Equipment Dev</i>	18.765	8.464	9.458	8.287	-	8.287	9.935	9.586	9.353	9.601	Continuing	Continuing
9999: <i>Congressional Adds</i>	34.814	28.962	19.000	-	-	-	-	-	-	-	-	82.776

# The FY 2015 OCO Request will be submitted at a later date.

**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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	14.880	9.458	9.643	-	9.643
Current President's Budget	37.426	28.458	8.287	-	8.287
Total Adjustments	22.546	19.000	-1.356	-	-1.356
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	19.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.600	-			
• SBIR/STTR Transfer	-1.155	-			
• Program Adjustments	-	-	-0.261	-	-0.261
• Rate/Misc Adjustments	-	-	-1.095	-	-1.095
• Congressional General Reductions	-3.699	-	-	-	-
Adjustments					
• Congressional Add Adjustments	29.000	-	-	-	-

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** 9999: *Congressional Adds*

Congressional Add: *Military Dental Research*

FY 2013	FY 2014
5.992	6.000

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0604771N / <i>Medical Development</i>	
<b>Congressional Add Details (\$ in Millions, and Includes General Reductions)</b>		<b>FY 2013</b>	<b>FY 2014</b>
Congressional Add: <i>Wound Care Research (transferred from Defense Health Program)</i>		12.983	13.000
Congressional Add: <i>NAMRU Research</i>		9.987	-
Congressional Add Subtotals for Project: 9999		28.962	19.000
Congressional Add Totals for all Projects		28.962	19.000

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0933: Medical/Dental Equipment Dev	18.765	8.464	9.458	8.287	-	8.287	9.935	9.586	9.353	9.601	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 2013	FY 2014	FY 2015
<b>Title:</b> Tactical Logistics Planning Tool  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> OCO Tactical Medical Logistics Planning Tool (TML+) - A research tool that models patient flow from the point of injury through definitive care, and an analysis tool that supports OCO operational risk assessment, field medical services planning and systems analysis. Because it can handle larger amounts of data, TML+ provides the capability to model medical treatment facilities at all levels of care and their respective functional areas, the number and type of personnel, and the type, speed, and capacity of transportation assets. The plan is to continue to develop specific modeling capabilities in TML+ to support the development of OCO medical plans that optimize clinical outcomes for combat casualties using the minimum amount of manpower, materiel, and CASEVAC/Enroute care resources.  FY 2013 Accomplishments: Drafted certification plan for TML to operate on government networks (med, NMCI, OneNet). Initiated update of treatment profiles.  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> N/A										0.040	-	-
										-	-	-
<b>Title:</b> Combat Trauma Registry - Expeditionary Medical Encounter Database (CTR EMED)										0.040	-	-
<b>Articles:</b>										-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
<b>FY 2013 Accomplishments:</b> OCO: Tactical Medical Logistics Planning Tool (TML+)- Tri-service database of all battle injuries, non-battle injuries, disease, and mental health encounters that occur in deployed medical treatment facilities supporting OCO. The CTR EMED tracks each casualty, develops a detailed injury profile of the casualty's injuries and severities in near real-time. The tactical, operational, and casualty clinical data are forwarded to the intelligence, materiel developer and threat mitigation communities.  FY 2013 Accomplishments: Obtained FY13 IRB approval and drafted required DoD data use agreements. <b>FY 2014 Plans:</b> N/A <b>FY 2015 Plans:</b> N/A				
<b>Title:</b> Validation of the Human Surrogate (HS) Prototype  <b>Articles:</b>		0.166 -	- -	- -
<b>FY 2013 Accomplishments:</b> OCO: Human Surrogate Testing - Validation of the Human Surrogate (HS) Prototype will help determine the margin of safety of microwave counter Improvised Explosive Devices (IEDs) devices and munitions. The HS model, developed by Greenwave Scientific Inc., designed to be used to make accurate measurements of the specific absorption rate (SAR) of RF energy in the human body from Counter Radio-Controlled Electronic Warfare (CREW) devices. The absorption of radiofrequency (RF) by the human body is very complex. It is well known that even uniform RF exposures lead to non-uniform absorption in almost all human exposure situations. Current methods to measure SAR in the human body are elegant and elaborate processes but they can only be carried out in the laboratory. These consist of open and closed human phantom shells filled with liquids that simulate the electrical properties of human tissue. To measure the uneven absorption of RF energy a small electric field probe is mechanically moved around inside the phantom shell during exposure.  FY 2013 Accomplishments: Developed and patented an acoustograph to directly measure RF energy in tissue. Drafted Technical Report in progress based on predicted energy absorption. <b>FY 2014 Plans:</b> N/A <b>FY 2015 Plans:</b>				



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0604771N / <i>Medical Development</i>		<b>Project (Number/Name)</b> 0933 / <i>Medical/Dental Equipment Dev</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
N/A					
<b>Title:</b> Laser Field Testing  <b>FY 2013 Accomplishments:</b> OCO: Laser Field Testing - Based on a 5th Fleet Urgent Requirement, an evaluation of various commercial-off-the-shelf (COTS) and government-off-the-shelf (GOTS) Non-Lethal Weapons (NLW) technology is required to determine the effectiveness of a combined Acoustic and Laser device as a long range NLW hailing and warning device. The bioeffects effort will support legal, policy and treating development for these NLW devices and future acquisition to deploy these types of systems in-theatre.  FY 2013 Accomplishments: Submitted Technical Report on operational field test measuring effectiveness of Laser and Acoustic hailers as communication devices for maritime security. Designed and assembled a bench apparatus for generating an extended laser glare source and superimposing the glare on visual cognitive/perceptual/memory tasks.  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> N/A			0.278 -	-	-
<b>Title:</b> Medical/Dental Equipment Dev  <b>FY 2013 Accomplishments:</b> Individualized Fatigue-Based Scheduling and Countermeasure System - Continued development of a tool that predicts, prevents, detects, and mitigates periods of high risk associated with fatigue. Coordinate with the Office of Naval Research to facilitate transition.  USMC Suicide Prevention Program Resiliency Study and Related Efforts - Continued research leveraging the Marine Resiliency study and the execution of targeted studies of Marines. Continued assessments to include 12-month after deployment return to determine risk for chronic PTSD and potential factors for mitigation. Effort includes assessment of post-intervention efforts and psychological studies  Intranasal Carbon Dioxide for Headache and Trigeminal Muscle Pain - Completed study supporting provision of an abortive migraine therapy with minimal side effects and high efficacy for use on deployment and in Military Treatment Facilities.			7.940 -	9.458 -	8.287 -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604771N / Medical Development		Project (Number/Name) 0933 / Medical/Dental Equipment Dev	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Implementation of an Alternative Watchstanding Schedule on USN Surface Combatants - Continued data collection in support of a individualized fatigue-mitigated scheduling. Joint Development Projects with the Marine Corps Systems Command (MARCORSYSCOM) Medical Acquisition - Continued Joint Development Testing and Evaluation program for medical products and equipment. Finalizing development of casualty care systems for USMC Procurement.  Human Factors Support of OWL Tool - Continued development of systems-design tool in support of the Individual Fatigue-Based Scheduling and Countermeasure System; coordinate fleet user survey; perform task analysis; assist Graphic User Interface (GUI) layout and design; collaborate on experimental design and coordinate fleet evaluation and testing. Intranasal Scopolamine for the Prevention of Motion Sickness in Dynamic Military Environments - Continued study for the prevention of motion sickness in dynamic military environments. Validation of Computerized Color Vision Tests for use in Naval Aviation - Continued data collection to validate two computer-based color vision tests that can isolate and classify red-green and yellow-blue color deficiencies and also quantify the loss of chromatic sensitivity.  Biosurveillance Information Service (BIOSERV) - Continued data collection towards a central repository for open and DoD health surveillance data to provide a more robust picture of overall threats in an area. Field Friendly Rapid Blood Typing Capabilities to Support Role II Units - Completed initial Phase 1 Field Friendly Rapid Blood Typing Capabilities to Support Role II Units  Counter Directed Energy Bio-effects: Completed coordinated test plan for medical device testing with China Lake NAS to test the vulnerability and susceptibility of first responder's medical devices to hostile directed energy environment.  Wound Management Program: Continue to integrate efforts in wound closure, improve diagnostic measures and the treatment of heterotopic ossification.  Mobile Oxygen Ventilation and External Suction (MOVES) Anesthesia - Continued to move toward completing development of MOVES anesthesia module to include test and evaluation and critical care certification. This device is a pre-planned product improvement for FRSS deployment for MTFs, Medicine Clinics, Corpsman, and Navy or USMC Special Operations. Joint effort to result in Marine Corps procurement.  Malaria Vaccine for Military Personnel - Continued augmented efforts with the ongoing clinical trial effort to test, for safety and efficacy, a militarily relevant malaria vaccine regimen utilizing a promising novel vaccine candidate.					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604771N / Medical Development		Project (Number/Name) 0933 / Medical/Dental Equipment Dev	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Non-recompressive therapies for decompression sickness (DCS): Initiated validation trials for a novel recompressive therapy for a disabled submarine scenario.					
<b>FY 2014 Plans:</b> Mobile Oxygen Ventilation and External Suction (MOVES) Anesthesia - Moving toward completing development of MOVES anesthesia module. This device is a pre-planned product improvement for Forward Resuscitative Surgery System (FRSS) deployment for MTFs, Medicine Clinics, Corpsman, and Navy or USMC Special Operations. Joint effort to result in Marine Corps procurement.					
Wound Management Program: Continue to integrate efforts in wound closure, improve diagnostic measures and the treatment of heterotopic ossification.					
Implementation of an Alternative Watchstanding Schedule on USN Surface Combatants - Complete data collection in support of a individualized fatigue-mitigated scheduling.					
Joint Development Projects with MARCORSYSCOM Medical Acquisition - Continue Joint Development Testing and Evaluation program for medical products and equipment. Finalize development for USMC Procurement.					
Individualized Fatigue-Based Scheduling and Countermeasure System - Complete research supporting development of a tool that predicts, prevents, detects, and mitigates periods of high risk associated with fatigue. Periods of high individualized performance risk will be predicted and prevented by providing individual, specific, and fatigue optimized schedules and mitigation strategies.					
Validation of Computerized Color Vision Tests for use in Naval Aviation - Complete validation two computer-based color vision tests that can isolate and classify red-green and yellow-blue color deficiencies and also quantify the loss of chromatic sensitivity.					
Malaria Vaccine for Military Personnel - Continue augmented efforts with the ongoing clinical trial effort to test, for safety and efficacy, a militarily relevant malaria vaccine regimen utilizing a promising novel vaccine candidate.					
Non-recompressive therapies for decompression sickness (DCS): Complete validation trials for a novel recompressive therapy for a disabled submarine scenario.					
Biosurveillance Information Service (BIOSERV) - Continue data collection towards a central repository for open and DoD health surveillance data to provide a more robust picture of overall threats in an area.					
Human Factors Support of OWL Tool - Complete development of systems-design tool in support of the Individual Fatigue-Based Scheduling and Countermeasure System; coordinate fleet user survey; perform task analysis; collaborate on experimental design and coordinate fleet evaluation and testing.					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604771N / <i>Medical Development</i>	<b>Project (Number/Name)</b> 0933 / <i>Medical/Dental Equipment Dev</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
Transition Projects from Force Health Protection Future Capability - Continue 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 novel haemostatic agents (e.g. infusible haemostatic and field/first responder devices).			
<b>FY 2015 Plans:</b> Wound Management Program: Continue to integrate efforts in wound closure, improve diagnostic measures and the treatment of heterotopic ossification.  Malaria Vaccine for Military Personnel - Complete augmented efforts with the ongoing clinical trial effort to test, for safety and efficacy, a militarily relevant malaria vaccine regimen utilizing a promising novel vaccine candidate. Biosurveillance Information Service (BioServ) - Complete training and develop maintenance plan. Joint Development Projects with MARCORSYSCOM Medical Acquisition - Continue Joint Development Testing and Evaluation program for medical products and equipment. Finalize development for USMC Procurement. Transition Projects from Force Health Protection Future Capability - Continue Development, Testing, and Evaluation program for transition products from the Office of Naval Research 6.3 Advanced Development program. Focus will be on transition of resuscitation agents, and mitigation of neurotrauma and post-traumatic stress.			
<b>Accomplishments/Planned Programs Subtotals</b>		8.464	9.458
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b> 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			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604771N / <i>Medical Development</i>	<b>Project (Number/Name)</b> 0933 / <i>Medical/Dental Equipment Dev</i>
<p>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.</p> <p>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).</p> <p>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.</p> <p>Programs such as System for Objective Decision-Making on Timing of Wound Closure involve both material and knowledge solutions.</p> <p><b>E. Performance Metrics</b></p> <p>Maintaining Scheduled Milestones/Demonstration Events for individualized project/product roadmap. Ensuring dependencies across multiple efforts are maintained on schedule and are primary metrics.</p>		

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604771N / <i>Medical Development</i>	<b>Project (Number/Name)</b> 0933 / <i>Medical/Dental Equipment Dev</i>
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MALARIA	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Malaria Vaccine Research																												
Adenovector Manufacturing																												
Pre-Investigational New Drug and Toxicological Study	Milestone ▲																											
Preparation of Materials for trials	Milestone ▲																											
Clinical Trial		Milestone																										

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604771N / <i>Medical Development</i>	<b>Project (Number/Name)</b> 0933 / <i>Medical/Dental Equipment Dev</i>
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MIGRAINES	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Complete IRB Process																												
Complete Enrollment of 400 Subjects with Migraine at MTFs and VA facilities	Milestone																											
Analyze Data and Submit Findings to FDA				Milestone ▲																								
FDA Review and Follow-On				Milestone ▲																								

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604771N / <i>Medical Development</i>	<b>Project (Number/Name)</b> 0933 / <i>Medical/Dental Equipment Dev</i>
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USMC SUICIDE	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
psychological Autopsy Study- Full Report with Conclusions and Risk Checklist																												
Impact of USMC Suicide on Family Survivors- Recommendations for Postvention Efforts	Milestone																											
Marine Resiliency					Milestone																							

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PE 0604771N: *Medical Development*  
Navy

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<b>Project (Number/Name)</b>	0933 / Medical/Dental Equipment Dev
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[illegible]

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																								Date: March 2014				
Appropriation/Budget Activity 1319 / 5												R-1 Program Element (Number/Name) PE 0604771N / Medical Development								Project (Number/Name) 0933 / Medical/Dental Equipment Dev								
Force Health Protection Transition Projects	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Continue Development				Milestone																								

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
9999: Congressional Adds	34.814	28.962	19.000	-	-	-	-	-	-	-	-	82.776
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note None												
A. Mission Description and Budget Item Justification Congressional Adds												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2013	FY 2014			
Congressional Add: Military Dental Research  FY 2013 Accomplishments: All the Navy Military Dental Research projects are underway. FY13 research efforts included a number of continuation projects from FY12. These efforts include the following accomplishments: Surveillance of crano-facial injuries, dental disease non-battle injuries and oral/facial disease in military personnel; evaluation of immune response associated with maxillofacial bone regeneration; Development substitutes for restoration of skin in facial wounds to improve functional and aesthetic outcomes; and development of antimicrobial/antibiofilm agents to reduce bacterial burden in order to optimize acute care of combat facial wounds.  FY 2014 Plans: Continue research efforts for Surveillance of crano-facial injuries, dental disease non-battle injuries and oral/facial disease in military personnel; evaluation of immune response associated with maxillofacial bone regeneration; development of substitutes for restoration of skin in facial wounds to improve functional and aesthetic outcomes; and development of antimicrobial/antibiofilm agents to reduce bacterial burden in order to optimize acute care of combat facial wounds.								5.992	6.000			
Congressional Add: Wound Care Research (transferred from Defense Health Program)  FY 2013 Accomplishments: The Wound Care Research Program is a comprehensive effort which continues to develop novel diagnostics and treatments to enhance the care of the wounded warfighter. The program has developed a computer algorithm to predict wound outcomes and has prepared a submission to the FDA for								12.983	13.000			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604771N / <i>Medical Development</i>	<b>Project (Number/Name)</b> 9999 / <i>Congressional Adds</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>
<p>permission to initiate a first-in-man clinical trial. This trial is expected to significantly enhance the care of and improve wound healing in wounded warfighters.</p> <p><b>FY 2014 Plans:</b> Continue to develop novel diagnostics and treatments to enhance the care of the wounded warfighter.</p>		
<p><b>Congressional Add:</b> NAMRU Research</p> <p><b>FY 2013 Accomplishments:</b> The NAMRU is a comprehensive effort including coordinated projects designed to enhance detection and control strategies for tropical diseases and emerging infections in the areas of responsibility of the three OCONUS Naval Medical Research Units, SE Asia, Africa and the Middle East, and South and Central America. Products will be directed at primary detection and/or control of specific disease but the development and execution of these products will provide the secondary benefit of opportunity to detect other infectious diseases.</p> <p><b>FY 2014 Plans:</b> N/A</p>	9.987	-
<b>Congressional Adds Subtotals</b>	28.962	19.000

**C. Other Program Funding Summary (\$ in Millions)**  
N/A

**Remarks**

**D. Acquisition Strategy**  
None

**E. Performance Metrics**  
Not required for Congressional adds.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy** **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604777N / <i>Navigation/Id System</i>
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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	1,209.189	38.948	47.428	29.504	-	29.504	31.959	32.112	30.575	61.114	Continuing	Continuing
0253: <i>Nav &amp; Electro-Optical Supt</i>	48.185	6.789	8.861	6.636	-	6.636	7.731	7.732	7.851	37.800	Continuing	Continuing
0676: <i>Improve ID Development</i>	26.132	3.826	2.356	1.612	-	1.612	2.251	2.380	2.380	2.428	Continuing	Continuing
0921: <i>NAVSTAR GPS Equipment</i>	982.760	17.237	16.104	18.011	-	18.011	18.108	18.335	18.445	18.946	Continuing	Continuing
1253: <i>Combat Ident System</i>	152.112	11.096	20.107	3.245	-	3.245	3.869	3.665	1.899	1.940	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## 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.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604777N / <i>Navigation/Id System</i>
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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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	47.764	51.430	35.242	-	35.242
Current President's Budget	38.948	47.428	29.504	-	29.504
Total Adjustments	-8.816	-4.002	-5.738	-	-5.738
• Congressional General Reductions	-	-0.002			
• Congressional Directed Reductions	-	-4.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.847	-			
• Program Adjustments	-	-	-0.762	-	-0.762
• Rate/Misc Adjustments	-0.001	-	-4.976	-	-4.976
• Congressional General Reductions Adjustments	-1.968	-	-	-	-
• Congressional Directed Reductions Adjustments	-6.000	-	-	-	-

**Change Summary Explanation**

Technical: Not applicable.

Schedule:

PU 1253: CH-53K delayed one year in schedule due to underexecution mark.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0253: Nav & Electro-Optical Supt	48.185	6.789	8.861	6.636	-	6.636	7.731	7.732	7.851	37.800	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 now includes the Imaging System with the Photonics Mast (PM) onboard VIRGINIA and SSGN class submarines. The PM mounted on the Universal Modular Mast provides imaging capability for the SSGN and VIRGINIA class submarines. The PM design exploits a wide portion of the electro-magnetic spectrum through advanced E-O and thermal imaging and Electronic Warfare Support (ES)/communications intercept.												
ISIS supports high intensity operations in the littorals and provides the submarine force with the tactical imaging systems necessary to safely and effectively employ its surveillance and weapons capabilities. 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 Low Profile Photonics Mast (LPPM) that are not levied by the ISIS operational requirements document. The AN/BVS-1 Photonics Mast Program (PMP) provides for the development and acquisition of a non-hull penetrating submarine electronic imaging system for Blocks I and II VIRGINIA class submarines. Specific efforts include: Integrated Submarine Imaging System (ISIS) program participation in the submarine force rapid TI/APB process, LPPM design efforts and integration of LPPM into the ISIS.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: ISIS and Photonics common software and hardware capabilities development and obsolescence.									4.207	7.076	4.706	
									Articles: -	-	-	
FY 2013 Accomplishments:												
ISIS Technical Insertion (TI) development for LOS ANGELES, SEAWOLF and VIRGINIA classes.												
FY 2014 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 2015 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
ISIS Technical Insertion (TI) development for LOS ANGELES, SEAWOLF, and VIRGINIA classes including hardware and software modifications for integration of LPPM into ISIS.					
<b>Title:</b> Imaging Systems Test Efforts.  <b>FY 2013 Accomplishments:</b> Preparation for TI-10/APB 09 Operational Testing (OT).  <b>FY 2014 Plans:</b> TI-12/APB 11 Testing.  <b>FY 2015 Plans:</b> TI-14/APB 13 Testing			<b>Articles:</b> 0.508 -	1.035 -	1.180 -
<b>Title:</b> PATRIOT Radar Range Finder Integration for photonics for SSGN and VIRGINIA class submarine.  <b>FY 2013 Accomplishments:</b> Development and integration of PATRIOT Radar Range Finder into ISIS Technical Insertion kit design for TI-12.  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> N/A			<b>Articles:</b> 0.574 -	- -	- -
<b>Title:</b> Low Profile Photonics Mast  <b>FY 2013 Accomplishments:</b> Continued non-recurring engineering for LPPM Baseline Design  <b>FY 2014 Plans:</b> Completion of LPPM Baseline Prototype Design  <b>FY 2015 Plans:</b> Completion of LPPM Production Baseline Design			<b>Articles:</b> 1.500 -	0.750 -	0.750 -
Accomplishments/Planned Programs Subtotals			6.789	8.861	6.636



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy Date: March 2014

<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604777N / Navigation/Id System	<b>Project (Number/Name)</b> 0253 / Nav & Electro-Optical Supt
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## C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• SCN/201300: <i>Photonics Mast</i>	36.975	18.634	38.008	-	38.008	38.773	39.560	40.363	43.592	Continuing	Continuing
• OPN/0831: <i>Sub Periscopes &amp; Imaging Equip.</i>	48.741	44.304	60.970	-	60.970	65.447	50.110	62.094	74.997	Continuing	Continuing
• RDT&E/0604558N: <i>VIRGINIA Class Design Development</i>	3.200	3.500	4.500	-	4.500	3.000	3.000	3.051	-	Continuing	Continuing
• RDT&E/0603562N: <i>Advanced Submarine Support Equipment (ASSEP)</i>	3.648	3.855	3.343	-	3.343	4.077	4.186	4.162	4.248	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 Acquisition Program Baseline Agreement for ISIS Advanced Processor Builds 11, 13 and 15 is dated 07 Mar 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.

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

Date: March 2014

Appropriation/Budget Activity

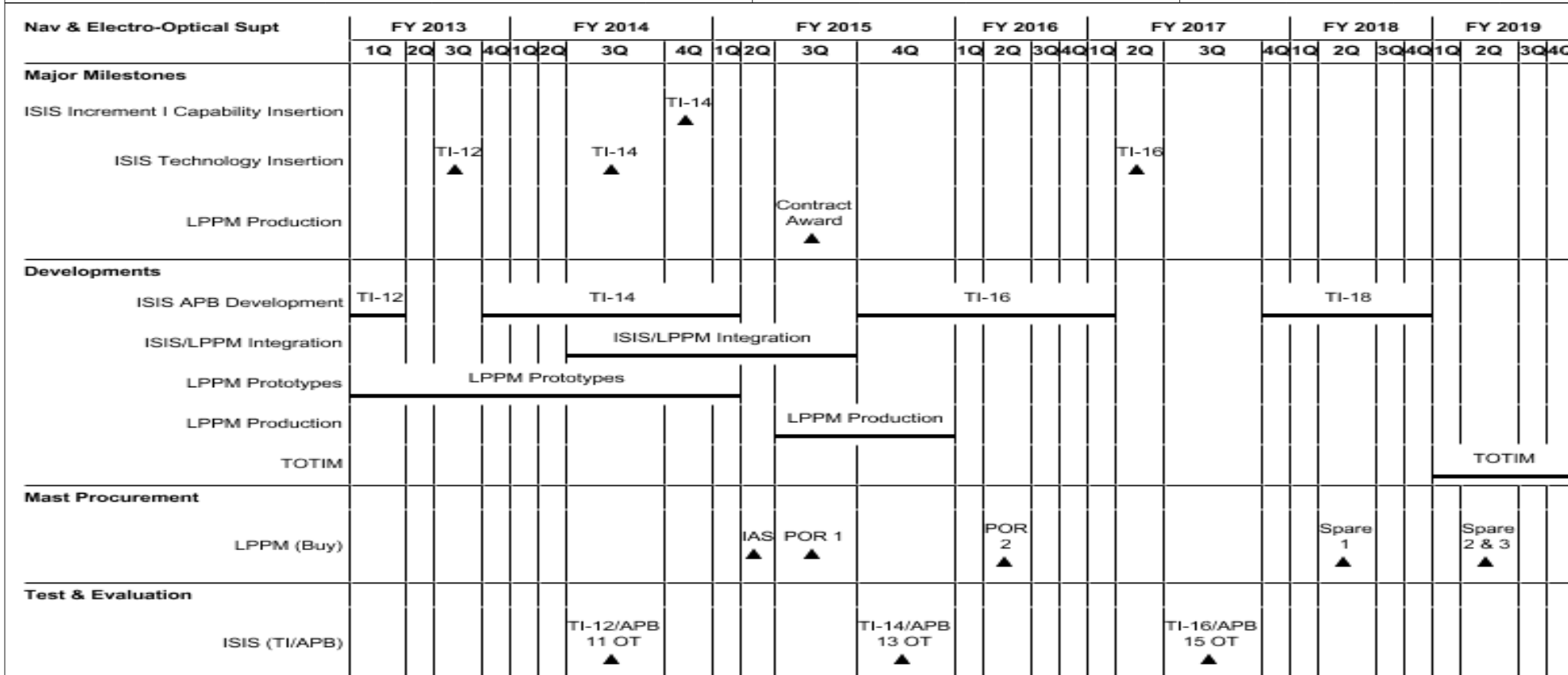
1319 / 5

R-1 Program Element (Number/Name)

PE 0604777N / Navigation/Id System

Project (Number/Name)

0253 / Nav & Electro-Optical Supt



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0676: Improve ID Development	26.132	3.826	2.356	1.612	-	1.612	2.251	2.380	2.380	2.428	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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. The Improved ID Development project addresses the Mark XIIA Mode 5 upgrade to the existing AN/UPX-29(V) Mark XII family of systems that is Joint and North Atlantic Treaty Organization (NATO) interoperable. This exhibit also addresses the AN/UPX-29(V) antenna, the OE-120/UPX.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
<b>Title:</b> AN/UPX-29 (V) - OE-120/UPX Antenna Replacement  <b>Articles:</b>  <b>Description:</b> Engineering and integration development for antenna group OE-120/UPX modernization. Develop design studies and Analysis of Alternatives (AoA), draft specifications, and perform system development and integration efforts and support mission requirements, to include engineering investigations and Engineering Change Proposal (ECP) development to support mission readiness.  <b>FY 2013 Accomplishments:</b> Completion of Decision Analysis Support (DAS) to analyze industry capabilities to satisfy OE-120/UPX production and sustainment requirements. Delivery Order (DO) to BAE systems in support of the modernization of the phase shifter subassembly. The phase shifter is the biggest sustainment cost driver.  <b>FY 2014 Plans:</b> Address OE-120/UPX obsolescence issues as required. Integration and testing of antenna phase shifter and power supply modules.  <b>FY 2015 Plans:</b> Address OE-120/UPX obsolescence issues as required, including modernizing the microprocessor board. This is one of the assemblies currently experiencing obsolescence issues within the OE-120/UPX antenna.									2.637	1.180	1.208	
									-	-	-	
<b>Title:</b> Mark XIIA Mode 5 Improvement for AN/UPX-29(V)  <b>Articles:</b>									1.047	1.022	0.244	
									-	-	-	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604777N / Navigation/Id System	<b>Project (Number/Name)</b> 0676 / Improve ID Development	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p><b>Description:</b> Engineering, development, and integration of Mark XIIA Improvements to the AN/UPX-29(V). Correct deficiencies from Integrated Test and Operational Test (IT-OT) and baseline software and documentation; support mission requirements, to include engineering investigations and Engineering Change Proposal (ECP) development. Funds development and integration of Mark XIIA Improvements to the AN/UPX-29(V) systems on CG47, DDG51, LHD1, LPD17, LHA6, and CVN68 ship classes. Provides core Integrated Logistics Support (ILS) documentation; formalizes hardware/software configuration: finalizes technical/ design data, and resolves testing anomalies.</p> <p><b>FY 2013 Accomplishments:</b> Developed, tested and delivered software version 2.1.3. Successfully transitioned the integration of Mode 5 into the AN/UPX-24(V) to the software sustainment activity.</p> <p>Tested and delivered software version 2.1.3 to the following baselines: Aegis Weapon System (AWS) 6.3.2.3, Ballistic Missile Defense (BMD) 3.6.1.2, AWS 5.3.9.2 and 5.3.9.3, and BMD 4.0.1.1.</p> <p><b>FY 2014 Plans:</b> Continue to test and deliver software version 2.1.3 to the following baselines: Ship Self-Defense System (SSDS) and Advance Combat Direction System (ACDS) on LPD17, CVN68, CVN78, LHA6 and LHD1 ship classes.</p> <p>Evaluate software re-host with new system processors against emerging Aegis and SSDS combat systems. Support follow-on test and evaluation of Mode 5 capability on new ship classes/flights.</p> <p><b>FY 2015 Plans:</b> Evaluate software re-host with new system processors against emerging AWS and SSDS configurations. Support follow-on test and evaluation of Mode 5 capability on new ship classes/flights.</p>			
<p><b>Title:</b> AN/UPX-29(V) Management Support</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Engineering and Program Management of the AN/UPX 29 (V). Perform system integration efforts.</p> <p><b>FY 2013 Accomplishments:</b> Managed engineering assessments/evaluations/development efforts that provide resolution to engineering investigations and obsolescence issues.</p> <p><b>FY 2014 Plans:</b></p>		0.142 -	0.154 -
		0.160 -	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604777N / Navigation/Id System	<b>Project (Number/Name)</b> 0676 / Improve ID Development	

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Manage engineering assessments/evaluations/development efforts that provide resolution to engineering investigations and obsolescence issues.			
<b><i>FY 2015 Plans:</i></b> Manage engineering assessments/evaluations/development efforts that provide resolution to engineering investigations and obsolescence issues.			
<b>Accomplishments/Planned Programs Subtotals</b>	3.826	2.356	1.612

**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• OPN/2851: <i>Identification Systems</i>	27.896	34.834	34.901	-	34.901	33.133	27.396	28.348	30.320	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

The acquisition strategy is to develop Mode 5 Engineering Change Proposals for modern Mark XII 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 (FRP) Decision and Initial Operational Capability.

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Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity

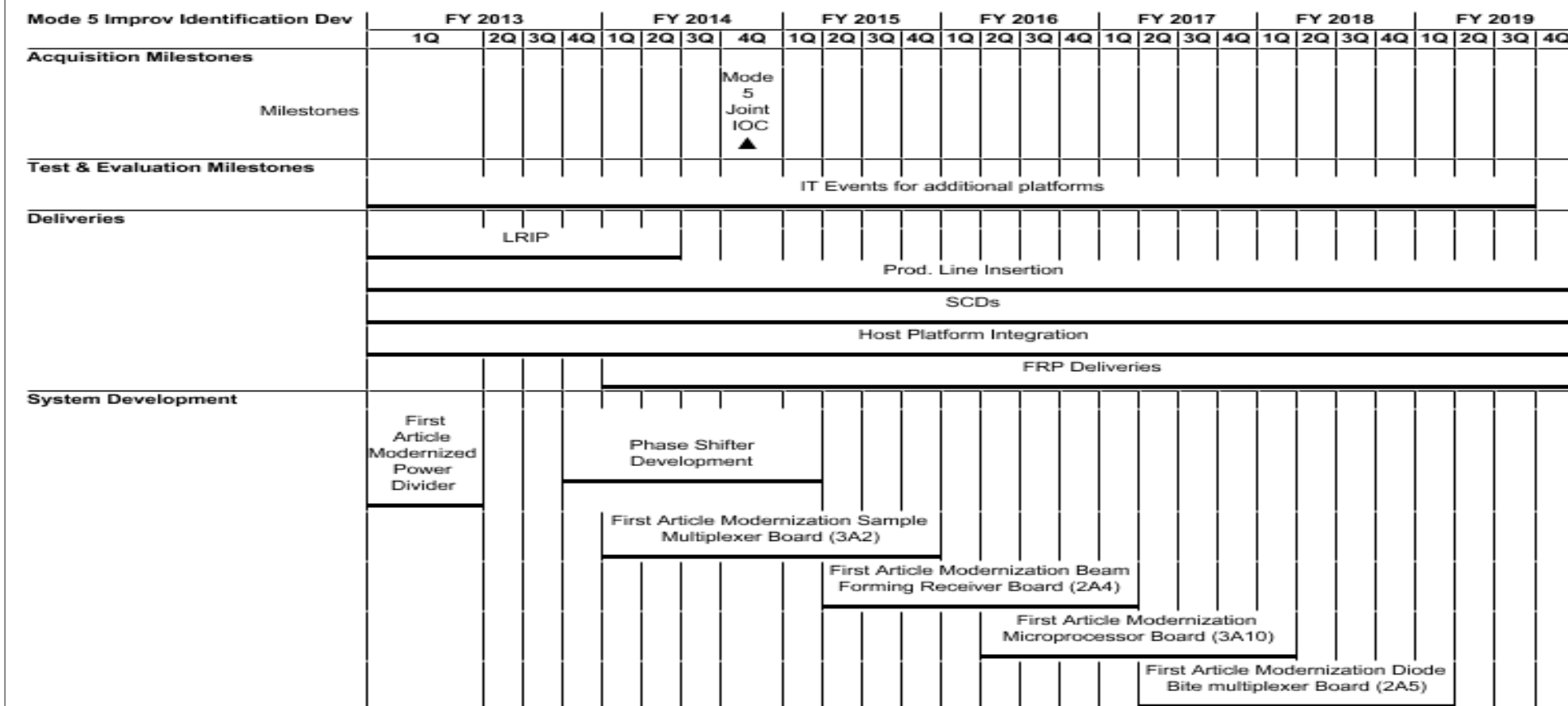
1319 / 5

R-1 Program Element (Number/Name)

PE 0604777N / Navigation/Id System

Project (Number/Name)

0676 / Improve ID Development



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604777N / Navigation/Id System				Project (Number/Name) 0921 / NAVSTAR GPS Equipment			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
0921: NAVSTAR GPS Equipment	982.760	17.237	16.104	18.011	-	18.011	18.108	18.335	18.445	18.946	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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 (Air and Sea NAVWAR) have been established and have become the basis for 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 & development of a Small Antenna System (SAS) for Surface ships and continue 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 primary GPS shipboard systems fielded on the majority of U.S. Navy ships today include the AN/WRN-6 and the Navigation Sensor System Interface (NAVSSI). These military GPS systems provide 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.

The Global Position System (GPS)- based Positioning, Navigation, and Timing (PNT) Service (GPNTS) system is being developed to replace stand-alone AN/WRN-6 receivers and integrated Navigation Sensor System Interface (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.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014					
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604777N / Navigation/Id System	Project (Number/Name) 0921 / NAVSTAR GPS Equipment					
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.								
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015			
<p><b>Title:</b> Air Navigation Warfare (NAVWAR)</p> <p><b>Articles:</b></p> <p><b>Description:</b> Overall program efforts included investigation of emerging technologies through study, development and associated testing for feasibility of program insertion.</p> <p><b>FY 2013 Accomplishments:</b> Assisted other air platforms with integration of anti-jam capability to include Unmanned Air Systems (UAS) and weapons. Completed validation and verification installations for all lots of F/A-18E/F and EA-18G receiving NAVWAR. Completed MH-53E and AV-8B installations. 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.</p> <p><b>FY 2014 Plans:</b> Continue to assist other air platforms with integration of anti-jam capability to include UAS and weapons. Begin production installations of NAVWAR in F/A-18F. 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.</p> <p><b>FY 2015 Plans:</b> Continue to assist other air platforms with integration of anti-jam capability to include UAS and weapons. Continue production installations of NAVWAR in F/A-18F. 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.</p>			1.601	2.084	2.649			
			-	-	-			
<p><b>Title:</b> Sea Navigation Warfare (NAVWAR)</p> <p><b>Articles:</b></p>			1.166	1.910	1.212			
			-	3.000	-			



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604777N / Navigation/Id System	Project (Number/Name) 0921 / NAVSTAR GPS Equipment		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
<p><b>Description:</b> Overall program efforts include investigation of emerging technologies through study, development, and associated testing for feasibility of program insertion.</p> <p><b>FY 2013 Accomplishments:</b> Increment 2: Completed CVN Developmental Testing (DT). The baseline NAVWAR product GPS Antenna System (GAS-1) and Advanced Digital Antenna Production (ADAP) was developed for large surface platforms; its size, weight and power (SWaP) are outside the projected requirement to provide anti-jam capabilities to smaller host platforms such as Patrol Coastal Ships (PCs). Increment 3: Transitioned Submarine Anti-Jam GPS Enhancement (SAGE) to OE-538 Increment 2 Mast program and updated Sea NAVWAR program Acquisition Program Baseline (APB) to remove Increment 3 program performance, cost and schedule parameters. Sea NAVWAR remains the Technical Authority for SAGE. SAGE development contract awarded to procure four SAGE prototypes to support risk reduction, technology maturation, integration, and Developmental Testing (DT) activities. Completed Preliminary Design Review and Critical Design Review with the SAGE Contractor.</p> <p><b>FY 2014 Plans:</b> Increment 2: Continue SAGE development and take deliveries of four Submarine AJ GPS Enhancement (SAGE) prototypes. Conduct SAGE DT, performance, and environmental testing. Provide GPS AJ antenna programmatic and technical support as needed.</p> <p><b>FY 2015 Plans:</b> Increment 2: Conduct Advanced Digital Antenna Production (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.</p>				
<p><b>Title:</b> Global Positioning System (GPS) - Based Positioning, Navigation and Timing (PNT) Service (GPNTS)</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Overall program efforts included investigation of emerging technologies through study, development and associated testing for feasibility of program insertion.</p> <p><b>FY 2013 Accomplishments:</b> Successfully completed the GPNTS Critical Design Review (CDR). Briefed the Milestone Decision Authority (MDA) on CDR outcomes. Obtained an updated Acquisition Decision Memorandum (ADM) to proceed from CDR to Milestone C. Completed the draft Life Cycle Support Plan (LCSP), Capabilities Production Document (CPD), and Test and Evaluation Master Plan (TEMP) to support a Milestone C decision. Received accreditation for both Contractor and Government Labs, preparing the program to conduct Integrated Test Events. Tracked the program's IMS, reported EVM metrics as required, and created the first Should-Cost</p>		14.470 -	12.110 1.000	14.150 -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604777N / Navigation/Id System				Project (Number/Name) 0921 / NAVSTAR GPS Equipment				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
initiatives. Began updates of all DoD series acquisition statutory and regulatory documentation as required to support a MS C decision.  <b>FY 2014 Plans:</b> Plan for the delivery of the Engineering Development Models (EDMs) and prepare for lab testing including Independent Verification and Validation (IV&V) test events. Prepare for conducting Combat Systems Certification Testing in Dahlgren, VA. Finalize IOT&E platform selection and install preparations. Track the program's IMS and report EVM metrics as required. Continue updating all DoD series acquisition statutory and regulatory documentation as required to support a MS C decision. Update the CARD, PLCCE, and Acquisition Program Baseline (APB) for the MS C decision.  <b>FY 2015 Plans:</b> Conduct the Independent Verification and Validation (IV&V) test event. Conduct Combat Systems Certification testing in Dahlgren, VA. Conduct the required Development Test/Operational Assessment (DT/OA) at Wallops Island, VA. Prepare for Initial Operational Test and Evaluation (IOT&E). Receive and install Engineering Development Models (EDMs) on appropriate sites and platforms. Finalize updates of all DoD series acquisition statutory and regulatory documentation as required to support a MS C decision. Plan for the integration of Military Global Positioning System (GPS) User Equipment into the GPNTS system. Conduct planning and preparation for procurement and installation of Low Rate Initial Production (LRIP) GPNTS terminals through IOT&E.												
Accomplishments/Planned Programs Subtotals										17.237	16.104	18.011
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN / 2657: NAVSTAR GPS Receivers (Space)	9.515	11.765	15.232	-	15.232	14.348	15.155	18.876	21.992	Continuing	Continuing	
• APN / 0577: Common Avionics	8.025	6.269	7.524	-	7.524	7.849	7.985	8.090	8.240	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 is GPS Antenna System (GAS-1). Increment 2 is Advanced Digital Antenna Production (ADAP). The purpose of Increments 1 and 2 is to integrate AJ antennas on surface platforms. The Sea NAVWAR program will continue research & development of a Small Antenna System (SAS) for surface ships and continue 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 executed in a single increment with GAS-1 and ADAP to integrate on air platforms, and development of a smaller Anti-Jam (AJ) antenna and a conformal low-observable AJ antenna for aircraft with unique requirements.												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604777N / <i>Navigation/Id System</i>	<b>Project (Number/Name)</b> 0921 / <i>NAVSTAR GPS Equipment</i>
<p>GPNTS: The GPS-based Positioning Navigation and Timing (GPNTS) program will be conducted in two increments. Increment 1 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). Increment 2 will 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.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>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.</p> <p>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.</p> <p>The primary metrics used for the GPNTS is successful completion of the system development as outlined in the GPNTS Technical Requirements Document (TRD).</p>		

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**

1319 / 5

**R-1 Program Element (Number/Name)**

PE 0604777N / Navigation/Id System

**Project (Number/Name)**

0921 / NAVSTAR GPS Equipment

Fiscal Year	FY13				FY14				FY15				FY16				FY17				FY18				FY19			
Quarter	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
<b>Air Navigation Warfare (NAVWAR) Acquisition M/S *</b>		△ ADAP Opt				△ ADAP Opt				△ ADAP Opt				△ ADAP Opt				△ ADAP Opt				△ ADAP Opt				△ ADAP Opt		
		△ C-CRPA Opt				△ C-CRPA Opt				△ C-CRPA Opt				△ C-CRPA Opt				△ C-CRPA Opt				△ C-CRPA Opt				△ C-CRPA Opt		
<b>Air Navigation Warfare (NAVWAR) Integration and T&amp;E M/S **</b>																												
<b>Air Navigation Warfare (NAVWAR) Platform Installation</b>																												
<b>System Deliveries***</b>		47				28				36				24				26				26				26		

\* ADAP (Advanced Digital Antenna Production), C-CRPA (Conformal Controlled Reception Pattern Antenna).

\*\* MDA direction of 3/30/06 directed streamlining Air NAVWAR program from three phases to one. Milestone C decision of Oct 2001 applies to all current phases.

\*\*\* APN quantities are approximate year-end total number of NAVWAR system deliveries. Quantities do not include RDT&E units, Spares, or those projected for new construction aircraft.

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Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Navy

Date: March 2014

## Appropriation/Budget Activity

1319 / 5

## R-1 Program Element (Number/Name)

PE 0604777N / Navigation/Id System

## Project (Number/Name)

0921 / NAVSTAR GPS Equipment

Fiscal Year	FY13				FY14				FY15				FY16				FY17				FY18				FY19			
Quarter	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
Global Positioning System (GPS) - Based Positioning, Navigation and Timing (PNT) Service (GPNTS) Milestone/Acquisition Increment 1 *				△ CDR							△ MS C				△ IOC	△ FRP DR												
Milestone/Acquisition Increment 2									PRE MS B Activities								△ MSB	Engineering and Manufacturing Development								△ MSC		
GPNTS Contracts									△ EDM Delivery		△ LRIP Option						△ FRP Option											
GPNTS Test & Evaluation Increment 1 *				△ Integrated Testing							△ OTRR				△ IOT&E													
											△ Technical Eval				△ JTC Testing													
System Deliveries													6				8				8				14			

\* 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.

\* Increment 1 will develop, acquire, and field a baseline GPNTS integrating current Selective Availability Anti-Spoof Module (SAASM) GPS receiver. GPNTS will be based on open standards in a Service Oriented Architecture (SOA) that will provide an open, extensible, and modernized replacement for the current fleet PNT systems, while targeting Common Computing Environments (CCE).

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604777N / Navigation/Id System

Project (Number/Name)

0921 / NAVSTAR GPS Equipment

Fiscal Year	FY13				FY14				FY15				FY16				FY17				FY18				FY19			
Quarter	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
Sea Navigation Warfare (NAVWAR)																												
Acquisition M/S																												
Sea Increment 2 (ADAP)*																												
Sea Navigation Warfare (NAVWAR)																												
Contracting Activities																												
SAS/SAGE**																												
Sea Navigation Warfare (NAVWAR)																												
System Development																												
SAS/SAGE**																												
Sea Navigation Warfare (NAVWAR)																												
Platform T&E M/S																												
Sea Increment 2 (ADAP)																												
SAS/SAGE**																												
Sea Navigation Warfare (NAVWAR)																												
Platform Installation																												
Sea Increment 2 (ADAP)*																												
System Deliveries***																												

\*ADAP is the Advanced Digital Antenna Production program

\*\*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.

\*\*\*Quantities are approximate year-end total number of NAVWAR system deliveries. Quantities do not include RDT&E units, SCN or Spares.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
1253: Combat Ident System	152.112	11.096	20.107	3.245	-	3.245	3.869	3.665	1.899	1.940	Continuing	Continuing
Quantity of RDT&E Articles	71.000	10.000	-	1.000	-	1.000	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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. Mode 5 is a product improvement which is designed to be installed through engineering changes to digital MK XII 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) endorsed a Mode 5 Joint Initial Operational Capability (IOC) in FY14 and Joint Full Operational Capability (FOC) in 2020.												
RDT&E articles include Mode 5 cryptographic modules and associated hardware and software changes for 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 2013	FY 2014	FY 2015	
Title: Mode 5 prototype hardware, cryptographic module									4.873	11.327	0.397	
									10.000	-	-	
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). Repair and correct deficiencies identified during integration and test. Procure 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 2013 Accomplishments: Continued integration with the H10 Mission Computer software and finalized equipment qualification testing of the Mode 5 AN/APX-111 Combined Interrogator Transponder (CIT) in the F/A-18E/F and EA-18G aircraft. Finalized APX-123 engineering change on E-2D aircraft.												
FY 2014 Plans: Continue integration of the Mode 5 AN/APX-111 Combined Interrogator Transponder (CIT) in the F/A-18E/F and EA-18G aircraft.												
FY 2015 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604777N / Navigation/Id System		Project (Number/Name) 1253 / Combat Ident System	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Finalize integration of the Mode 5 AN/APX-111 CIT in the F/A-18E/F and EA-18G aircraft.					
<b>Title:</b> Mode 5 Systems Engineering and Integrated Logistics Support (ILS)  <b>Description:</b> Performed systems engineering and analysis in support of Mode 5 hardware/software development and engineering change proposals on 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.  <b>FY 2013 Accomplishments:</b> Continued systems engineering and analysis for E-2D, F/A-18E/F and EA-18G aircraft. Supported USAF led integration of the AN/APX-119 transponder in the multi-service C-130 aircraft.  <b>FY 2014 Plans:</b> Continue systems engineering and logistics efforts for KC-130J and F/A-18E/F and EA-18G.  <b>FY 2015 Plans:</b> Continue systems engineering and logistics efforts for various platforms (including KC-130J aircraft).			1.678 -	2.769 -	1.167 -
<b>Title:</b> Mode 5 Upgrade Developmental Test & Operational Test  <b>Description:</b> 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.  <b>FY 2013 Accomplishments:</b> Completed lab testing and commenced flight testing on the Mode 5 capable AN/APX-111 as installed in the F/A-18E/F & EA-18G aircraft. Performed integrated testing on E-2D aircraft.  <b>FY 2014 Plans:</b> 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.  <b>FY 2015 Plans:</b> 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.			4.545 -	6.011 -	1.681 1.000
<b>Accomplishments/Planned Programs Subtotals</b>			11.096	20.107	3.245



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604777N / Navigation/Id System				Project (Number/Name) 1253 / Combat Ident System				
C. Other Program Funding Summary (\$ in Millions)												
			FY 2015	FY 2015	FY 2015						Cost To	
Line Item	FY 2013	FY 2014	Base	OCO	Total	FY 2016	FY 2017	FY 2018	FY 2019	Complete	Total Cost	
• OPN/2851: Identification Systems	27.896	34.834	34.901	-	34.901	33.133	27.396	28.348	30.320	Continuing	Continuing	
• APN/0582: Identification Systems	35.386	38.303	38.880	-	38.880	58.731	46.271	46.395	47.342	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 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 (IOC) in FY 2014.												

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PE 0604777N: *Navigation/Id System*  
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Project (Number/Name)	Start Date	End Date	Duration (Days)	Progress (%)	Status	Notes
101	2023-01-01	2023-01-15	14	100	Completed	Project 101 completed on time.
102	2023-01-15	2023-02-01	16	75	In Progress	Project 102 is 75% complete.
103	2023-02-01	2023-02-15	14	50	In Progress	Project 103 is 50% complete.
104	2023-02-15	2023-03-01	15	25	In Progress	Project 104 is 25% complete.
105	2023-03-01	2023-03-15	14	10	In Progress	Project 105 is 10% complete.
106	2023-03-15	2023-03-31	15	0	Not Started	Project 106 has not started yet.
107	2023-03-31	2023-04-15	15	0	Not Started	Project 107 has not started yet.
108	2023-04-15	2023-04-30	15	0	Not Started	Project 108 has not started yet.
109	2023-04-30	2023-05-15	15	0	Not Started	Project 109 has not started yet.
110	2023-05-15	2023-05-31	15	0	Not Started	Project 110 has not started yet.

PE 0604777N / Navigation/Id System

1253 / *Combat Ident System*2015OSD - 0604777N - 1253

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	42,069.810	639.059	415.727	513.021	-	513.021	596.845	514.253	242.263	179.815	Continuing	Continuing
2262: Joint Strike Fighter EMD STOVL	42,069.810	639.059	399.323	487.068	-	487.068	525.008	393.609	84.467	10.892	Continuing	Continuing
3350: F-35B Sustainment/ Capability Enhancements	0.000	-	14.904	11.980	-	11.980	11.952	-	-	-	-	38.836
3351: F-35B Follow-on Development	0.000	-	-	13.973	-	13.973	59.885	120.644	157.796	168.923	Continuing	Continuing
9999: Congressional Adds	0.000	-	1.500	-	-	-	-	-	-	-	-	1.500
MDAP/MAIS Code: 198												
# The FY 2015 OCO Request will be submitted at a later date.												
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. FY2015 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. FY14 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.												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy			Date: March 2014			
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				
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						
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget		737.149	512.631	592.304	-	592.304
Current President's Budget		639.059	415.727	513.021	-	513.021
Total Adjustments		-98.090	-96.904	-79.283	-	-79.283
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-98.404			
• Congressional Rescissions		-	-			
• Congressional Adds		-	1.500			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-15.263	-			
• Rate/Misc Adjustments		0.001	-	-79.283	-	-79.283
• Congressional General Reductions Adjustments		-64.628	-	-	-	-
• Congressional Directed Reductions Adjustments		-18.200	-	-	-	-
Congressional Add Details (\$ in Millions, and Includes General Reductions)						
Project: 9999: Congressional Adds						
Congressional Add: JSF Block 4 - USMC Cong						
Congressional Add Subtotals for Project: 9999						
		FY 2013	FY 2014			
		-	1.500			
		-	1.500			

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PE 0604800M: (U)Joint Strike Fighter (JSF) - EMD  
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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2262: Joint Strike Fighter EMD STOVL	42,069.810	639.059	399.323	487.068	-	487.068	525.008	393.609	84.467	10.892	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note Total cost including United States Navy (USN), United States Marine Corps (USMC), International partner contributions and United States Air Force (USAF) funding are: FY13 \$2,528.415M, FY14 \$1,453.860M, and FY15 \$1,514.181M R-2 data reflects variant unique funding only.  R2A table shown above reflects service 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  JSF Follow on Development Includes: USAF PE 0207142F BPAC 675346 USN PE 0604800N Project Unit 3353 USMC PE 0604800M Project Unit 3351  JSF Dual Capability Aircraft Includes: USAF PE 0207142F BPAC 676011												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800M I (U)Joint Strike Fighter (JSF) - EMD	Project (Number/Name) 2262 I Joint Strike Fighter EMD STOVL		
<b>A. Mission Description and Budget Item Justification</b> 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-18A/C/D 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.  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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> System Development and Demonstration (SDD)		1,667.182	458.938	667.565
<b>Articles:</b>		-	-	-
<b>Description:</b> SDD execution of the Air System (Lockheed Martin) including International Commonality Effort; includes airframe, vehicle and mission systems, autonomic logistics, systems engineering & test efforts.				
<b>FY 2013 Accomplishments:</b> Continue SDD execution of Air System (Lockheed Martin), including International Commonality Effort. Efforts include airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts.				
<b>FY 2014 Plans:</b>				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800M I (U)Joint Strike Fighter (JSF) - EMD	Project (Number/Name) 2262 I Joint Strike Fighter EMD STOVL		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
Continue SDD execution of Air System (Lockheed Martin), including International Commonality Effort. Efforts include airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS with planned completion of SDD in 2018. <b>FY 2015 Plans:</b> Continue SDD execution of Air System (Lockheed Martin), including International Commonality Effort. Efforts include airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. Activity aligned to IMS with planned completion of SDD in 2018.				
<b>Title:</b> F135 Propulsion System  <b>Articles:</b>  <b>Description:</b> SDD execution of the F135 Propulsion System (Pratt & Whitney) including International Commonality Effort; includes testing, autonomic logistics, integration & performing technology maturation efforts.  <b>FY 2013 Accomplishments:</b> Continue SDD execution of F135 Propulsion System (Pratt & Whitney), including engine testing, autonomic logistics, integration and performing technology maturation efforts.  <b>FY 2014 Plans:</b> Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that includes engine testing, autonomic logistics, integration and performing technology maturation efforts.  <b>FY 2015 Plans:</b> Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that includes engine testing, autonomic logistics, integration and performing technology maturation efforts.		340.219 -	359.749 -	229.175 -
<b>Title:</b> Systems Engineering (SE)  <b>Articles:</b>  <b>Description:</b> SDD SE including systems operations requirements analysis, program integration, requirements integration, and interoperability support.  <b>FY 2013 Accomplishments:</b> Continued SDD Systems Engineering that includes systems operations requirements analysis, program integration, requirements integration, and interoperability support.  <b>FY 2014 Plans:</b>		50.495 -	36.395 -	29.901 -



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604800M I (U)Joint Strike Fighter (JSF) - EMD	Project (Number/Name) 2262 I Joint Strike Fighter EMD STOVL		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
Continued SDD Systems Engineering 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.					
Title: Development Test and Evaluation (DT&E)			360.658	464.985	477.990
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 2013 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 2014 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 (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.					
Title: Development Support			109.861	133.793	109.550
Articles:			-	-	-
Description: SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.					
FY 2013 Accomplishments: Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.					
FY 2014 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015
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: 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.											
Accomplishments/Planned Programs Subtotals									2,528.415	1,453.860	1,514.181
RDTE&E, AF 0604800F									1,115.712	612.254	535.420
International Partner (SDD)									148.772	18.030	6.430
RDT&E,N (Navy) 0604800N/2261									624.872	424.253	485.263
Navy Subtotals									639.059	399.323	487.068
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDT&E/0604800F: Joint Strike Fighter	1,115.712	612.254	535.420	-	535.420	522.575	327.100	115.413	5.250	-	22,021.781
• International: International Partner (SDD)	148.772	18.030	6.430	-	6.430	2.600	8.080	3.040	-	-	4,949.575
• APAF/0207142F: F-35 Joint Strike Strike Fighter	2,532.184	2,889.602	3,553.046	-	3,553.046	5,138.558	5,262.325	5,943.415	5,770.781	148,305.400	192,028.494
• RDT&E/0604800N/2261: JT Strike Fighter (JSF) - EMD	624.872	424.253	485.263	-	485.263	537.152	402.492	18.485	1.083	-	19,974.402
• APN/0605B: F-35 Joint Strike Fighter STOVL Spares	91.752	41.707	85.194	-	85.194	111.105	65.194	153.914	69.699	Continuing	Continuing
• APN/0147C: F-35 Joint Strike Fighter CV AP	30.699	79.016	29.400	-	29.400	73.800	123.000	196.768	246.000	3,605.667	5,648.780
• APN/0605C: F-35 Joint Strike Fighter CV Spares	26.089	42.060	28.200	-	28.200	28.200	136.134	101.997	201.771	Continuing	Continuing
• MC/0207142F: USAF MILCON	13.513	23.500	39.900	-	39.900	14.900	3.250	61.000	-	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800M I (U)Joint Strike Fighter (JSF) - EMD				Project (Number/Name) 2262 I Joint Strike Fighter EMD STOVL				
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• APAF/0204142F: USAF Modification Funding	80.715	126.777	187.646	-	187.646	221.826	250.178	254.903	262.733	Continuing	Continuing	
• FOD/0207142F: USAF Follow-on Development	-	3.000	28.051	-	28.051	117.812	244.464	313.398	336.942	-	1,043.667	
• 0207142F/USAF: USAF Spares	163.151	89.050	236.418	-	236.418	270.431	278.552	380.165	457.051	Continuing	Continuing	
• OPN/4267: Autonomic Logistics Information System (ALIS)	2.824	3.427	-	-	-	-	-	-	-	-	6.251	
• USAF/OPAF PE 27142F: OPAF	338.000	1.431	4.463	-	4.463	3.858	2.333	2.374	2.415	Continuing	Continuing	
• APN/0592: F-35 STOVL Series	-	111.158	285.968	-	285.968	278.596	173.231	178.035	181.759	Continuing	Continuing	
• APN/0593: F-35 CV Series	-	29.950	20.502	-	20.502	37.336	47.953	51.409	53.388	Continuing	Continuing	
• RDT&E/0604800N/3352: F-35C Sustainment/ Capability Enhancements	-	14.992	16.997	-	16.997	16.977	-	-	-	-	48.966	
• RDT&E/0604800N/3353: F-35C Follow-on Development	-	-	14.196	-	14.196	59.116	123.467	157.922	170.015	-	524.716	
• USAF SDD BP 653832: Deployability and Suitability Enhancements	14.167	16.200	32.593	-	32.593	29.657	-	-	-	-	92.617	
• PAF/0207142F: JSF CTOL Advance Procurement	293.400	339.533	291.880	-	291.880	438.808	528.560	522.180	497.720	18,140.460	22,285.046	
• DCA/0207142F 676011: Dual Capable Aircraft (DCA)	-	-	15.615	-	15.615	-	-	-	-	-	15.615	
• APN/0147: F-35 Joint Strike Fighter CV	808.000	1,028.415	610.652	-	610.652	629.916	1,135.967	1,394.026	1,974.142	30,575.452	47,756.623	
• APN/0152C: F-35 Joint Strike Fighter STOVL AP	98.061	103.195	143.885	-	143.885	203.057	226.014	136.732	139.330	3,044.411	4,836.075	
• APN/0152: F-35 Joint Strike Fighter STOVL	1,094.421	1,176.498	1,200.410	-	1,200.410	1,451.916	2,061.990	2,726.113	2,810.778	27,238.439	41,455.992	
• USN MILCON: USN JSF MILCON	117.600	209.000	320.500	-	320.500	151.700	48.100	-	169.700	660.900	2,259.300	
• RDT&E/0604800N/3194: USN USRL	17.477	-	-	-	-	-	-	-	-	-	147.205	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014	
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			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• International 2:	1,487.584	1,924.048	3,205.900	-	3,205.900	6,109.330	7,280.752	6,686.294	4,192.377	-	34,149.323
International Procurement											
• OPN/4268: Logistics	-	-	6.016	-	6.016	3.946	2.262	4.122	3.969	9.408	29.723
Information System (ALIS)											
• MC/0207597F: USAF MILCON	-	32.500	26.800	-	26.800	35.500	11.400	74.850	-	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
<p>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 &amp; 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.</p> <p>On 25 April 2011, the Department of Defense terminated the development of the General Electric Rolls-Royce Fighter Engine Team F136 propulsion system.</p> <p>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.</p> <p>In Fiscal Year 2007, separate cost-type contracts were awarded to Lockheed Martin Aeronautics Company and Pratt &amp; 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 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 &amp; Whitney.</p> <p>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.</p>											
E. Performance Metrics											
<p>The following are the key performance parameters from the F-35 Selected Acquisition Report dated 31 December 2012:</p> <p>Performance Metrics reflect Key Program Performance data.</p> <p>Combat Radius</p>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800M / (U)Joint Strike Fighter (JSF) - EMD	<b>Project (Number/Name)</b> 2262 / Joint Strike Fighter EMD STOVL
<p>Conventional Take Off and Landing Does Not Meet Requirement</p> <p>Carrier Variant (CV) Meets Tripwire Requirement</p> <p>Short Take Off Vertical Landing (STOVL) Meets/Exceeds Tripwire Requirement</p> <p>CV Recovery</p> <p>Maximum Approach Speed Meets Requirement In Tripwire Band</p> <p>STOVL Performance</p> <p>Flat Deck (High-High-High Profile Fuel) Meets Requirement In Tripwire Band</p> <p>Ski Jump (High-Medium-Medium-High Profile Fuel) Meets Requirement In Tripwire Band</p> <p>Vertical Landing Bring Back Meets Requirement In Tripwire Band</p> <p>Interoperability</p> <p>Net Ready Criteria- Meets Requirement In Tripwire Band</p> <p>Radio Frequency Signature Meets/Exceeds Tripwire Requirement</p> <p>Force Protection</p> <p>CB Pilot Protection (New Key Performance Parameters Per CN3) - Meets/Exceeds Tripwire Requirement</p> <p>Mission Reliability</p> <p>Conventional Take Off and Landing (CTOL) Meets/Exceeds Tripwire Requirement</p> <p>Carrier Variant (CV) Exceeds Operational Requirements Document Objective</p> <p>Short Takeoff and Vertical Landing (STOVL) United States Marine Corps (USMC) Meets/Exceeds Tripwire Requirement</p> <p>STOVL United Kingdom (UK) Meets/Exceeds Tripwire Requirement</p> <p>Sortie Generation Rate</p> <p>CTOL Meets/Exceeds Tripwire Requirement</p> <p>CV Meets/Exceeds Tripwire Requirement</p> <p>STOVL USMC Meets/Exceeds Tripwire Requirement</p> <p>STOVL UK Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprints</p> <p>CTOL Meets/Exceeds Tripwire Requirement</p> <p>STOVL USMC Meets/Exceeds Tripwire Requirement</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800M I (U)Joint Strike Fighter (JSF) - EMD	Project (Number/Name) 2262 I Joint Strike Fighter EMD STOVL
<div>Logistics Footprint- Volume</div> <div>CV Exceeds Operational Requiremets Document (ORD) Objective</div> <div>STOVL USMC Exceeds ORD Objective</div> <div>STOVL UK Meets/Exceeds Tripwire Requirement</div> <div>Logistics Footprint-Weight</div> <div>CV Exceeds ORD Objective</div> <div>STOVL USMC Exceeds ORD Objective</div> <div>STOVL UK Meets/Exceeds Tripwire Requirement</div>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Lockheed Martin - SDD	C/CPAF	Lockheed Martin : Ft. Worth, TX	29,342.589	1,665.258	Oct 2012	458.938	Dec 2013	667.564	Dec 2014	-		667.564	1,758.561	33,892.910	33,892.910
Lockheed Martin - IDIQ D0022	SS/IDIQ	Lockheed Martin : Ft. Worth, TX	26.477	1.327	Oct 2012	-		-		-		-	-	27.804	27.804
Lockheed Martin 09-D-0005	SS/IDIQ	Lockheed Martin : Ft. Worth, TX	0.903	0.597	Nov 2012	-		-		-		-	-	1.500	1.500
Lockheed Martin - IDIQ D0009	SS/IDIQ	Lockheed Martin : Ft. Worth, TX	16.759	-		-		-		-		-	-	16.759	16.759
Lockheed Martin - BOA	SS/BOA	Lockheed Martin : Ft. Worth, TX	3.511	-		-		-		-		-	-	3.511	3.511
Pratt and Whitney - SDD	C/CPAF	Pratt and Whitney : Hartford, CT	7,184.247	340.219	Oct 2012	359.749	Dec 2013	229.175	Dec 2014	-		229.175	259.821	8,373.211	8,373.211
Pratt and Whitney - Close Out Contract C0132	C/CPFF	Pratt and Whitney : Hartford, CT	1.364	-		-		-		-		-	-	1.364	1.364
Pratt and Whitney - Close Out Contract C0050	SS/CPFF	Pratt and Whitney : Hartford, CT	2.211	-		-		-		-		-	-	2.211	2.211
Pratt and Whitney - BOA	SS/BOA	Pratt & Whitney : Hartford, CT	35.983	-		-		-		-		-	-	35.983	35.983
Pratt and Whitney - IDIQ	SS/IDIQ	Pratt and Whitney : Hartford, CT	10.925	-		-		-		-		-	-	10.925	10.925
General Electric - SDD	SS/CPAF	FET : Cincinnati, OH	2,160.573	-		-		-		-		-	-	2,160.573	2,160.573
General Electric - IDIQ D0009	SS/IDIQ	FET : Cincinnati, OH	0.264	-		-		-		-		-	-	0.264	0.264
General Electric - IDIQ D0074	SS/IDIQ	FET : Cincinnati, OH	4.175	-		-		-		-		-	-	4.175	4.175
General Electric - F136 Transition	SS/CPFF	FET : Cincinnati, OH	100.400	-		-		-		-		-	-	100.400	100.400
General Electric - BOA	SS/BOA	FET : Cincinnati, OH	5.548	-		-		-		-		-	-	5.548	5.548
General Electric - Phase IIlb	SS/CPAF	FET : Cincinnati, OH	382.753	-		-		-		-		-	-	382.753	382.753
Systems Engineering	Various	Various : Various	339.051	39.434	Nov 2012	32.188	Nov 2013	25.671	Nov 2014	-		25.671	72.732	509.076	509.076
Subtotal			39,617.733	2,046.835		850.875		922.410		-		922.410	2,091.114	45,528.967	45,528.967

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604800M I (U)Joint Strike Fighter (JSF) - EMD				Project (Number/Name) 2262 I Joint Strike Fighter EMD STOVL					
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AFFTC/Eglin	Various	Eglin AFB : Eglin, FL	104.588	7.702	Oct 2012	5.416	Nov 2013	8.613	Nov 2014	-		8.613	8.890	135.209	-
ASC/AFRL	Various	ASC/AFRL : Dayton, OH	56.631	4.507	Oct 2012	2.525	Nov 2013	1.548	Nov 2014	-		1.548	2.775	67.986	-
Bolling AFB	Various	Bolling AFB : Washington, DC	6.775	-		-		-		-		-	-	6.775	-
DMEA	Various	DMEA : McClellan, CA	5.630	-		-		-		-		-	-	5.630	-
ESC	Various	ESC : Hanscom AFB, MA	7.103	-		-		-		-		-	-	7.103	-
AEDC/Fuel	Various	AEDC/Fuel : Arnold, TN	149.426	17.375	Nov 2012	18.753	Nov 2013	17.215	Nov 2014	-		17.215	11.995	214.764	-
NADEP Jacksonville	Various	NADEP : Jacksonville, FL	9.525	-		-		-		-		-	-	9.525	-
Miscellaneous	Various	Various : Various	76.845	13.959	Nov 2012	37.488	Nov 2013	28.736	Nov 2014	-		28.736	40.063	197.091	-
NAWC China Lake	Various	NAWC WD : China Lake, CA	110.595	7.340	Nov 2012	20.710	Nov 2013	15.187	Nov 2014	-		15.187	21.398	175.230	-
NAWC Patuxent River	Various	NAWC AD : Patuxent, MD	318.273	35.749	Nov 2012	29.621	Nov 2013	29.368	Nov 2014	-		29.368	42.931	455.942	-
NAWC TSD	Various	NAWC TSD : Orlando, FL	11.609	-		-		-		-		-	-	11.609	-
NSWC	Various	Various : Indian Head, MD	3.813	-		-		-		-		-	-	3.813	-
SPAWAR	Various	Various : San Diego, CA	8.434	-		-		-		-		-	-	8.434	-
DFAS	Various	Various : Various	0.000	-		-		-		-		-	-	-	-
SBIR Technology Insertion Congressional Add	Various	Various : Various	24.187	-		-		-		-		-	-	24.187	-
Subtotal			893.434	86.632		114.513		100.667		-		100.667	128.052	1,323.298	-



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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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					
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NAWC China Lake	Various	NAWC WD : China Lake, CA	31.523	3.690	Nov 2012	3.820	Nov 2013	4.971	Nov 2014	-		4.971	14.913	58.917	-
NAWC Patuxent River	Various	NAWC AD : Patuxent River, MD	404.071	115.715	Nov 2012	153.350	Nov 2013	183.426	Nov 2014	-		183.426	172.360	1,028.922	-
Edwards AFB	Various	Edwards AFB : Edwards AFB, CA	407.325	77.419	Nov 2012	130.000	Nov 2013	100.775	Nov 2014	-		100.775	108.049	823.568	-
Other (including Classified PIDs)	Various	Various : Various	55.605	63.637	Nov 2012	61.803	Nov 2013	69.754	Nov 2014	-		69.754	77.756	328.555	-
WEPS/Eglin	Various	WEPS/Eglin : Various	27.829	-		-		-		-		-	-	27.829	-
JTIC	Various	Various : Various	0.000	-		-		-		-		-	-	-	-
OT-AFOTEC/AFFC	Various	OT-AFOTEC/ AFFTC : Kirkland AFB, NM/Eglin AFB, FL	107.802	12.152	Nov 2012	32.740	Nov 2013	89.876	Nov 2014	-		89.876	287.252	529.822	-
OT-JITC/OPTEV	Various	OT-JITC/OPTEC : Various	6.211	11.721	Oct 2012	-		-		-		-	-	17.932	-
Subtotal			1,040.366	284.334		381.713		448.802		-		448.802	660.330	2,815.545	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Business Integration - Cost ACT I	SS/CPFF	ACT I : Arlington, VA	8.604	2.334	Dec 2012	3.248	Dec 2013	3.362	Dec 2014	-		3.362	-	17.548	17.548
Security Mantech	C/FP	Mantech : Arlington, VA	57.282	8.617	Dec 2012	11.600	Dec 2013	-		-		-	-	77.499	77.499
Business Integration - Acq PA Cons	Various	Various : Various	0.000	-		-		-		-		-	-	-	-
Autolog - SEIT DRC	C/CPFF	DRC : Arlington, VA	2.573	-		-		-		-		-	-	2.573	2.573
Chief Engineer - First Principles	C/CPFF	First Principles : Arlington, VA	5.004	1.836	Nov 2012	1.928	Dec 2013	2.024	Dec 2014	-		2.024	2.024	12.816	12.816

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604800M I (U)Joint Strike Fighter (JSF) - EMD				Project (Number/Name) 2262 I Joint Strike Fighter EMD STOVL					
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ASC Civilian Pay	Various	ASC CIVPAY : Wright Patterson, AFB, OH	14.654	24.092	Oct 2012	18.586	Oct 2013	24.225	Oct 2014	-		24.225	36.450	118.007	-
Operations Wyle	C/CPFF	Wyle : Arlington, VA	102.871	23.500	Dec 2012	24.884	Dec 2013	-		-		-	-	151.255	151.255
Operations SAFTAS	C/CPAF	Saftas : Arlington, VA	122.263	20.707	Dec 2012	17.350	Dec 2013	-		-		-	-	160.320	160.320
Operations Stanley	C/CPAF	Stanley : Arlington, VA	181.370	20.707	Oct 2012	24.604	Dec 2013	-		-		-	-	226.681	226.681
GE F136 Congressional Studies	Various	Various : Various	0.800	-		-		-		-		-	-	0.800	0.800
Travel and Misc	Various	Various : Various	15.771	1.736	Dec 2012	4.559	Nov 2013	1.816	Dec 2014	-		1.816	5.252	29.134	-
PMA Cost	Various	Various : Various	7.085	7.085	Oct 2012	-		10.875	Oct 2014	-		10.875	34.027	59.072	-
Subtotal			518.277	110.614		106.759		42.302		-		42.302	77.753	855.705	-
Remarks Cumulative Award Fee earned in prior years for Stanley is 99%.															
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals			42,069.810	2,528.415		1,453.860		1,514.181		-		1,514.181	2,957.249	50,523.515	-
RDTE&E, AF 0604800F			-	1,115.712		612.254		535.420		-		535.420			-
International Partner (SDD)			-	148.772		18.030		6.430		-		6.430			-
RDT&E,N (Navy) 0604800N/2261			-	624.872		424.253		485.263		-		485.263			-
Project Cost Totals			42,069.810	639.059		399.323		487.068		-		487.068	2,957.249	50,523.515	-
Remarks NOTE 1: Prior Years reflect \$18,788.057M USAF/\$17,355.294M USN/\$1,163.836 USMC /\$4,762.623M International/Total \$42,069.810M  FY 2013 reflects \$1,115.712 USAF/\$624.872M USN/\$639.059M USMC/\$148.772M International/Total \$2,528.415M  FY 2014 reflects \$612.254M USAF/\$424.253M USN/\$399.323M USMC/\$18.030M International/Total \$1,453.860M  FY 2015 reflects \$535.420M USAF/\$485.263 USN/\$487.068M USMC/\$6.430M International/Total \$1,514.181M															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy							Date: March 2014			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800M I (U)Joint Strike Fighter (JSF) - EMD			Project (Number/Name) 2262 I Joint Strike Fighter EMD STOVL			
	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract	
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										
D&S Includes: USAF PE 0604800F BPAC 653832 USN PE 0604800N Project Unit 3352 USMC PE 0604800M Project Unit 3350										
JSF Follow on Development Includes: USAF PE 0207142F BPAC 675346 USN FY13 PE 0604800N Project Unit 2261 USN FY14 PE 0604800N Project Unit 3353 USMC FY13 PE 0604800M Project Unit 2262 USMC FY14 PE 0604800M Project Unit 3351										

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

Date: March 2014

Appropriation/Budget Activity

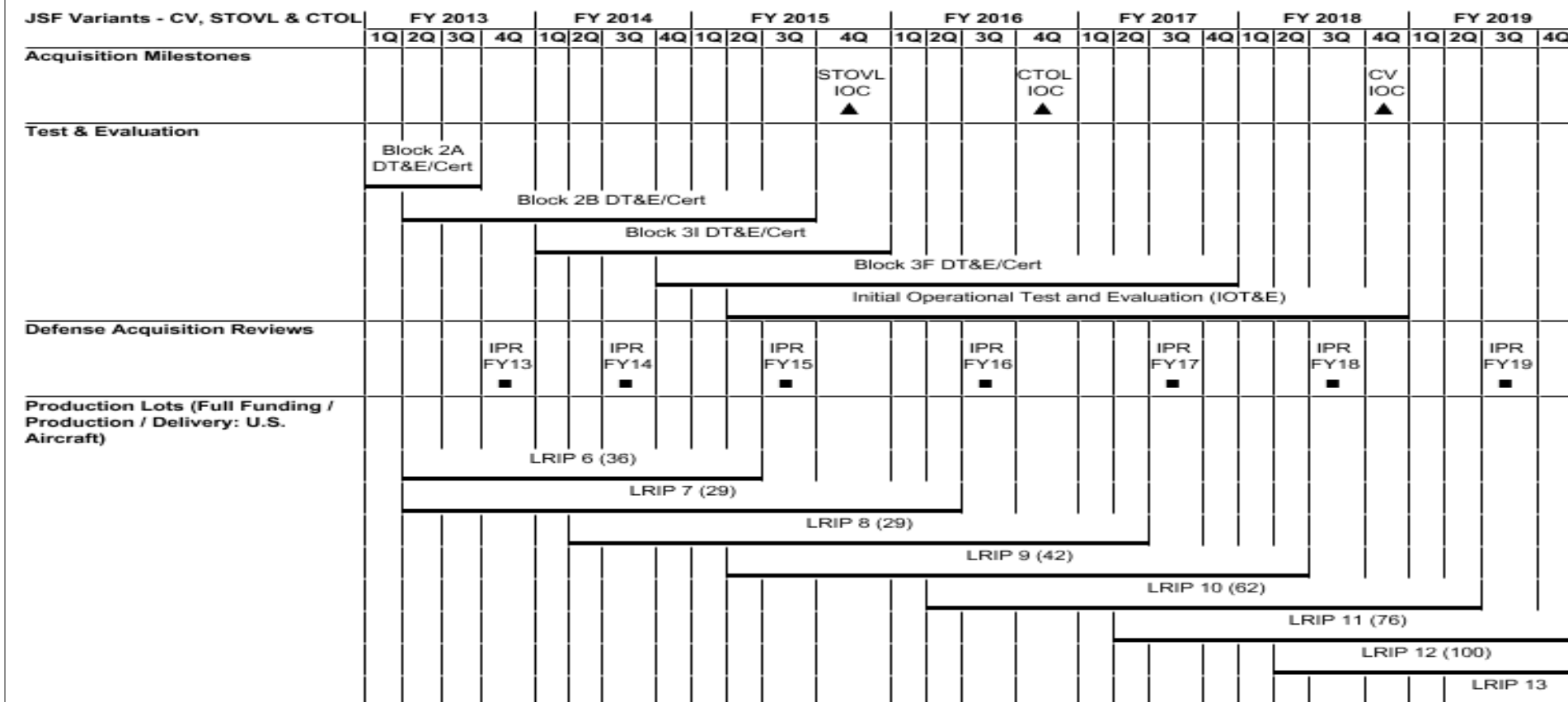
1319 / 5

R-1 Program Element (Number/Name)

PE 0604800M / (U)Joint Strike Fighter (JSF)  
- EMD

Project (Number/Name)

2262 / Joint Strike Fighter EMD STOVL



2015PB - 0604800M - 2262

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800M / (U)Joint Strike Fighter (JSF) - EMD	<b>Project (Number/Name)</b> 2262 / Joint Strike Fighter EMD STOVL	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>JSF Variants - CV, STOVL &amp; CTOL</b>				
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 2A DT&E/Cert	1	2013	3	2013
Test & Evaluation: Test and Evaluation: Block 2B DT&E/Cert	2	2013	3	2015
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-13	4	2013	4	2013
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-14	3	2014	3	2014
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-15	3	2015	3	2015
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-16	3	2016	3	2016
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-17	3	2017	3	2017
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-18	3	2018	3	2018
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-19	3	2019	3	2019

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014		
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 6 Full Funding / Production / Delivery		2	2013	2	2015
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 7 Full Funding / Production / Delivery		2	2013	2	2016
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 8 Full Funding / Production / Delivery		2	2014	2	2017
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 9 Full Funding / Production / Delivery		2	2015	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	2019
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 12 Full Funding / Production / Delivery		2	2018	4	2019
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 13 Full Funding / Production / Delivery		2	2019	4	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3350: F-35B Sustainment/Capability Enhancements	-	-	14.904	11.980	-	11.980	11.952	-	-	-	-	38.836
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**  
NOTE: \* This Navy Project Unit (3350) was a New Start in Fiscal Year 2014.

Total cost including United States Navy (USN), United States Marine Corps (USMC), and United States Air Force (USAF) funding is: FY13 \$14.167M, FY14 \$46.096M, and FY15 \$61.570M

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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Sustainment and Capability Enhancements	-	31.622	42.236
<b>Articles:</b>	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<p><b>Description:</b> 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.</p> <p><b>FY 2013 Accomplishments:</b> Initiate disciplined systems engineering, requirements decomposition, technical maturation and development of suitability and deployability enhancements.</p> <p><b>FY 2014 Plans:</b> Conduct systems engineering, technology maturation, integration and test planning for Deployability and Suitability enhancements.</p> <p><b>FY 2015 Plans:</b> Continue to conduct systems engineering, technical maturation, integration and test planning for suitability and deployability enhancements.</p>					
<p><b>Title:</b> Development Support</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Initiate support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.</p> <p><b>FY 2013 Accomplishments:</b> Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.</p> <p><b>FY 2014 Plans:</b> Continue 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.</p> <p><b>FY 2015 Plans:</b> 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.</p>			14.167 -	11.846 -	14.745 -
<p><b>Title:</b> Development Test and Evaluation</p> <p style="text-align: right;"><b>Articles:</b></p>			- -	2.628 -	4.589 -



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
Description: Verification and testing for deployability and suitability enhancements												
FY 2013 Accomplishments: N/A												
FY 2014 Plans: 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 evaluation of capability enhancements for Deployable Autonomic Logistics Information system, and LO maintenance enhancements.												
Accomplishments/Planned Programs Subtotals										14.167	46.096	61.570
RDT&E,N (Navy) 0604800N/3352										-	14.992	16.997
RDT&E,AF 0604800F/65832										14.167	16.200	32.593
Navy Subtotals										-	14.904	11.980
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• RDT&E/0604800F: Joint Strike Fighter	1,115.712	612.254	535.420	-	535.420	522.575	327.100	115.413	5.250	-	22,021.781	
• International: International Partner (SDD/FOD)	148.772	18.030	6.430	-	6.430	2.600	8.080	3.040	-	-	4,949.575	
• APAF/0207142F: F-35 Joint Strike Strike Fighter	2,532.184	2,889.602	3,553.046	-	3,553.046	5,138.558	5,262.325	5,943.415	5,770.781	148,305.400	192,028.494	
• RDT&E/0604800N/2261: JT Strike Fighter (JSF) - EMD	624.872	424.253	485.263	-	485.263	537.152	402.492	18.485	1.083	-	19,944.440	
• APN/0605B: F-35 Joint Strike Fighter STOVL Spares	91.752	41.707	85.194	-	85.194	111.105	65.194	153.914	69.699	Continuing	Continuing	
• APN/0147C: F-35 Joint Strike Fighter CV	30.699	79.016	29.400	-	29.400	73.800	123.000	196.768	246.000	3,605.667	5,648.780	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN/0605C: F-35 Joint Strike Fighter CV Spares	26.089	42.060	28.200	-	28.200	28.200	136.134	101.997	201.771	Continuing	Continuing
• MC/0207142F: USAF MILCON	13.513	23.500	39.900	-	39.900	14.900	3.250	61.000	-	Continuing	Continuing
• APAF/0204142F: USAF Modification Funding	80.715	126.777	187.646	-	187.646	221.826	250.178	254.903	262.733	Continuing	Continuing
• FOD/0207142F: USAF Follow-on Development	-	3.000	28.051	-	28.051	117.812	244.464	313.398	336.942	-	1,043.667
• 0207142F/USAF: USAF Spares	163.151	89.050	236.418	-	236.418	270.431	278.552	380.165	457.051	Continuing	Continuing
• OPN/4267: Autonomic Logistics Information System (ALIS)	2.824	3.427	-	-	-	-	-	-	-	-	6.251
• USAF/OPAF PE 27142F: OPAF	338.000	1.431	4.463	-	4.463	3.858	2.333	2.374	2.415	Continuing	Continuing
• APN/0592: F-35 STOVL Series	-	111.158	285.968	-	285.968	278.596	173.231	178.035	181.759	Continuing	Continuing
• APN/0593: F-35 CV Series	-	29.950	20.502	-	20.502	37.336	47.953	51.409	53.388	Continuing	Continuing
• RDT&E/0604800N/3352: F-35C Sustainment/Capability Enhancements	-	14.992	16.997	-	16.997	16.977	-	-	-	-	48.966
• RDT&E/0604800N/3353: F-35C Follow-on Development	-	-	14.196	-	14.196	59.116	123.467	157.922	170.015	-	524.716
• USAF SDD BP 653832: Deployability and Suitability Enhancements	14.167	16.200	32.593	-	32.593	29.657	-	-	-	-	92.617
• PAF/0207142F: JSF CTOL Advance Procurement	293.400	339.533	291.880	-	291.880	438.808	528.560	522.180	497.720	18,140.460	22,285.046
• DCA/0207142F: Dual Capable Aircraft (DCA)	-	-	15.615	-	15.615	-	-	-	-	-	15.615
• APN/0147: F-35 Joint Strike Fighter CV	808.000	1,028.415	610.652	-	610.652	629.916	1,135.967	1,394.026	1,974.142	30,575.452	47,756.623
• APN PE BP0152C: Advance Procurement (STOVL) BP0152C	98.061	103.195	143.885	-	143.885	203.057	226.014	136.732	139.330	3,044.411	4,836.075
• APN PE BP0152: Advance Procurement (STOVL) BP0152	1,094.421	1,176.498	1,200.410	-	1,200.410	1,451.916	2,061.990	2,726.113	2,810.778	27,238.439	41,455.992
• USN MILCON: USN JSF MILCON	117.600	209.000	320.500	-	320.500	151.700	48.100	-	169.700	660.900	2,259.300

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• USN RDT&E USRL: USN USRL	17.477	-	-	-	-	-	-	-	-	-	147.205	
• International 2: International Procurement	1,487.584	1,924.048	3,205.900	-	3,205.900	6,109.330	7,280.752	6,686.294	4,192.377	-	34,149.323	
• OPN/4268: Logistics Information System (ALIS)	-	-	6.016	-	6.016	3.946	2.262	4.122	3.969	9.408	29.723	
• MC/0207597F: USAF MILCON	-	32.500	26.800	-	26.800	35.500	11.400	74.850	-	Continuing	Continuing	
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 dated 31 December 2012:												
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												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800M / (U)Joint Strike Fighter (JSF) - EMD	<b>Project (Number/Name)</b> 3350 / F-35B Sustainment/Capability Enhancements
<p>Radio Frequency Signature Meets/Exceeds Tripwire Requirement</p> <p>Force Protection</p> <p>CB Pilot Protection (New Key Performance Parameters Per CN3) - Meets/Exceeds Tripwire Requirement</p> <p>Mission Reliability</p> <p>CTOL Meets/Exceeds Tripwire Requirement</p> <p>CV Exceeds Operational Requirements Document Objective</p> <p>STOVL United States Marine Corps Meets/Exceeds Tripwire Requirement</p> <p>STOVL United Kingdom Meets/Exceeds Tripwire Requirement</p> <p>Sortie Generation Rate</p> <p>CTOL Meets/Exceeds Tripwire Requirement</p> <p>CV Meets/Exceeds Tripwire Requirement</p> <p>Short Take Off Vertical Landing (STOVL) United States Marine Corps Meets/Exceeds Tripwire Requirement</p> <p>STOVL UK Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprints</p> <p>Conventional Take Off and Landing (CTOL) Meets/Exceeds Tripwire Requirement</p> <p>STOVL USMC Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprint- Volume</p> <p>Carrier Variant (CV) Exceeds Operational Requirements Document (ORD) Objective</p> <p>STOVL USMC Exceeds ORD Objective</p> <p>STOVL UK Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprint-Weight</p> <p>Carrier Variant (CV)Exceeds Operations Requirements Document (ORD) Objective</p> <p>STOVL USMC Exceeds ORD Objective</p> <p>STOVL UK Meets/Exceeds Tripwire Requirement</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prime LM Deployability Suitability	SS/CPAF	Lockheed Martin : Ft. Worth, TX	0.000	-		31.622	Mar 2014	42.236	Mar 2015	-		42.236	29.000	102.858	102.858
Subtotal			0.000	-		31.622		42.236		-		42.236	29.000	102.858	102.858
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	TBD	Various : Various	0.000	14.167	Oct 2013	10.846	Mar 2014	13.745	Mar 2015	-		13.745	-	38.758	-
Subtotal			0.000	14.167		10.846		13.745		-		13.745	-	38.758	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	Various : Various	0.000	-		2.628	Jun 2014	4.589	Jun 2015	-		4.589	-	7.217	-
Subtotal			0.000	-		2.628		4.589		-		4.589	-	7.217	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	TBD	Various : Various	0.000	-		1.000	Dec 2013	1.000	Dec 2014	-		1.000	0.657	2.657	-
Subtotal			0.000	-		1.000		1.000		-		1.000	0.657	2.657	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals			0.000	14.167		46.096		61.570		-		61.570	29.657	151.490	-
RDT&E,N (Navy) 0604800N/3352			-	-		14.992		16.997		-		16.997			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy										Date: March 2014			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800M I (U)Joint Strike Fighter (JSF) - EMD				Project (Number/Name) 3350 I F-35B Sustainment/Capability Enhancements					
	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
RDT&E,AF 0604800F/65832	-	14.167		16.200		32.593		-		32.593			-
Project Cost Totals	0.000	-		14.904		11.980		-		11.980	29.657	151.490	-
Remarks													
NOTE:													
FY 2013 reflects \$14.167USAF/Total \$14.167M													
FY 2014 reflects \$16.200M USAF/\$14.992M USN/\$0.000M USMC/\$14.904M International/Total \$46.096M													
FY 2015 reflects \$32.593M USAF/\$16.997M USN/\$11.980M USMC/\$0.000M International/Total \$61.570M													
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													
JSF Follow on Development Includes: USAF PE 0207142F BPAC 675346 USN PE 0608400N Project Unit 3353 USMC PE 0608400M Project Unit 3351													

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

Date: March 2014

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PE 0604800M I (U)Joint Strike Fighter (JSF)  
- EMD

Project (Number/Name)	Start Date	End Date	Duration (Days)	Actual Cost	Budgeted Cost	Variance	Cost Index	Performance Index	Cost Variance	Cost Performance Index	Cost Variance at Completion	Cost Performance Index at Completion
101	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
102	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
103	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
104	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
105	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
106	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
107	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
108	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
109	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
110	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
111	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
112	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
113	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
114	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
115	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
116	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
117	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
118	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
119	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
120	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
121	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
122	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
123	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
124	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
125	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
126	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
127	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
128	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
129	10/1/2010	10/1/2010	1	1000	1000	0	1.00	1.00	0	1.00	0	1.00
130	10/1/2010	10/1/2010	1	1000	1000							

3350 / F-35B Sustainment/Capability Enhancements

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014
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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 3350</b>				
D&S: D&S Contract Award	3	2013	3	2013
D&S: D&S Deployment and Suitability Enhancements	3	2014	4	2016



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604800M / (U)Joint Strike Fighter (JSF) - EMD				Project (Number/Name) 3351 / F-35B Follow-on Development			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3351: F-35B Follow-on Development	-	-	-	13.973	-	13.973	59.885	120.644	157.796	168.923	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
NOTE: * This Navy Project Unit (3351) is a New Start in Fiscal Year 2015.												
Total cost including USN, USMC, and USAF funding is: FY2014 \$3.000M FY15 \$56.220M												
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 0604800N Project Unit 3353 USMC PE 0604800M Project Unit 3351												
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 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 FY19 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 2013	FY 2014	FY 2015	
Title: Air Vehicle Follow-on Development									-	3.000	47.880	
									Articles: -	-	-	
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												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0604800M / (U)Joint Strike Fighter (JSF) - EMD	Project (Number/Name) 3351 / F-35B Follow-on Development		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
support for defining, managing and the acquisition of capability enhancements required to address threats indicated in the Electronic Warfare ICD and the Fifth Generation Fighter Modernization ICD.					
<b>FY 2013 Accomplishments:</b> N/A					
<b>FY 2014 Plans:</b> Development and validation of the FoD CDD.					
<b>FY 2015 Plans:</b> 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.					
<b>Title:</b> Developmental Test & Evaluation					
<b>Articles:</b>			-	-	4.540
<b>Description:</b> Initiate Laboratory and Test Aircraft Upgrade and other test planning activities required for Block 4 and later development , integration, test and evaluation. Changes are needed to support development and evaluation of improvements driven by changes in threat and as identified in the Electronic Warfare ICD and the Fifth Generation Fighter Modernization ICD.			-	-	-
<b>FY 2013 Accomplishments:</b> N/A					
<b>FY 2014 Plans:</b> Near term funding will support infrastructure upgrades required for development of enhanced capabilities. This includes replacement of engines and other life limited components on DT aircraft that will be at end of life upon completion of SDD, as well as laboratory upgrades to support development and verification of capabilities to address advanced threats.					
<b>FY 2015 Plans:</b> Funding will support infrastructure investment planning and prioritization required to maintain future development capability. This includes planning for long-lead procurement for replacement of engines and other life limited components on DT aircraft that will be at end of life upon completion of SDD, as well as laboratory upgrades required to support development and verification of capabilities in a relevant threat.					
<b>Title:</b> Development Support					
<b>Articles:</b>			-	-	3.800
			-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800M / (U)Joint Strike Fighter (JSF) - EMD				Project (Number/Name) 3351 / F-35B Follow-on Development				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
Description: Technical and Analytical Support												
FY 2013 Accomplishments: N/A												
FY 2014 Plans: Initiate development support for defining, managing and acquiring the envisioned F-35C capability enhancements identified in approved requirements documents.												
FY 2015 Plans: Initiate development support for defining, managing and acquiring the envisioned capability enhancements identified in approved requirements documents.												
Accomplishments/Planned Programs Subtotals										-	3.000	56.220
RDT&E,N (Navy) 0604800N/3353										-	-	14.196
RDT&E,AF 0207142F/675346										-	3.000	28.051
Navy Subtotals										-	-	13.973
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• RDT&E/0604800F: Joint Strike Fighter SDD	1,115.712	612.254	535.420	-	535.420	522.575	327.100	115.413	5.250	-	22,021.781	
• International: International Partner (SDD/FOD)	148.772	18.030	6.430	-	6.430	2.600	8.080	3.040	-	-	4,949.575	
• APAF/0207142F: F-35 Joint Strike Strike Fighter	2,532.184	2,889.602	3,553.046	-	3,553.046	5,138.558	5,262.325	5,943.415	5,770.781	148,305.400	192,028.494	
• RDT&E/0604800N/2261: F-35 Joint Strike Strike Fighter	624.872	424.253	485.263	-	485.263	537.152	402.492	18.485	1.083	-	19,974.402	
• APN/0605B: F-35 Joint Strike Fighter STOVL Spares	91.752	41.707	85.194	-	85.194	111.105	65.194	153.914	69.699	Continuing	Continuing	
• APN/0147C: F-35 Joint Strike Fighter CV AP	30.699	79.016	29.400	-	29.400	73.800	123.000	196.768	246.000	3,605.667	5,648.780	

## UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800M / (U)Joint Strike Fighter (JSF) - EMD				Project (Number/Name) 3351 / F-35B Follow-on Development			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN/0605C: F-35 Joint Strike Fighter CV Spares	26.089	42.060	28.200	-	28.200	28.200	136.134	101.997	201.771	Continuing	Continuing
• MC/0207142F: USAF MILCON	13.513	23.500	39.900	-	39.900	14.900	3.250	61.000	-	Continuing	Continuing
• APAF/0204142F: USAF Modification Funding	80.715	126.777	187.646	-	187.646	221.826	250.178	254.903	262.733	Continuing	Continuing
• FOD/0207142F 675346: USAF Follow-on Development	-	3.000	28.051	-	28.051	117.812	244.464	313.398	336.942	-	1,043.667
• 0207142F/USAF: USAF Spares	163.151	89.050	236.418	-	236.418	270.431	278.552	380.165	457.051	Continuing	Continuing
• OPN/4267: Logistics Information System (ALIS)	2.824	3.427	-	-	-	-	-	-	-	-	6.251
• USAF/OPAF PE 27142F: OPAF	338.000	1.431	4.463	-	4.463	3.858	2.333	2.374	2.415	Continuing	Continuing
• APN/0592: F-35 STOVL Series	-	111.158	285.968	-	285.968	278.596	173.231	178.035	181.759	Continuing	Continuing
• APN/0593: F-35 CV Series	-	29.950	20.502	-	20.502	37.336	47.953	51.409	53.388	Continuing	Continuing
• RDT&E/0604800N/3352: F-35B Sustainment/ Capability Enhancements	-	14.992	16.997	-	16.997	16.977	-	-	-	-	48.966
• RDT&E/0604800N/3353: F-35B Follow-on Development	-	-	14.196	-	14.196	59.116	123.467	157.922	170.015	-	524.716
• USAF SDD BP 653832: Deployability and Suitability Enhancements	14.167	16.200	32.593	-	32.593	29.657	-	-	-	-	92.617
• PAF/0207142F: JSF CTOL Advance Procurement	293.400	339.533	291.880	-	291.880	438.808	528.560	522.180	497.720	18,140.460	22,285.046
• DCA/0207142F 676011: Dual Capable Aircraft (DCA)	-	-	15.615	-	15.615	-	-	-	-	-	15.615
• APN/0147: F-35 Joint Strike Fighter CV	808.000	1,028.415	610.652	-	610.652	629.916	1,135.967	1,394.026	1,974.142	30,575.452	47,756.623
• APN PE BP0152C: Advance Procurement (STOVL) BP0152C	98.061	103.195	143.885	-	143.885	203.057	226.014	136.732	139.330	3,044.411	4,836.075
• APN PE BP0152: Advance Procurement (STOVL) BP0152	1,094.421	1,176.498	1,200.410	-	1,200.410	1,451.916	2,060.990	2,726.113	2,810.778	27,238.439	41,454.992
• USN MILCON: USN JSF MILCON	117.600	209.000	320.500	-	320.500	151.700	48.100	-	169.700	660.900	2,259.300

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800M / (U)Joint Strike Fighter (JSF) - EMD				Project (Number/Name) 3351 / F-35B Follow-on Development				
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• USN RDT&E USRL: USN USRL	17.477	-	-	-	-	-	-	-	-	-	147.205	
• International 2: International Procurement	1,487.584	1,924.048	3,205.900	-	3,205.900	6,109.330	7,280.752	6,686.294	4,192.377	-	34,149.323	
• OPN/4268: Logistics Information System (ALIS)	-	-	6.016	-	6.016	3.946	2.262	4.122	3.969	9.408	29.723	
• MC/0207597F: USAF MILCON	-	32.500	26.800	-	26.800	35.500	11.400	74.850	-	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 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.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604800M / (U)Joint Strike Fighter (JSF) - EMD				Project (Number/Name) 3351 / F-35B Follow-on Development					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Requirements Analysis, Systems Engineering and Risk Reduction	SS/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	-		-		48.623	Feb 2015	-		48.623	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		48.623		-		48.623	-	-	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical and Analytic Support	SS/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	-		3.000	Mar 2014	-		-		-	Continuing	Continuing	Continuing
Subtotal			0.000	-		3.000		-		-		-	-	-	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Laboratory and Test Aircraft Infrastructure	TBD	Lockheed Martin : Ft. Worth, TX	0.000	-		-		2.100	Jul 2015	-		2.100	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		2.100		-		2.100	-	-	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support and Milestone Preparations	Various	Various : Various	0.000	-		-		4.177	Dec 2014	-		4.177	Continuing	Continuing	Continuing
PMA	Various	Various : Various	0.000	-		-		1.320	Dec 2014	-		1.320	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		5.497		-		5.497	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy										Date: March 2014			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800M / (U)Joint Strike Fighter (JSF) - EMD				Project (Number/Name) 3351 / F-35B Follow-on Development					
	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals	0.000	-		3.000		56.220		-		56.220	-	-	-
RDT&E,N (Navy) 0604800N/3353	-	-		-		14.196		-		14.196			-
RDT&E,AF 0207142F/675346	-	-		3.000		28.051		-		28.051			-
Project Cost Totals	0.000	-		-		13.973		-		13.973	-	-	-
Remarks													
NOTE:													
FY 2014 reflects \$3.000M USAF/\$0.000 USN/\$0.000M USMC/\$0.000M International/Total \$3.000M													
FY 2015 reflects \$28.051M USAF/\$14.196 USN/\$13.973M USMC/\$0.000M International/Total \$56.220													
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													
JSF Follow on Development Includes:													
USAF PE 0207142F BPAC 675346													
USN PE 0608400N Project Unit 3353													
USMC PE 0608400M Project Unit 3351													
JSF Dual Capability Aircraft Includes:													
USAF PE 0207142F BPAC 676011													

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

Date: March 2014

Appropriation/Budget Activity

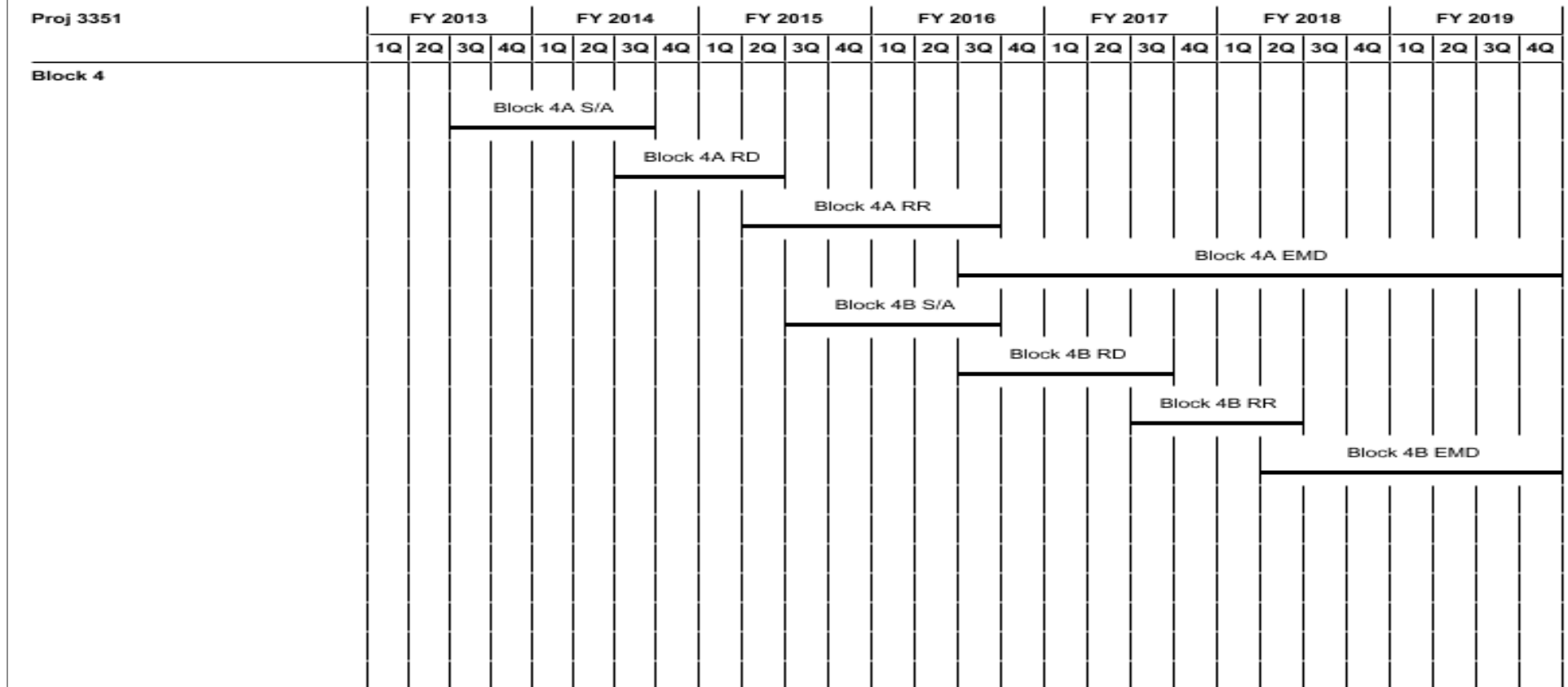
1319 / 5

R-1 Program Element (Number/Name)

PE 0604800M / (U)Joint Strike Fighter (JSF)  
- EMD

Project (Number/Name)

3351 / F-35B Follow-on Development



2015PB - 0604800M - 3351



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800M / (U)Joint Strike Fighter (JSF) - EMD	<b>Project (Number/Name)</b> 3351 / F-35B Follow-on Development	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>Proj 3351</i></b>				
Block 4: Block 4A Requirements Decomposition	3	2014	2	2015
Block 4: Block 4A Risk Reduction	2	2015	3	2016
Block 4: Block 4A Engineering and Manufacturing Development	3	2016	4	2019
Block 4: Block 4B Studies and Analysis	3	2015	3	2016
Block 4: Block 4B Requirements Decomposition	3	2016	3	2017
Block 4: Block 4B Risk Reduction	3	2017	3	2018
Block 4: Block 4B Risk Engineering and Manufacturing Development	3	2018	4	2019

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014																	
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604800M / (U)Joint Strike Fighter (JSF) - EMD				<b>Project (Number/Name)</b> 9999 / Congressional Adds																		
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>															
9999: Congressional Adds	-	-	1.500	-	-	-	-	-	-	-	-	1.500															
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-																	
<p># The FY 2015 OCO Request will be submitted at a later date.</p> <p><b>A. Mission Description and Budget Item Justification</b>  Congressional Add. Provides funding to produce, staff, and gain approval of a Block 4 Capability Development Document.</p> <p><b>B. Accomplishments/Planned Programs (\$ in Millions)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>FY 2013</th> <th>FY 2014</th> </tr> </thead> <tbody> <tr> <td><b>Congressional Add:</b> JSF Block 4 - USMC Cong</td> <td>-</td> <td>1.500</td> </tr> <tr> <td><b>FY 2013 Accomplishments:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td><b>FY 2014 Plans:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td><b>Congressional Adds Subtotals</b></td> <td>-</td> <td>1.500</td> </tr> </tbody> </table> <p><b>C. Other Program Funding Summary (\$ in Millions)</b> N/A</p> <p><b>Remarks</b></p> <p><b>D. Acquisition Strategy</b> Not required for Congressional Add.</p> <p><b>E. Performance Metrics</b> Not required for Congressional Add.</p>														FY 2013	FY 2014	<b>Congressional Add:</b> JSF Block 4 - USMC Cong	-	1.500	<b>FY 2013 Accomplishments:</b> N/A			<b>FY 2014 Plans:</b> N/A			<b>Congressional Adds Subtotals</b>	-	1.500
	FY 2013	FY 2014																									
<b>Congressional Add:</b> JSF Block 4 - USMC Cong	-	1.500																									
<b>FY 2013 Accomplishments:</b> N/A																											
<b>FY 2014 Plans:</b> N/A																											
<b>Congressional Adds Subtotals</b>	-	1.500																									

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	42,199.538	642.349	440.745	516.456	-	516.456	613.245	525.959	176.407	171.098	Continuing	Continuing
2261: Joint Strike Fighter EMD	42,069.810	624.872	424.253	485.263	-	485.263	537.152	402.492	18.485	1.083	Continuing	Continuing
3194: Joint Reprogramming Center	129.728	17.477	-	-	-	-	-	-	-	-	-	147.205
3352: F-35C Sustainment/ Capability Enhancements	0.000	-	14.992	16.997	-	16.997	16.977	-	-	-	-	48.966
3353: F-35C Follow-on Development	0.000	-	-	14.196	-	14.196	59.116	123.467	157.922	170.015	Continuing	Continuing
9999: Congressional Adds	0.000	-	1.500	-	-	-	-	-	-	-	-	1.500
MDAP/MAIS Code: 198												
# The FY 2015 OCO Request will be submitted at a later date.												
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. FY2015 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. FY14 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.												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014		
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				
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						
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget		743.926	534.187	605.174	-	605.174
Current President's Budget		642.349	440.745	516.456	-	516.456
Total Adjustments		-101.577	-93.442	-88.718	-	-88.718
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-94.942			
• Congressional Rescissions		-	-			
• Congressional Adds		-	1.500			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-21.541	-			
• Rate/Misc Adjustments		-	-	-88.718	-	-88.718
• Congressional General Reductions Adjustments		-56.319	-	-	-	-
• Congressional Directed Reductions Adjustments		-23.717	-	-	-	-
Congressional Add Details (\$ in Millions, and Includes General Reductions)						
Project: 9999: Congressional Adds						
Congressional Add: JSF Block 4 - USN Cong						
		FY 2013	FY 2014			
		-	1.500			

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PE 0604800N: *JT Strike Fighter (JSF) - EMD*  
Navy

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2261: Joint Strike Fighter EMD	42,069.810	624.872	424.253	485.263	-	485.263	537.152	402.492	18.485	1.083	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**Note**

Total cost including United States Navy (USN), United States Marine Corps (USMC), International partner contributions and United States Air Force (USAF) funding are: FY13 \$2,528.415M, FY14 \$1,453.860M, and FY15 \$1,514.181M R-2 data reflects variant unique funding only.

R2A table shown above reflects service 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

JSF Follow on Development Includes:  
USAF PE 0207142F BPAC 675346  
USN 0604800N Project Unit 3353  
USMC PE 0604800M Project Unit 3351

JSF Dual Capability Aircraft Includes:  
USAF PE 0207142F BPAC 676011

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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>A. Mission Description and Budget Item Justification</b> 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-18A/C/D 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.  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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2013	FY 2014	FY 2015
<b>Title:</b> System Development and Demonstration (SDD)		1,667.182	458.938	667.565
<b>Articles:</b>		-	-	-
<b>Description:</b> SDD execution of the Air System (Lockheed Martin) including International Commonality Effort; includes airframe, vehicle and mission systems, autonomic logistics, systems engineering & test efforts.				
<b>FY 2013 Accomplishments:</b> Continue SDD execution of Air System (Lockheed Martin), including International Commonality Effort. Efforts include airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts.				
<b>FY 2014 Plans:</b>				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
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 with planned completion of SDD in 2018. <b>FY 2015 Plans:</b> 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 with planned completion of SDD in 2018.				
<b>Title:</b> F135 Propulsion System  <b>Articles:</b>  <b>Description:</b> SDD execution of the F135 Propulsion System (Pratt & Whitney) including International Commonality Effort; includes testing, autonomic logistics, integration & performing technology maturation efforts.  <b>FY 2013 Accomplishments:</b> Continue SDD execution of F135 Propulsion System (Pratt & Whitney), including engine testing, autonomic logistics, integration and performing technology maturation efforts.  <b>FY 2014 Plans:</b> Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that includes engine testing, autonomic logistics, integration and performing technology maturation efforts.  <b>FY 2015 Plans:</b> Continue SDD execution of the F135 Propulsion System with Pratt & Whitney that includes engine testing, autonomic logistics, integration and performing technology maturation efforts.		340.219 -	359.749 -	229.175 -
<b>Title:</b> Systems Engineering (SE)  <b>Articles:</b>  <b>Description:</b> SDD SE including systems operations requirements analysis, program integration, requirements integration, and interoperability support.  <b>FY 2013 Accomplishments:</b> Continue SDD SE that includes systems operations requirements analysis, program integration, requirements integration, and interoperability support.  <b>FY 2014 Plans:</b>		50.495 -	36.395 -	29.901 -



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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
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.				
Title: Development Test and Evaluation (DT&E)		360.658	464.985	477.990
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 2013 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 2014 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 (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.				
Title: Development Support		109.861	133.793	109.550
Articles:		-	-	-
Description: SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.				
FY 2013 Accomplishments: Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.				
FY 2014 Plans:				

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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 2013	FY 2014	FY 2015
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:											
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.											
Accomplishments/Planned Programs Subtotals									2,528.415	1,453.860	1,514.181
RDT&E,AF 0604800F									1,115.712	612.254	535.420
International Partner (SDD)									148.772	18.030	6.430
RDT&E,N (USMC) 0604800M/2262									639.059	399.323	487.068
Navy Subtotals									624.872	424.253	485.263
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDT&E/0604800F: Joint Strike Fighter SDD	1,115.712	612.254	535.420	-	535.420	522.575	327.100	115.413	5.250	-	22,021.781
• International: International Partner (SDD/FOD)	148.772	18.030	6.430	-	6.430	2.600	8.080	3.040	-	-	4,949.575
• APAF/0207142F: F-35 Joint Strike Strike Fighter	2,532.184	2,889.602	3,553.046	-	3,553.046	5,138.558	5,262.325	5,943.415	5,770.781	148,305.400	192,028.494
• RDT&E/0604800M/2262: JT Strike Fighter (JSF) - EMD	639.059	399.323	487.068	-	487.068	525.008	393.609	84.467	10.892	-	3,703.262
• APN/0605B: F-35 Joint Strike Fighter STOVL Spares	91.752	41.707	85.194	-	85.194	111.105	65.194	153.914	69.699	Continuing	Continuing
• APN/0147C: F-35 Joint Strike Fighter CV AP	30.699	79.016	29.400	-	29.400	73.800	123.000	196.768	246.000	3,605.667	5,648.780
• APN/0605C: F-35 Joint Strike Fighter CV Spares	26.089	42.060	28.200	-	28.200	28.200	136.134	101.997	201.771	Continuing	Continuing
• MC/0207142F: USAF MILCON	13.513	23.500	39.900	-	39.900	14.900	3.250	61.000	-	Continuing	Continuing

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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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• APAF/0204142F: USAF Modification Funding	80.715	126.777	187.646	-	187.646	221.826	250.178	254.903	262.733	Continuing	Continuing	
• FOD/0207142F 675346: USAF Follow-on Development	-	3.000	28.051	-	28.051	117.812	244.464	313.398	336.942	-	1,043.667	
• 0207142F/USAF: USAF Spares	163.151	89.050	236.418	-	236.418	270.431	278.552	380.165	457.051	Continuing	Continuing	
• OPN/4267: Logistics Information System (ALIS)	2.824	3.427	-	-	-	-	-	-	-	-	6.251	
• USAF/OPAF PE 27142F: OPAF	338.000	1.431	4.463	-	4.463	3.858	2.333	2.374	2.415	Continuing	Continuing	
• APN/0592: F-35 STOVL Series	-	111.158	285.968	-	285.968	278.596	173.231	178.035	181.759	Continuing	Continuing	
• APN/0593: F-35 CV Series	-	29.950	20.502	-	20.502	37.336	47.953	51.409	53.388	Continuing	Continuing	
• RDT&E/0604800M/3350: F-35B Sustainment/ Capability Enhancements	-	14.904	11.980	-	11.980	11.952	-	-	-	-	38.836	
• RDT&E/0604800M/3351: F-35B Follow-on Development	-	-	13.973	-	13.973	59.885	120.644	157.796	168.923	-	521.221	
• USAF SDD BP 653832: Deployability and Suitability Enhancements	14.167	16.200	32.593	-	32.593	29.657	-	-	-	-	92.617	
• PAF/0207142F: JSF CTOL Advance Procurement	293.400	339.533	291.880	-	291.880	438.808	528.560	522.180	497.720	18,140.460	22,285.046	
• DCA/0207142F 676011: Dual Capable Aircraft (DCA)	-	-	15.615	-	15.615	-	-	-	-	-	15.615	
• APN/0147: F-35 Joint Strike Fighter CV	808.000	1,028.415	610.652	-	610.652	629.916	1,135.967	1,394.026	1,974.142	30,575.452	47,756.623	
• APN/0152C: F-35 Joint Strike Fighter STOVL AP	98.061	103.195	143.885	-	143.885	203.057	226.014	136.732	139.330	3,044.411	4,836.075	
• APN/0152: F-35 Joint Strike Fighter STOVL	1,094.421	1,176.498	1,200.410	-	1,200.410	1,451.916	2,061.990	2,726.113	2,810.778	27,238.439	41,455.992	
• USN MILCON: USN JSF MILCON	117.600	209.000	320.500	-	320.500	151.700	48.100	-	169.700	660.900	2,259.300	
• RDT&E/0604800N/3194: USN USRL	17.477	-	-	-	-	-	-	-	-	-	147.205	

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• International 2:	1,487.584	1,924.048	3,205.900	-	3,205.900	6,109.330	7,280.752	6,686.294	4,192.377	-	34,149.323
International Procurement											
• OPN/4268: Logistics	-	-	6.016	-	6.016	3.946	2.262	4.122	3.969	9.408	29.723
Information System (ALIS)											
• MC/0207597F: USAF MILCON	-	32.500	26.800	-	26.800	35.500	11.400	74.850	-	Continuing	Continuing
Remarks											
D. Acquisition Strategy											
<p>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 &amp; 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.</p> <p>On 25 April 2011, the Department of Defense terminated the development of the General Electric Rolls-Royce Fighter Engine Team F136 propulsion system.</p> <p>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.</p> <p>In Fiscal Year 2007, separate cost-type contracts were awarded to Lockheed Martin Aeronautics Company and Pratt &amp; 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 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 &amp; Whitney.</p> <p>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.</p>											
E. Performance Metrics											
<p>The following are the key performance parameters from the F-35 Selected Acquisition Report dated 31 December 2012:</p> <p>Performance Metrics reflect Key Program Performance data.</p> <p>Combat Radius</p>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800N / <i>JT Strike Fighter (JSF) - EMD</i>	<b>Project (Number/Name)</b> 2261 / <i>Joint Strike Fighter EMD</i>
<p>Conventional Take Off and Landing Does Not Meet Requirement</p> <p>Carrier Variant (CV) Meets Tripwire Requirement</p> <p>Short Take Off Vertical Landing (STOVL) Meets/Exceeds Tripwire Requirement</p> <p>CV Recovery</p> <p>Maximum Approach Speed Meets Requirement In Tripwire Band</p> <p>STOVL Performance</p> <p>Flat Deck (High-High-High Profile Fuel) Meets Requirement In Tripwire Band</p> <p>Ski Jump (High-Medium-Medium-High Profile Fuel) Meets Requirement In Tripwire Band</p> <p>Vertical Landing Bring Back Meets Requirement In Tripwire Band</p> <p>Interoperability</p> <p>Net Ready Criteria- Meets Requirement In Tripwire Band</p> <p>Radio Frequency Signature Meets/Exceeds Tripwire Requirement</p> <p>Force Protection</p> <p>CB Pilot Protection (New Key Performance Parameters Per CN3) - Meets/Exceeds Tripwire Requirement</p> <p>Mission Reliability</p> <p>Conventional Take Off and Landing (CTOL) Meets/Exceeds Tripwire Requirement</p> <p>Carrier Variant (CV) Exceeds Operational Requirements Document Objective</p> <p>Short Takeoff and Vertical Landing (STOVL) United States Marine Corps (USMC) Meets/Exceeds Tripwire Requirement</p> <p>STOVL United Kingdom (UK) Meets/Exceeds Tripwire Requirement</p> <p>Sortie Generation Rate</p> <p>CTOL Meets/Exceeds Tripwire Requirement</p> <p>CV Meets/Exceeds Tripwire Requirement</p> <p>STOVL USMC Meets/Exceeds Tripwire Requirement</p> <p>STOVL UK Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprints</p> <p>CTOL Meets/Exceeds Tripwire Requirement</p> <p>STOVL USMC Meets/Exceeds Tripwire Requirement</p>		

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<div>Logistics Footprint- Volume</div> <div>CV Exceeds Operational Requirements Document (ORD) Objective</div> <div>STOVL USMC Exceeds ORD Objective</div> <div>STOVL UK Meets/Exceeds Tripwire Requirement</div> <div>Logistics Footprint-Weight</div> <div>CV Exceeds ORD Objective</div> <div>STOVL USMC Exceeds ORD Objective</div> <div>STOVL UK Meets/Exceeds Tripwire Requirement</div>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Lockheed Martin - SDD	C/CPAF	Lockheed Martin : Ft. Worth, TX	29,342.589	1,665.258	Oct 2012	458.938	Dec 2013	667.564	Dec 2014	-		667.564	1,758.561	33,892.910	33,892.910
Lockheed Martin - IDIQ D0022	SS/IDIQ	Lockheed Martin : Ft. Worth, TX	26.477	1.327	Oct 2012	-		-		-		-	-	27.804	27.804
Lockheed Martin 09-D-0005	SS/IDIQ	Lockheed Martin : Ft. Worth, TX	0.903	0.597	Nov 2012	-		-		-		-	-	1.500	1.500
Lockheed Martin - IDIQ D0009	SS/IDIQ	Lockheed Martin : Ft. Worth, TX	16.759	-		-		-		-		-	-	16.759	16.759
Lockheed Martin - BOA	SS/BOA	Lockheed Martin : Ft. Worth, TX	3.511	-		-		-		-		-	-	3.511	3.511
Pratt and Whitney - SDD	C/CPAF	Pratt and Whitney : Hartford, CT	7,184.247	340.219	Oct 2012	359.749	Dec 2013	229.175	Dec 2014	-		229.175	259.821	8,373.211	8,373.211
Pratt and Whitney - Close Out Contract C0132	C/CPFF	Pratt and Whitney : Hartford, CT	1.364	-		-		-		-		-	-	1.364	1.364
Pratt and Whitney - Close Out Contract C0050	SS/CPFF	Pratt and Whitney : Hartford, CT	2.211	-		-		-		-		-	-	2.211	2.211
Pratt and Whitney - BOA	SS/BOA	Pratt and Whitney : Hartford, CT	35.983	-		-		-		-		-	-	35.983	35.983
Pratt and Whitney - IDIQ	SS/IDIQ	Pratt and Whitney : Hartford, CT	10.925	-		-		-		-		-	-	10.925	10.925
General Electric - SDD	SS/CPAF	FET : Cincinnati, OH	2,160.573	-		-		-		-		-	-	2,160.573	2,160.573
General Electric - IDIQ D0009	SS/IDIQ	FET : Cincinnati, OH	0.264	-		-		-		-		-	-	0.264	0.264
General Electric - IDIQ D0074	SS/IDIQ	FET : Cincinnati, OH	4.175	-		-		-		-		-	-	4.175	4.175
General Electric - F136 Transition	SS/CPFF	FET : Cincinnati, OH	100.400	-		-		-		-		-	-	100.400	100.400
General Electric - BOA	SS/BOA	FET : Cincinnati, OH	5.548	-		-		-		-		-	-	5.548	5.548
General Electric - Phase IIlb	SS/CPAF	FET : Cincinnati, OH	382.753	-		-		-		-		-	-	382.753	382.753
Systems Engineering	Various	Various : Various	339.051	39.434	Nov 2012	32.188	Nov 2013	25.671	Nov 2014	-		25.671	72.732	509.076	509.076
Subtotal			39,617.733	2,046.835		850.875		922.410		-		922.410	2,091.114	45,528.967	45,528.967

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date: March 2014</b>			
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<b>Support (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
AFFTC/Eglin	Various	Eglin AFB : Eglin, FL	104.588	7.702	Oct 2012	5.416	Nov 2013	8.613	Nov 2014	-		8.613	8.890	135.209	-
ASC/AFRL	Various	ASC/AFRL : Wright Patterson AFB, OH	56.631	4.507	Oct 2012	2.525	Nov 2013	1.548	Nov 2014	-		1.548	2.775	67.986	-
Bolling AFB	Various	Bolling AFB : Washington, DC	6.775	-		-		-		-		-	-	6.775	-
DMEA	Various	DMEA : Wright Patterson AFB, OH	5.630	-		-		-		-		-	-	5.630	-
ESC	Various	ESC : Hanscom AFB, MA	7.103	-		-		-		-		-	-	7.103	-
AEDC/Fuel	Various	Various : Various	149.426	17.375	Nov 2012	18.753	Nov 2013	17.215	Nov 2014	-		17.215	11.995	214.764	-
NADEP Jacksonville	Various	NADEP : Jacksonville, FL	9.525	-		-		-		-		-	-	9.525	-
Miscellaneous	Various	Various : Various	76.845	13.959	Nov 2012	37.488	Nov 2013	28.736	Nov 2014	-		28.736	40.063	197.091	-
NAWC China Lake	Various	NAWC WD : China Lake, CA	110.595	7.340	Nov 2012	20.710	Nov 2013	15.187	Nov 2014	-		15.187	21.398	175.230	-
NAWC Patuxent River	Various	NAWC AD : Patuxent River, MD	318.273	35.749	Nov 2012	29.621	Nov 2013	29.368	Nov 2014	-		29.368	42.931	455.942	-
NAWC TSD	Various	NAWC TSD : Orlando, FL	11.609	-		-		-		-		-	-	11.609	-
NSWC	Various	Various : Various	3.813	-		-		-		-		-	-	3.813	-
SPAWAR	Various	Various : Various	8.434	-		-		-		-		-	-	8.434	-
DFAS	Various	Various : Various	0.000	-		-		-		-		-	-	-	-
SBIR Technology Insertion Congressional Add	Various	Various : Various	24.187	-		-		-		-		-	-	24.187	-
<b>Subtotal</b>			893.434	86.632		114.513		100.667		-		100.667	128.052	1,323.298	-



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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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NAWC China Lake	Various	NAWC WD : China Lake, CA	31.523	3.690	Nov 2012	3.820	Nov 2013	4.971	Nov 2014	-		4.971	14.913	58.917	-
NAWC Patuxent River	Various	NAWC AD : Patuxent River, MD	404.071	115.715	Nov 2012	153.350	Nov 2013	183.426	Nov 2014	-		183.426	172.360	1,028.922	-
Edwards AFB	Various	Edwards AFB : Edwards AFB, CA	407.325	77.419	Nov 2012	130.000	Nov 2013	100.775	Nov 2014	-		100.775	108.049	823.568	-
Other (including Classified PIDs)	Various	Various : Various	55.605	63.637	Nov 2012	61.803	Nov 2013	69.754	Nov 2014	-		69.754	77.756	328.555	-
WEPS/Eglin	Various	WEPS/Eglin : Various	27.829	-		-		-		-		-	-	27.829	-
JTIC	Various	Various : Various	0.000	-		-		-		-		-	-	-	-
OT-AFOTEC/AFFC	Various	OT-AFOTEC/ AFFTC : Kirkland AFB, NM/Eglin AFB, FL	107.802	12.152	Nov 2012	32.740	Nov 2013	89.876	Nov 2014	-		89.876	287.252	529.822	-
OT-JITC/OPTEV	Various	OT-JITC/OPTEC : Various	6.211	11.721	Oct 2012	-		-		-		-	-	17.932	-
Subtotal			1,040.366	284.334		381.713		448.802		-		448.802	660.330	2,815.545	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Business Integration - Cost ACT I	SS/CPFF	ACT I : Arlington, VA	8.604	2.334	Dec 2012	3.248	Dec 2013	3.362	Dec 2014	-		3.362	-	17.548	17.548
Security Mantech	C/FP	Mantech : Arlington, VA	57.282	8.617	Dec 2012	11.600	Dec 2013	-		-		-	-	77.499	77.499
Business Integ - Acq PA Cons	Various	Various : Various	0.000	-		-		-		-		-	-	-	-
Autolog - SEIT DRC	C/CPFF	DRC : Arlington, VA	2.573	-		-		-		-		-	-	2.573	2.573
Chief Engineer - First Principles	C/CPFF	First Principles : Arlington, VA	5.004	1.836	Nov 2012	1.928	Dec 2013	2.024	Dec 2014	-		2.024	2.024	12.816	12.816

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ASC Civilian Pay	Various	ASC CIVPAY : Wright Patterson, AFB, OH	14.654	24.092	Oct 2012	18.586	Oct 2013	24.225	Oct 2014	-		24.225	36.450	118.007	-
Operations Wyle	C/CPFF	Wyle : Arlington, VA	102.871	23.500	Dec 2012	24.884	Dec 2013	-		-		-	-	151.255	151.255
Operations SAFTAS	C/CPAF	Saftas : Arlington, VA	122.263	20.707	Dec 2012	17.350	Dec 2013	-		-		-	-	160.320	160.320
Operations CGI BOSS	C/CPAF	Stanley : Arlington, VA	181.370	20.707	Oct 2012	24.604	Dec 2013	-		-		-	-	226.681	226.681
GE F136 Congressional Studies	Various	Various : Various	0.800	-		-		-		-		-	-	0.800	0.800
Travel and Misc	Various	Various : Various	15.771	1.736	Dec 2012	4.559	Nov 2013	1.816	Dec 2014	-		1.816	5.252	29.134	-
Facilities BOSS	Various	Various : Various	7.085	7.085	Oct 2012	-		10.875	Oct 2014	-		10.875	34.027	59.072	-
Subtotal			518.277	110.614		106.759		42.302		-		42.302	77.753	855.705	-
Remarks															
Cumulative Award Fee earned in prior years for Stanley is 99%.															
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Subtotals			42,069.810	2,528.415		1,453.860		1,514.181		-		1,514.181	2,957.249	50,523.515	-
RDT&E,AF 0604800F			-	1,115.712		612.254		535.420		-		535.420			-
International Partner (SDD)			-	148.772		18.030		6.430		-		6.430			-
RDT&E,N (USMC) 0604800M/2262			-	639.059		399.323		487.068		-		487.068			-
Project Cost Totals			42,069.810	624.872		424.253		485.263		-		485.263	2,957.249	50,523.515	-
Remarks															
NOTE 1: Prior Years reflect \$18,788.057M USAF/\$17,355.294M USN/\$1,163.836 USMC /\$4,762.623M International/Total \$42,069.810M															
FY 2013 reflects \$1,115.712 USAF/\$624.872M USN/\$639.059M USMC/\$148.772M International/Total \$2,528.415M															
FY 2014 reflects \$612.254M USAF/\$424.253M USN/\$399.323M USMC/\$18.030M International/Total \$1,453.860M															
FY 2015 reflects \$535.420M USAF/\$485.263 USN/\$487.068M USMC/\$6.430M International/Total \$1,514.181M															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy							Date: March 2014			
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract	
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										
D&S Includes: USAF PE 0604800F BPAC 653832 USN PE 0604800N Project Unit 3352 USMC PE 0604800M Project Unit 3350										
JSF Follow on Development Includes: USAF PE 0207142F BPAC 675346 USN FY13 PE 0604800N Project Unit 2261 USN FY14 PE 0604800N Project Unit 3353 USMC FY13 PE 0604800M Project Unit 2262 USMC FY14 PE 0604800M Project Unit 3351										

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

Date: March 2014

Appropriation/Budget Activity

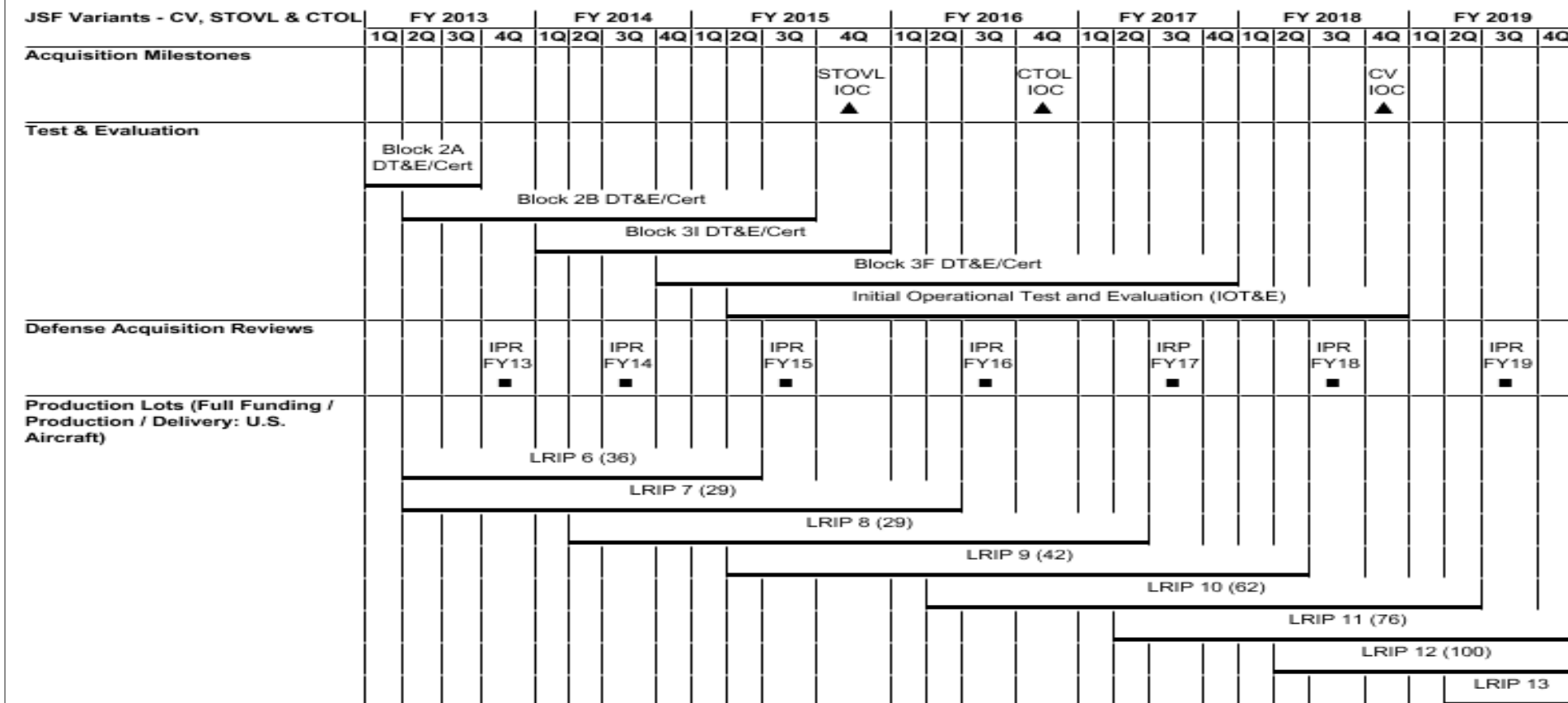
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R-1 Program Element (Number/Name)

PE 0604800N / JT Strike Fighter (JSF) - EMD

Project (Number/Name)

2261 / Joint Strike Fighter EMD



2015PB - 0604800N - 2261

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800N / JT Strike Fighter (JSF) - EMD	<b>Project (Number/Name)</b> 2261 / Joint Strike Fighter EMD	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>JSF Variants - CV, STOVL &amp; CTOL</b>				
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 2A DT&E/Cert	1	2013	3	2013
Test & Evaluation: Test and Evaluation: Block 2B DT&E/Cert	2	2013	3	2015
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-13	4	2013	4	2013
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-14	3	2014	3	2014
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-15	3	2015	3	2015
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-16	3	2016	3	2016
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-17	3	2017	3	2017
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-18	3	2018	3	2018
Defense Acquisition Reviews: System Development Reviews: Interim Program Review (IPR) FY-19	3	2019	3	2019

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014		
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 6 Full Funding / Production / Delivery		2	2013	2	2015
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 7 Full Funding / Production / Delivery		2	2013	2	2016
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 8 Full Funding / Production / Delivery		2	2014	2	2017
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 9 Full Funding / Production / Delivery		2	2015	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	2019
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 12 Full Funding / Production / Delivery		2	2018	4	2019
Production Lots (Full Funding / Production / Delivery: U.S. Aircraft): LRIP 13 Full Funding / Production / Delivery		2	2019	4	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 3194 / Joint Reprogramming Center			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3194: Joint Reprogramming Center	129.728	17.477	-	-	-	-	-	-	-	-	-	147.205
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
The United States Reprogramming Laboratory (USRL)/Capability Concept project, previously referred to as Joint Strike Fighter (JSF) Joint Reprogramming Center/ Capability Concept is required to adequately develop and maintain Operational Sensor Engineering F-35(V) Mission Data to support United States Navy, United States Marine Corps, and United States Air Force multi-mission objectives. USRL will allow rapid operational response to threat changes. Funding is provided for:												
<ul style="list-style-type: none"><li>- Aircraft sensor function and combat identification</li><li>- Conducting Offensive Identification/Jamming of potential threats</li><li>- Providing self defense against surface threats, air, and missile threats</li><li>- Detecting and identifying targets, to include moving land, air, and missile targets</li><li>- Providing mission planning to ensure aircraft survivability</li><li>- Conducting offensive operations against surface threats</li><li>- Conducting sensor management and information processing</li><li>- Software development for this requirement is funded through the F-35 JSF System Development and Demonstration baseline</li></ul>												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: USRL Build Up									6.576	-	-	
									Articles: -	-	-	
FY 2013 Accomplishments: Provide funds to Lockheed Martin Aero in support of reprogramming techniques, development and verification capacity required to adjust to emergent threats, and validate system effectiveness to increase survivability of the weapon system. Perform USRL stand-up testing and acceptance tasks.												
FY 2014 Plans: N/A												
FY 2015 Plans: N/A												
Title: Development Support									10.901	-	-	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800N / JT Strike Fighter (JSF) - EMD	<b>Project (Number/Name)</b> 3194 / Joint Reprogramming Center	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<b>Articles:</b>  <b>FY 2013 Accomplishments:</b> Continue SDD SE including systems operations requirements analysis, program integration, requirements integration, and interoperability support of the USRL.  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> N/A		-	-
<b>Accomplishments/Planned Programs Subtotals</b>		17.477	-
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
<p>The Joint Reprogramming Capability (JRC) is a subset of Joint Strike Fighter (JSF) Program and falls within JSF acquisition strategy. JRC is needed to support scheduled Initial Operational Capability dates (and supporting test activity) for three JSF variants. To that end, a concept of operations is being developed for JRC to address Mission Data development, verification/validation/testing, and to merge service unique requirements into Joint processes/procedures. Previously envisioned as a single facility, JRC is now comprised of two distinct facilities under JRC concept. The USRL will support U.S. Joint Service reprogramming requirements; the Partner Reprogramming Laboratory will focus on International Partner areas of interest.</p> <p>Inter-Service collaboration will eliminate duplication of effort, maximize technology to improve configuration control, employ advance networks, and ensure implementation of an enterprise (single shared database) solution. By capitalizing on legacy platform synergy, operational mission data intellect, proven processes, and existing reprogramming center resources, this approach will improve efficiencies. A Joint Command reprogramming authority will determine/manage reprogramming priorities and implementation authority.</p> <p>The USRL Mission data development strategy is based upon an assessment of legacy systems, F-22 data, corporate expertise at Eglin Air Force Base/Naval Air Warfare Center Weapons Division, personnel, adjusted cost and schedule projections keyed to complexity of multi-variant and multi-mission aircraft; JSF-specific utilization of multiple sources of non-sustained disparate, raw, intelligence data, development of threat assessment - metrics; and build-up of real-world scenarios for systems verification and validation. These efforts support JSF operational requirements, interoperability, and fratricide mitigation.</p>			



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800N / <i>JT Strike Fighter (JSF) - EMD</i>	<b>Project (Number/Name)</b> 3194 / <i>Joint Reprogramming Center</i>
<p>Although the Joint Strike Fighter (JSF) Program has contracted with Lockheed Martin and Pratt &amp; Whitney for System Development and Demonstration of JSF, contractors do not have laboratory space available or expertise to perform operational evaluation of lab and flight test data and support field recommendations to level needed. The complexity and magnitude of JSF mission data loads drives decision to utilize government and contractor resources to design and develop a Joint-Service reprogramming facility at Eglin Air Force Base.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>United States Reprogramming Laboratory Stand-up - 4th Quarter FY 13</p>		

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**

1319 / 5

**R-1 Program Element (Number/Name)**

PE 0604800N / JT Strike Fighter (JSF) -  
EMD

**Project (Number/Name)**

3194 / Joint Reprogramming Center

JSF United States Research Laboratory (USRL)	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>USRL Implementation</b>																												
USRL Standup				USRL STANDUP ▼																								
<b>Verification and Validation Facility (VVF)</b>																												
		ATP																										
		USRL IOC ▼																										
<b>Electronic Warfare Verification Station (EWVS) and Reprogramming Facility (RF)</b>																												
			ATP																									

2015DON - 0604800N - 3194

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3352: F-35C Sustainment/ Capability Enhancements	-	-	14.992	16.997	-	16.997	16.977	-	-	-	-	48.966
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
NOTE: * This Navy Project Unit (3352) was a New Start in Fiscal Year 2014.												
Total cost including United States Navy (USN), United States Marine Corps (USMC), and United States Air Force (USAF) funding is: FY13 \$14.167M, FY14 \$46.096M, and FY15 \$61.570M												
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 2013	FY 2014	FY 2015	
Title: Sustainment and Capability Enhancements									-	31.622	42.236	
									Articles: -	-	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Description:</b> 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.  <b>FY 2013 Accomplishments:</b> N/A  <b>FY 2014 Plans:</b> Conduct systems engineering, technology maturation, integration and test planning for Deployability and Suitability enhancements.  <b>FY 2015 Plans:</b> Continue to conduct systems engineering, technical maturation, integration and test planning for suitability and deployability enhancements.					
<b>Title:</b> Development Support  <b>Description:</b> Initiate SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.  <b>FY 2013 Accomplishments:</b> Continue SDD support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities.  <b>FY 2014 Plans:</b> Continue 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.  <b>FY 2015 Plans:</b> 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.			14.167	11.846	14.745
<b>Articles:</b>			-	-	-
<b>Title:</b> Development Test and Evaluation			-	2.628	4.589
<b>Articles:</b>			-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
Description: Verification and testing for deployability and suitability enhancements												
FY 2013 Accomplishments: N/A												
FY 2014 Plans: 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 evaluation of capability enhancements for Deployable Autonomic Logistics Information System, and LO maintenance enhancements.												
Accomplishments/Planned Programs Subtotals										14.167	46.096	61.570
RDT&E,N (USMC) 0604800M/3350										-	14.904	11.980
RDT&E,AF 0604800F/65832										14.167	16.200	32.593
Navy Subtotals										-	14.992	16.997
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• RDT&E/0604800F: Joint Strike Fighter	1,115.712	612.254	535.420	-	535.420	522.575	327.100	115.413	5.250	-	22,021.781	
• International: International Partner (SDD/FOD)	148.772	18.030	6.430	-	6.430	2.600	8.080	3.040	-	-	4,949.575	
• APAF/0207142F: F-35 Joint Strike Strike Fighter	2,532.184	2,889.602	3,553.046	-	3,553.046	5,138.558	5,262.325	5,943.415	5,770.781	148,305.400	192,028.494	
• RDT&E/0604800M/2262: JT Strike Fighter (JSF) - EMD	639.059	399.323	487.068	-	487.068	525.008	393.609	84.467	10.892	-	3,703.262	
• APN/0605B: F-35 Joint Strike Fighter STOVL Spares	91.752	41.707	85.194	-	85.194	111.105	65.194	153.914	69.699	Continuing	Continuing	
• APN/0147C: F-35 Joint Strike Fighter CV	30.699	79.016	29.400	-	29.400	73.800	123.000	196.768	246.000	3,605.667	5,648.780	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• APN/0605C: F-35 Joint Strike Fighter CV Spares	26.089	42.060	28.200	-	28.200	28.200	136.134	101.997	201.771	Continuing	Continuing	
• MC/0207142F: USAF MILCON	13.513	23.500	39.900	-	39.900	14.900	3.250	61.000	-	Continuing	Continuing	
• APAF/0204142F: USAF Modification Funding	80.715	126.777	187.646	-	187.646	221.826	250.178	254.903	262.733	Continuing	Continuing	
• FOD/0207142F: USAF Follow-on Development	-	3.000	28.051	-	28.051	117.812	244.464	313.398	336.942	-	1,043.667	
• 0207142F/USAF: USAF Spares	163.151	89.050	236.418	-	236.418	270.431	278.552	380.165	457.051	Continuing	Continuing	
• OPN/4267: Autonomic Logistics Information System (ALIS)	2.824	3.427	-	-	-	-	-	-	-	-	6.251	
• USAF/OPAF PE 27142F: OPAF	338.000	1.431	4.463	-	4.463	3.858	2.333	2.374	2.415	Continuing	Continuing	
• APN/0592: F-35 STOVL Series	-	111.158	285.968	-	285.968	278.596	173.231	178.035	181.759	Continuing	Continuing	
• APN/0593: F-35 CV Series	-	29.950	20.502	-	20.502	37.336	47.953	51.409	53.388	Continuing	Continuing	
• RDT&E/0604800M/3350: F-35C Sustainment/Capability Enhancements	-	14.904	11.980	-	11.980	11.952	-	-	-	-	38.836	
• RDT&E/0604800M/3351: F-35C Follow-on Development	-	-	13.973	-	13.973	59.885	120.644	157.796	168.923	-	521.221	
• USAF SDD BP 653832: Deployability and Suitability Enhancements	14.167	16.200	32.593	-	32.593	29.657	-	-	-	-	92.617	
• PAF/0207142F: CTOL Advance Procurement	293.400	339.533	291.880	-	291.880	438.808	528.560	522.180	497.720	18,140.460	22,285.046	
• DCA/0207142F: Dual Capable Aircraft (DCA)	-	-	15.615	-	15.615	-	-	-	-	-	15.615	
• APN/0147: F-35 Joint Strike Fighter CV	808.000	1,028.415	610.652	-	610.652	629.916	1,135.967	1,394.026	1,974.142	30,575.452	47,756.623	
• APN/0152C: Advance Procurement (STOVL) BP0152C	98.061	103.195	143.885	-	143.885	203.057	226.014	136.732	139.330	3,044.411	4,836.075	
• APN/0152: Advance Procurement (STOVL) BP0152	1,094.421	1,176.498	1,200.410	-	1,200.410	1,451.916	2,061.990	2,726.113	2,810.778	27,238.439	41,455.992	
• USN MILCON: USN JSF MILCON	117.600	209.000	320.500	-	320.500	151.700	48.100	-	169.700	660.900	2,259.300	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• USN RDT&E USRL: USN USRL	17.477	-	-	-	-	-	-	-	-	-	147.205	
• International 2: International Procurement	1,487.584	1,924.048	3,205.900	-	3,205.900	6,109.330	7,280.752	6,686.294	4,192.377	-	34,149.323	
• OPN/4268: Logistics Information System (ALIS)	-	-	6.016	-	6.016	3.946	2.262	4.122	3.969	9.408	29.723	
• MC/0207597F: USAF MILCON	-	32.500	26.800	-	26.800	35.500	11.400	74.850	-	Continuing	Continuing	
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 dated 31 December 2012:												
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												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800N / <i>JT Strike Fighter (JSF) - EMD</i>	<b>Project (Number/Name)</b> 3352 / <i>F-35C Sustainment/Capability Enhancements</i>
<p>Radio Frequency Signature Meets/Exceeds Tripwire Requirement</p> <p>Force Protection</p> <p>CB Pilot Protection (New Key Performance Parameters Per CN3) - Meets/Exceeds Tripwire Requirement</p> <p>Mission Reliability</p> <p>CTOL Meets/Exceeds Tripwire Requirement</p> <p>CV Exceeds Operational Requirements Document Objective</p> <p>STOVL United States Marine Corps Meets/Exceeds Tripwire Requirement</p> <p>STOVL United Kingdom Meets/Exceeds Tripwire Requirement</p> <p>Sortie Generation Rate</p> <p>CTOL Meets/Exceeds Tripwire Requirement</p> <p>CV Meets/Exceeds Tripwire Requirement</p> <p>Short Take Off Vertical Landing (STOVL) United States Marine Corps Meets/Exceeds Tripwire Requirement</p> <p>STOVL UK Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprints</p> <p>Conventional Take Off and Landing (CTOL) Meets/Exceeds Tripwire Requirement</p> <p>STOVL USMC Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprint- Volume</p> <p>Carrier Variant (CV) Exceeds Operational Requirements Document (ORD) Objective</p> <p>STOVL USMC Exceeds ORD Objective</p> <p>STOVL UK Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprint-Weight</p> <p>Carrier Variant (CV)Exceeds Operations Requirements Document (ORD) Objective</p> <p>STOVL USMC Exceeds ORD Objective</p> <p>STOVL UK Meets/Exceeds Tripwire Requirement</p>		



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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date: March 2014</b>			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0604800N / JT Strike Fighter (JSF) - EMD						<b>Project (Number/Name)</b> 3352 / F-35C Sustainment/Capability Enhancements			
<b>Product Development (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Prime LM Deployability Suitability	SS/CPAF	Lockheed Martin : Ft. Worth, TX	0.000	-		31.622	Mar 2014	42.236	Mar 2015	-		42.236	29.000	102.858	102.858
<b>Subtotal</b>			0.000	-		31.622		42.236		-		42.236	29.000	102.858	102.858
<b>Support (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Development Support	TBD	Various : Various	0.000	14.167	Oct 2013	10.846	Mar 2014	13.745	Mar 2015	-		13.745	-	38.758	-
<b>Subtotal</b>			0.000	14.167		10.846		13.745		-		13.745	-	38.758	-
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Developmental Test & Evaluation	WR	Various : Various	0.000	-		2.628	Jun 2014	4.589	Jun 2015	-		4.589	-	7.217	-
<b>Subtotal</b>			0.000	-		2.628		4.589		-		4.589	-	7.217	-
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Support	TBD	Various : Various	0.000	-		1.000	Dec 2013	1.000	Dec 2014	-		1.000	0.657	2.657	-
<b>Subtotal</b>			0.000	-		1.000		1.000		-		1.000	0.657	2.657	-
			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Cost Category Subtotals</b>			0.000	14.167		46.096		61.570		-		61.570	29.657	151.490	-
RDT&E,N (USMC) 0604800M/3350			-	-		14.904		11.980		-		11.980			-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy										Date: March 2014			
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 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
RDT&E,AF 0604800F/65832	-	14.167		16.200		32.593		-		32.593			-
Project Cost Totals	0.000	-		14.992		16.997		-		16.997	29.657	151.490	-
Remarks													
NOTE:													
FY 2013 reflects \$14.167USAF/Total \$14.167M													
FY 2014 reflects \$16.200M USAF/\$14.992M USN/\$0.000M USMC/\$14.904M International/Total \$46.096M													
FY 2015 reflects \$32.593M USAF/\$16.997M USN/\$11.980M USMC/\$0.000M International/Total \$61.570M													
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													
JSF Follow on Development Includes: USAF PE 0207142F BPAC 675346 USN PE 0608400N Project Unit 3353 USMC PE 0608400M Project Unit 3351													

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy												Date: March 2014																			
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											
Proj 3352	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019						
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q			
D&S			Contract Award ▲				Deployment and Suitablity Enhancements																								
2015PB - 0604800N - 3352																															

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800N / <i>JT Strike Fighter (JSF) - EMD</i>	<b>Project (Number/Name)</b> 3352 / <i>F-35C Sustainment/Capability Enhancements</i>

## Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 3352</i></b>				
D&S: D&S Contract Award	3	2013	3	2013
D&S: D&S Deployment and Suitability Enhancements	3	2014	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 3353 / F-35C Follow-on Development			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3353: F-35C Follow-on Development	-	-	-	14.196	-	14.196	59.116	123.467	157.922	170.015	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
NOTE: * This Navy Project Unit (3353) is a New Start in Fiscal Year 2015.												
Total cost including USN, USMC, and USAF funding is: FY2014 \$3.000M FY15 \$56.220M												
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 0604800N Project Unit 3353 USMC PE 0604800M Project Unit 3351												
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 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 FY19 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 2013	FY 2014	FY 2015	
Title: Air Vehicle Follow-on Development									-	3.000	47.880	
									Articles: -	-	-	
Description: Capability planning effort will focus on mission requirements analysis, early engineering, risk reduction and												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD	Project (Number/Name) 3353 / F-35C Follow-on Development		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
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 2013 Accomplishments: N/A				
FY 2014 Plans: Development and validation of the FoD CDD.				
FY 2015 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.				
Title: Developmental Test and Evaluation		-	-	4.540
Articles:		-	-	-
Description: Initiate Laboratory and Test Aircraft Upgrade and other test planning activities required for Block 4 and later development , integration, test and evaluation. Changes are needed to support development and evaluation of improvements driven by changes in threat and as identified in the Electronic Warfare ICD and the Fith Generation Fighter Modernization ICD.				
FY 2013 Accomplishments: N/A				
FY 2014 Plans: Near term funding will support infrastructure upgrades required for development of enhanced capabilities. This includes replacement of engines and other life limited components on DT aircraft that will be at end of life upon completion of SDD, as well as laboratory upgrades to support development and verification of capabilities to address advanced threats.				
FY 2015 Plans: Funding will support infrastructure investment planning and prioritization required to maintain future development capability. This includes planning for long-lead procurement for replacement of engines and other life limited components on DT aircraft that will be at end of life upon completion of SDD, as well as laboratory upgrades required to support development and verification of capabilities in a relevant threat.				
Title: Development Support		-	-	3.800
Articles:		-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 3353 / F-35C Follow-on Development				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
Description: Technical and Analytical Support												
FY 2013 Accomplishments: N/A												
FY 2014 Plans: Initiate development support for defining, managing and acquiring the envisioned F-35C capability enhancements identified in approved requirements documents.												
FY 2015 Plans: Initiate development support for defining, managing and acquiring the envisioned F-35B capability enhancements identified in approved requirements documents.												
Accomplishments/Planned Programs Subtotals										-	3.000	56.220
RDT&E,N (USMC) 0604800M/3351										-	-	13.973
RDT&E,AF 0207142F/675346										-	3.000	28.051
Navy Subtotals										-	-	14.196
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• RDT&E/0604800F: Joint Strike Fighter	1,115.712	612.254	535.420	-	535.420	522.575	327.100	115.413	5.250	-	22,021.781	
• International: International Partner (SDD/FOD)	148.772	18.030	6.430	-	6.430	2.600	8.080	3.040	-	-	4,949.575	
• APAF/0207142F: F-35 Joint Strike Strike Fighter	2,532.184	2,889.602	3,553.046	-	3,553.046	5,138.558	5,262.325	5,943.415	5,770.781	148,305.400	192,028.494	
• RDT&E/0604800M/2262: JT Strike Fighter (JSF) - EMD	639.059	399.323	487.068	-	487.068	525.008	393.609	84.467	10.892	-	3,703.262	
• APN/0605B: F-35 Joint Strike Fighter STOVL Spares	91.752	41.707	85.194	-	85.194	111.105	65.194	153.914	69.699	Continuing	Continuing	
• APN/0147C: F-35 Joint Strike Fighter CV	30.699	79.016	29.400	-	29.400	73.800	123.000	196.768	246.000	3,605.667	5,648.780	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 3353 / F-35C Follow-on Development				
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• APN/0605C: F-35 Joint Strike Fighter CV Spares	26.089	42.060	28.200	-	28.200	28.200	136.134	101.997	201.771	Continuing	Continuing	
• MC/0207142F: USAF MILCON	13.513	23.500	39.900	-	39.900	14.900	3.250	61.000	-	Continuing	Continuing	
• APAF/0204142F: USAF Modification Funding	80.715	126.777	187.646	-	187.646	221.826	250.178	254.903	262.733	Continuing	Continuing	
• FOD/0207142F: USAF Follow-on Development	-	3.000	28.051	-	28.051	117.812	244.464	313.398	336.942	-	1,043.667	
• 0207142F/USAF: USAF Spares	163.151	89.050	236.418	-	236.418	270.431	278.552	380.165	457.051	Continuing	Continuing	
• OPN/4267: Autonomic Logistics Information System (ALIS)	2.824	3.427	-	-	-	-	-	-	-	-	6.251	
• USAF/OPAF PE 27142F: OPAF	338.000	1.431	4.463	-	4.463	3.858	2.333	2.374	2.415	Continuing	Continuing	
• APN/0592: F-35 STOVL Series	-	111.158	285.968	-	285.968	278.596	173.231	178.035	181.759	Continuing	Continuing	
• APN/0593: F-35 CV Series	-	29.950	20.502	-	20.502	37.336	47.953	51.409	53.388	Continuing	Continuing	
• RDT&E/0604800M/3350: F-35C Sustainment/ Capability Enhancements	-	14.904	11.980	-	11.980	11.952	-	-	-	-	38.836	
• RDT&E/0604800M/3351: F-35C Follow-on Development	-	-	13.973	-	13.973	59.885	120.644	157.796	168.923	-	521.221	
• USAF SDD BP 653832: Deployability and Suitability Enhancements	14.167	16.200	32.593	-	32.593	29.657	-	-	-	-	92.617	
• PAF/0207142F: JSF CTOL Advance Procurement	293.400	339.533	291.880	-	291.880	438.808	528.560	522.180	497.720	18,140.460	22,285.046	
• DCA/0207142F: Dual Capable Aircraft (DCA)	-	-	15.615	-	15.615	-	-	-	-	-	15.615	
• APN/0147: F-35 Joint Strike Fighter CV	808.000	1,028.415	610.652	-	610.652	629.916	1,135.967	1,394.026	1,974.142	30,575.452	47,756.623	
• APN/0152C: Advance Procurement (STOVL) BP0152C	98.061	103.195	143.885	-	143.885	203.057	226.014	136.732	139.330	3,044.411	4,836.075	
• APN/0152: Advance Procurement (STOVL) BP0152	1,094.421	1,176.498	1,200.410	-	1,200.410	1,451.916	2,061.990	2,726.113	2,810.778	27,238.439	41,455.992	
• USN MILCON: USN JSF MILCON	117.600	209.000	320.500	-	320.500	151.700	48.100	-	169.700	660.900	2,259.300	



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 3353 / F-35C Follow-on Development				
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• USN RDT&E USRL: USN USRL	17.477	-	-	-	-	-	-	-	-	-	147.205	
• International 2: International Procurement	1,487.584	1,924.048	3,205.900	-	3,205.900	6,109.330	7,280.752	6,686.294	4,192.377	-	34,149.323	
• OPN/4268: Logistics Information System (ALIS)	-	-	6.016	-	6.016	3.946	2.262	4.122	3.969	9.408	29.723	
• MC/0207597F: USAF MILCON	-	32.500	26.800	-	26.800	35.500	11.400	74.850	-	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 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.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD				Project (Number/Name) 3353 / F-35C Follow-on Development					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Requirements Analysis, Systems Engineering and Risk Reduction	SS/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	-		-		48.623	Feb 2015	-		48.623	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		48.623		-		48.623	-	-	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical and Analytic Support	SS/CPFF	Lockheed Martin : Ft. Worth, TX	0.000	-		3.000	Mar 2014	-		-		-	Continuing	Continuing	Continuing
Subtotal			0.000	-		3.000		-		-		-	-	-	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Laboratory and Test Aircraft Infrastructure	TBD	Lockheed Martin : Ft. Worth, TX	0.000	-		-		2.100	Jul 2015	-		2.100	Continuing	Continuing	Continuing
Subtotal			0.000	-		-		2.100		-		2.100	-	-	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support and Milestone Preparations	Various	Various : Various	0.000	-		-		4.177	Dec 2014	-		4.177	Continuing	Continuing	Continuing
PMA	Various	Various : Various	0.000	-		-		1.320	Dec 2014	-		1.320	-	1.320	-
Subtotal			0.000	-		-		5.497		-		5.497	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014					
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0604800N / JT Strike Fighter (JSF) - EMD						Project (Number/Name) 3353 / F-35C Follow-on Development					
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total					
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract		
Remarks																	
Cost to Complete, Total Cost, and Target Value are Continuing. When program baseline is estalished and development contract awarded, values will be established.																	
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract		
Cost Category Subtotals			0.000	-		3.000		56.220		-		56.220	-	-	-		
RDT&E,N (USMC) 0604800M/3351			-	-		-		13.973		-		13.973			-		
RDT&E,AF 0207142F/675346			-	-		3.000		28.051		-		28.051			-		
Project Cost Totals			0.000	-		-		14.196		-		14.196	-	-	-		
Remarks																	
NOTE:																	
FY 2014 reflects \$3.000M USAF/\$0.000 USN/\$0.000M USMC/\$0.000M International/Total \$3.000M																	
FY 2015 reflects \$28.051M USAF/\$14.196 USN/\$13.973M USMC/\$0.000M International/Total \$56.220																	
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																	
JSF Follow on Development Includes: USAF PE 0207142F BPAC 675346 USN PE 0608400N Project Unit 3353 USMC PE 0608400M Project Unit 3351																	
JSF Dual Capability Aircraft Includes:																	

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PE 0604800N: *JT Strike Fighter (JSF) - EMD*  
Navy

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

Date: March 2014

Appropriation/Budget Activity

1319 / 5

R-1 Program Element (Number/Name)

PE 0604800N / JT Strike Fighter (JSF) - EMD

Project (Number/Name)

3353 / F-35C Follow-on Development

Proj 3353	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Block 4																												

2015PB - 0604800N - 3353

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604800N / JT Strike Fighter (JSF) - EMD	<b>Project (Number/Name)</b> 3353 / F-35C Follow-on Development	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>Proj 3353</i></b>				
Block 4: Block 4A Requirements Decomposition	3	2014	2	2015
Block 4: Block 4A Risk Reduction	2	2015	3	2016
Block 4: Block 4A Engineering and Manufacturing Development	3	2016	4	2019
Block 4: Block 4B Studies and Analysis	3	2015	3	2016
Block 4: Block 4B Requirements Decomposition	3	2016	3	2017
Block 4: Block 4B Risk Reduction	3	2017	3	2018
Block 4: Block 4B Risk Engineering and Manufacturing Development	3	2018	4	2019

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014																	
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0604800N / JT Strike Fighter (JSF) - EMD				<b>Project (Number/Name)</b> 9999 / Congressional Adds																		
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>															
9999: Congressional Adds	-	-	1.500	-	-	-	-	-	-	-	-	1.500															
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-																	
<p># The FY 2015 OCO Request will be submitted at a later date.</p> <p><b>A. Mission Description and Budget Item Justification</b>  Congressional Add. Provides funding to produce, staff, and gain approval of a Block 4 Capability Development Document.</p> <p><b>B. Accomplishments/Planned Programs (\$ in Millions)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>FY 2013</th> <th>FY 2014</th> </tr> </thead> <tbody> <tr> <td><b>Congressional Add:</b> JSF Block 4 - USN Cong</td> <td>-</td> <td>1.500</td> </tr> <tr> <td><b>FY 2013 Accomplishments:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td><b>FY 2014 Plans:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td><b>Congressional Adds Subtotals</b></td> <td>-</td> <td>1.500</td> </tr> </tbody> </table> <p><b>C. Other Program Funding Summary (\$ in Millions)</b> N/A</p> <p><b>Remarks</b></p> <p><b>D. Acquisition Strategy</b> Not required for Congressional Add.</p> <p><b>E. Performance Metrics</b> Not required for Congressional Add.</p>														FY 2013	FY 2014	<b>Congressional Add:</b> JSF Block 4 - USN Cong	-	1.500	<b>FY 2013 Accomplishments:</b> N/A			<b>FY 2014 Plans:</b> N/A			<b>Congressional Adds Subtotals</b>	-	1.500
	FY 2013	FY 2014																									
<b>Congressional Add:</b> JSF Block 4 - USN Cong	-	1.500																									
<b>FY 2013 Accomplishments:</b> N/A																											
<b>FY 2014 Plans:</b> N/A																											
<b>Congressional Adds Subtotals</b>	-	1.500																									

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605013M / Marine Corps IT Dev/Mod							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	57.382	11.540	5.564	2.887	-	2.887	5.158	5.239	3.860	1.954	Continuing	Continuing
2906: Marine Corps IT	57.382	11.540	5.564	2.887	-	2.887	5.158	5.239	3.860	1.954	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## **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><u>B. Program Change Summary (\$ in Millions)</u></b>	<b><u>FY 2013</u></b>	<b><u>FY 2014</u></b>	<b><u>FY 2015 Base</u></b>	<b><u>FY 2015 OCO</u></b>	<b><u>FY 2015 Total</u></b>
Previous President's Budget	12.143	5.564	5.663	-	5.663
Current President's Budget	11.540	5.564	2.887	-	2.887
Total Adjustments	-0.603	-	-2.776	-	-2.776
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.320	-			
• Program Adjustments	-	-	-0.430	-	-0.430
• Rate/Misc Adjustments	-	-	-2.346	-	-2.346
• Congressional General Reductions Adjustments	-0.283	-	-	-	-

## **Change Summary Explanation**

The funding decrease from FY14 to FY15 is due to program adjustments which realigned resources for more efficient execution.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2906: Marine Corps IT	57.382	11.540	5.564	2.887	-	2.887	5.158	5.239	3.860	1.954	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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. Within the Marine Corps, there are two distinct acquisition efforts to field DMS to strategic and tactical communication centers to all classification levels. Additionally ongoing efforts at the service and DISA level to transition from the DMS system to alternative mechanisms for the transfer of organizational information. FY13 R&D for DMS continued 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. 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 the migrating all Marine Corps organizational messaging capabilities into MCEITS.

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. FY13 funding continued the development of the Calendar Based Scheduling Module. FY14 funding is planned for Development of Enhanced Registration capability of Marines/Students and a Prerequisite and Registration Screening Tool. FY15 funding is planned for Handheld/Mobile Application Interface & Integration Training Data Warehouse (TrDW) Planning.

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

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013M / <i>Marine Corps IT Dev/Mod</i>	<b>Project (Number/Name)</b> 2906 / <i>Marine Corps IT</i>
<p>Personnel Administration Center (IPAC)/Disbursing Echelon, and 5) Headquarters Marine Corps (HQMC) Manpower and Reserve Affairs (M&amp;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, and the Drill Management Module (DMM)).</p> <p>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.</p> <p>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. In FY13, funds supported development of the Mission Planning Tool. FY14 funding supports Design and development of Manning Level Structure Analysis Tool and Training Application Tool Development &amp; Web Based Training (WBT). FY15 funding is planned for Automated Waiver Processing Tool, Recruiter Client Development and MCEITS Migration.</p> <p>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</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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		
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 will also support 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. No additional system development is anticipated in FY15.					
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).					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
Title: DEFENSE READINESS REPORTING SYSTEM-MARINE CORPS (DRRS-MC)  Articles:  FY 2013 Accomplishments: Completed testing with Joint Interoperability Test Command (JITC) and Human System Integrator (HSI) Support Dahlgren.  FY 2014 Plans: Will support 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			0.377	0.400	-
			-	-	-
Title: DEFENSE MESSAGE SYSTEM (DMS)  Articles:  FY 2013 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.  FY 2014 Plans: 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.  FY 2015 Plans:			0.630	0.489	-
			-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
N/A					
<b>Title:</b> MARINE CORPS TRAINING INFORMATION MANAGEMENT SYSTEM (MCTIMS)			0.624	0.527	0.291
<b>Articles:</b>			-	-	-
<b>FY 2013 Accomplishments:</b> Continued development of Calendar Based Scheduling Module.					
<b>FY 2014 Plans:</b> Initiate development of Enhanced Registration capability for Marines/Students as well as a Prerequisite and Registration Screening Tool.					
<b>FY 2015 Plans:</b> Initiate development of Handheld/Mobile Application Interface and Integration Training Data Warehouse (TrDW) Planning.					
<b>Title:</b> MANPOWER OPERATIONS SYSTEMS (MOS)			3.707	-	-
<b>Articles:</b>			-	-	-
<b>FY 2013 Accomplishments:</b> Completed the design and development of the IDMS (Integrated Database Management System) module for the Reserve Transition and Manpower Management System (RTAMMRS).					
<b>FY 2014 Plans:</b> N/A					
<b>FY 2015 Plans:</b> N/A					
<b>Title:</b> MARINE CORPS ENTERPRISE INFORMATION TECHNOLOGY SERVICES (MCEITS)			5.578	3.373	1.814
<b>Articles:</b>			-	-	-
<b>FY 2013 Accomplishments:</b> Enhanced infrastructure to enable and provide an enterprise level Service Oriented Architecture capability, available for use by all systems, services and applications.					
<b>FY 2014 Plans:</b> Initiate integration, test and transition of technically refreshed software and hardware infrastructure of the first Enterprise IT Center in Kansas City. Scale infrastructure capacity to host additional applications planned to migrate and to initiate the technical refresh.					
<b>FY 2015 Plans:</b>					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
Continue integration, test and transition of refreshed Enterprise IT Center in Kansas City. Continue to scale infrastructure capacity to host additional applications planned to migrate.				
<b>Title:</b> PAPERLESS ACQUISITION (PA)  <b>Description:</b> PAPERLESS ACQUISITION (PA)  <b>FY 2013 Accomplishments:</b> Continued Research and development including support or adherence to: Standard Financial Information Structure, Financial Data in Procurement, Ucore, Business, Enterrise Archritecture, USMC Financial Improvement Initiative, Naval Facilities Engineering Command to USMC contract/obligation interface, Seaport-e to USMC contract/obligation interface.  <b>FY 2014 Plans:</b> No FY14 Funding.  <b>FY 2015 Plans:</b> Funding to support Engineering Change Proposals (ECPs).		0.484 Articles: -	- -	0.144 -
<b>Title:</b> MARINE CORPS RECRUITING INFORMATION SUPPORT SYSTEM (MCRISS)  <b>FY 2013 Accomplishments:</b> Initiated design, development and implementation of Mission Planning Tool.  <b>FY 2014 Plans:</b> Initiate Design and development of Manning Level Structure Analysis Tool and Training Application Tool development and Web Based Training (WBT).  <b>FY 2015 Plans:</b> Initiate design, development and implementation of Automated Waiver Processing Tool; Recruiter Client Development and MCEITS Migration.		0.140 Articles: -	0.775 -	0.638 -
Accomplishments/Planned Programs Subtotals		11.540	5.564	2.887

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• PMC/4617 - DRRS: Defense Readiness Reporting System (DRRS)	0.053	0.153	-	-	-	-	-	-	-	-	0.206
Remarks											
D. Acquisition Strategy											
<p>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.</p>											
<p>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.</p>											
<p>Manpower Operations Systems (MOS) within this portfolio follow 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.</p>											
<p>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.</p>											
<p>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.</p>											

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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
<p>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.</p> <p>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.</p> <p><b>E. Performance Metrics</b> Milestone Reviews</p>		



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PE 0605013M: *Marine Corps IT Dev/Mod*  
Navy

**Volume 3 - 881**

**R-1 Program Element (Number/Name)**  
PE 0605013M / Marine Corps IT Dev/Mod

**Project (Number/Name)**  
2906 / Marine Corps IT

As of 4 February 2014

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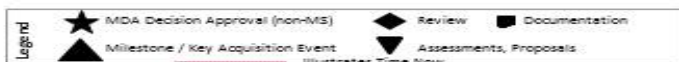
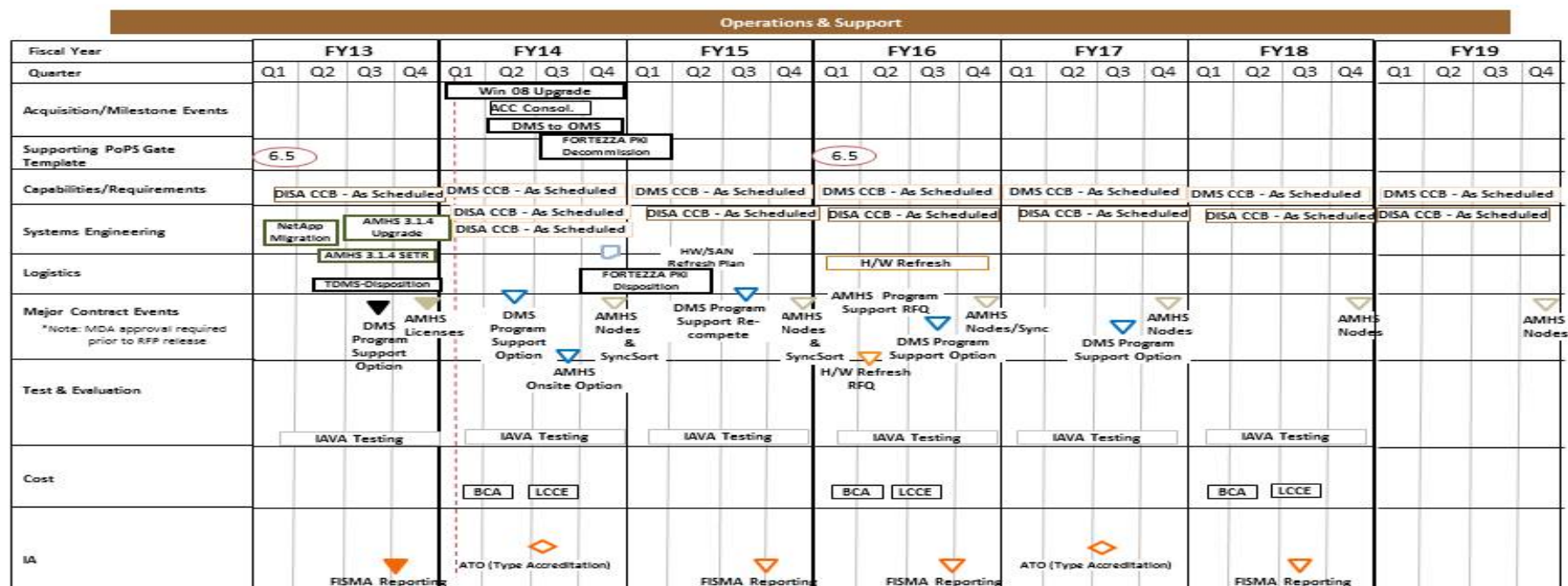
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Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity  
1319 / 5R-1 Program Element (Number/Name)  
PE 0605013M / Marine Corps IT Dev/ModProject (Number/Name)  
2906 / Marine Corps IT

# DMS Schedule



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Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity

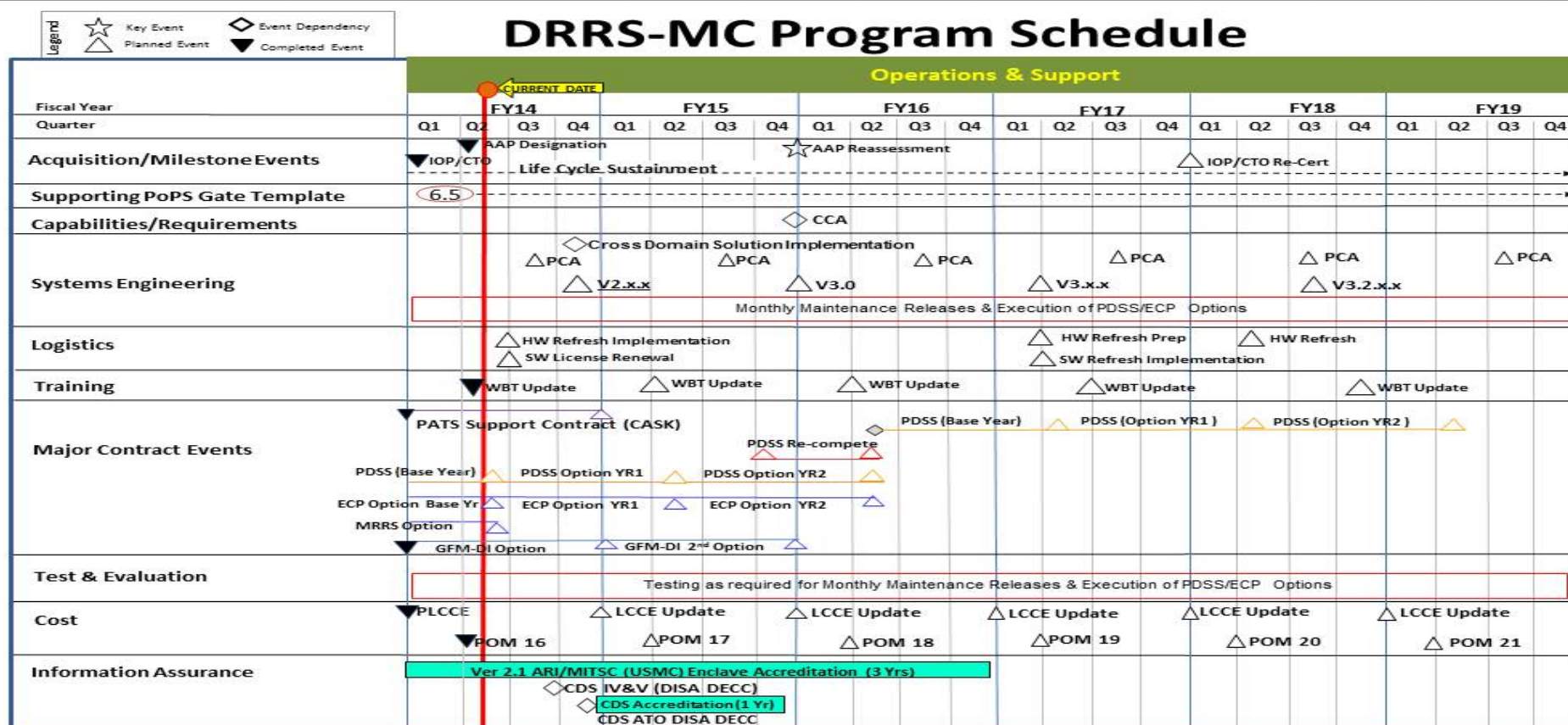
1319 / 5

R-1 Program Element (Number/Name)

PE 0605013M / Marine Corps IT Dev/Mod

Project (Number/Name)

2906 / Marine Corps IT



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

Date: March 2014

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 Systems Command  
Information Systems & Infrastructure  
Product Group 10 (PG10)

PA SYSTEMS  
Schedule

## PR Builder Operations & Support

Fiscal Year	FY13				FY14				FY15				FY16				FY17				FY18				FY19			
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Acquisition/Milestone Events	★ H4.3.2 CDS Do/No Do	★ H4.3.2 (Production)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)	★ H4.3.2 CDS (SCP Approval)
Supporting PoPS Gate Template																												
Capabilities/Requirements				◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS
Systems Engineering				◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS
Logistics				◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS
Major Contract Events				◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS
Test & Evaluation	◆ H4.3.2 CDS	◆ H4.3.2 CDS		◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS
Cost																												
A		◆ H4.3.2 CDS			◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS	◆ H4.3.2 CDS																				

★ MDA Decision Approval (non-MS)	◆ Review	■ Documentation
▲ Milestone / Key Acquisition Event	▼ Assessments, Proposals	

Note: For IT systems, limited deployment and full deployment are used in lieu of LRIP & FRP.

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

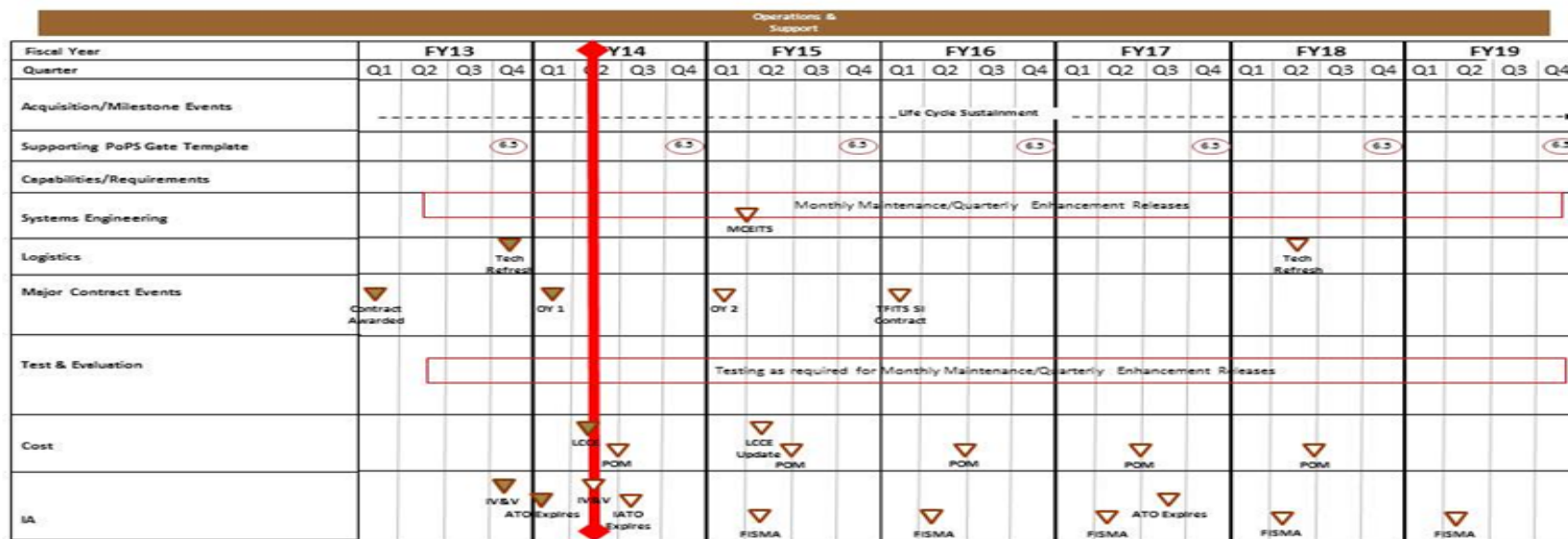
Date: March 2014

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 Program Schedule



Legend	★ MDA Decision Approval (non-MS)	◆ Review	■ Documentation
	▲ Milestone / Key Acquisition Event	▼ Assessments, Proposals	



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

Date: March 2014

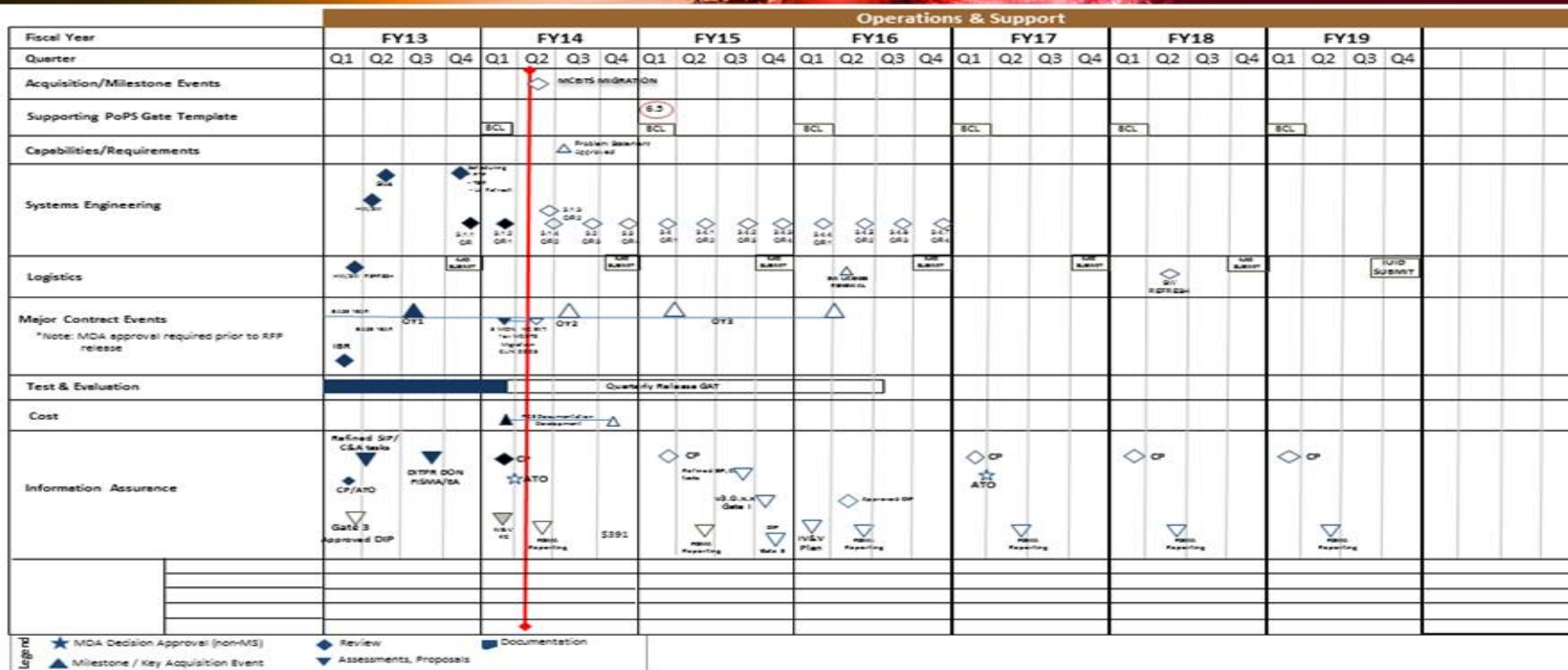
Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0605013M / Marine Corps IT Dev/Mod

Project (Number/Name)  
2906 / Marine Corps IT

**Marine Corps Systems Command  
Program Manager (PMM 110)  
Information Systems and Infrastructure**

**MCTIMS Program  
Schedule**



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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605013N / Information Technology Development							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	121.540	64.238	47.807	66.317	-	66.317	107.947	70.195	68.268	39.708	Continuing	Continuing
2901.: AAUSN IT	6.800	9.457	9.993	11.147	-	11.147	33.370	28.990	27.211	1.234	Continuing	Continuing
2903: NAVAIR IT	0.712	0.643	0.523	0.699	-	0.699	0.704	0.624	0.627	0.604	Continuing	Continuing
2904: NAVSEA IT	84.464	16.016	11.711	23.173	-	23.173	31.383	16.647	16.967	17.361	Continuing	Continuing
2905.: BUPERS IT	12.215	28.111	16.285	14.690	-	14.690	20.667	9.244	11.618	9.224	Continuing	Continuing
3167: Joint Technical Data Integration (JTDI)	11.955	7.424	1.964	2.848	-	2.848	6.602	5.366	4.312	4.004	Continuing	Continuing
3185: Joint Airlift Information System (JALIS)	0.409	0.364	0.282	0.337	-	0.337	0.343	0.345	0.355	0.363	Continuing	Continuing
9406: Maintenance Data Warehouse	4.985	2.223	7.049	13.423	-	13.423	14.878	8.979	7.178	6.918	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## A. Mission Description and Budget Item Justification

2901 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). RDTE 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.

2901 BSO 39 - NAVAL JUSTICE INFORMATION SYSTEM (NJIS): This system provides single authoritative case management information technology capability that provides end-to-end visibility into the Department of Navy (DON) criminal activity case load while reducing cost and increasing efficiency by replacing legacy systems. Funding is required for contractor support to develop, integrate, test, train, deploy, and implement this system.

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.

# UNCLASSIFIED

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>
<p>Data Modernization &amp; 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.</p> <p>Knowledge Network (K-Net): K-Net is a Data Modernization &amp; 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.</p> <p>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.</p> <p>Enterprise 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 modular, web based and built in a Service Oriented Architecture.</p> <p>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.</p> <p>2903 NAVAIR IT - CMIS: The Configuration Management Information System (CMIS) Program is DoD's standard software system for complete and integrated configuration management (CM) of weapon systems from acquisition to disposal. CMIS efficiently manages all product structure data, including complex interrelationship between assemblies and subassemblies, technical documentation and the parts that comprise the item. CMIS 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 CMIS, 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. CMIS 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 COTS upgrades to ensure objective performance of CMIS is achieved.</p> <p>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,</p>		



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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0605013N / Information Technology Development	
<p>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.</p>		
<p>2905 BUPERS IT - The Navy has developed a new strategy on the modernization of integrated personnel and pay systems. This transfer realigns the funds to the responsible organization required to execute the strategy approved by the DON Executive Advisory Board (EAB) in July, 2011. This strategy includes Business Process Re-engineering (BPR) defined requirements, modernization/risk reduction of current personnel/pay systems centered around the Navy's Standard Integrated Personnel System (NSIPS), and development of a future pay engine. All of these efforts are aligned with the Navy's Integrated Personnel and Pay Strategy (IPPS-N) CONOPS (Concept of Operations)</p>		
<p>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&amp;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. Marine Aviation Logistics Support Program II (MALSP II) Expeditionary Pack up Kit (EPUK): Funding supports the evaluation, development, testing and integration of software and hardware solutions for expeditionary requisitioning and supply chain management across all US Marine Corp Aviation activities. Marine Aviation Logistics is changing to MALSP II to meet current and future operational requirements - in support of the NAE Strategic Plan, Marine Corps Vision &amp; Strategy 2025, and the USMC Long War Concept. MALSP II will allow aviation logisticians to decrease total infrastructure and resource inventories forward by moving the preponderance of the Maintenance and Supply workload to the CONUS Parent MALS, and reducing the total forward Aviation Logistics footprint (personnel, equipment, facilities and spares). EPUK, as part of Marine Aviation Logistics Enterprise IT (MAL-EIT) system, is an automated wireless hardware / software solution that is a key enabler in integrating US Marine Corp Aviation Combat Element (ACE) and Logistics Combat Element (LCE) logistics systems to make the Marine Air Ground Task Force (MAGTF) more responsive, agile, flexible and lethal with the ability to support and sustain operations in austere expeditionary environments and across the Range of Military Operations (ROMO).</p>		
<p>3185 Joint Air Logistic Information System (JALIS) - A critical element of the DoD CONUS and OCONUS Air Logistics assets. JALIS is an operational scheduling, aircraft management, and data analysis system that allows DoD organizations to submit airlift requirements for passengers and cargo; air logistics flying units to communicate their aircraft availability in a real time graphic display; and designated scheduling organizations to compare airlift requirements to available aircraft and create mission assignments.</p>		

# UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014		
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				
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.						
B. Program Change Summary (\$ in Millions)		FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget		72.209	69.659	56.049	-	56.049
Current President's Budget		64.238	47.807	66.317	-	66.317
Total Adjustments		-7.971	-21.852	10.268	-	10.268
• Congressional General Reductions		-	-0.016			
• Congressional Directed Reductions		-	-21.836			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-1.774	-			
• Program Adjustments		-	-	27.450	-	27.450
• Rate/Misc Adjustments		-	-	-17.182	-	-17.182
• Congressional General Reductions		-6.197	-	-	-	-
Adjustments						
Change Summary Explanation						
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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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0605013N / Information Technology Development	
<p>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.</p> <p>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.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605013N / <i>Information Technology Development</i>				Project (Number/Name) 2901. / <i>AAUSN IT</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2901.: <i>AAUSN IT</i>	6.800	9.457	9.993	11.147	-	11.147	33.370	28.990	27.211	1.234	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
<p>DATA MODERNIZATION &amp; 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. Most recently, updates were requested to this module of SARMIS in order to assist with tracking of Financial Management personnel across the DON.</p> <p>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 all Secretariat systems technology upgrades and DOD security system requirements.</p> <p>NAVAL JUSTICE INFORMATION SYSTEM (NJIS): The system provides enterprise and process-wide visibility into the DON's unclassified criminal incident and case data throughout the lifecycle of the case, while reducing costs and increasing efficiency by replacing legacy systems. NJIS will serve as a single, authoritative data source and repository, allowing for information sharing across the entire DON criminal justice communities.</p> <p>The system will also comply with statutory requirements that mandate that the DON populate the Department of Defense's (DoD) crime database - the Defense Incident-Based Reporting System (DIBRS). It is DoD policy that DoD Components comply with the crime reporting requirements of the Uniform Federal Crime Reporting Act of 1988 (28 U.S.C. 534 note); for victim and witness assistance notifications of the Victim's Rights and Restitution Act of 1990 (42 U.S.C. 10601 et seq.); and the Brady Handgun Violence Prevention Act (18 U.S.C. 922 note).</p>												
Funding is required for contractor support to configuration, integration, testing, training, deployment, and implementation of the system.												
<p>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. Funds will provide program management, development, integration, testing, training, change management, deployment and implementation of the system throughout the Department of Navy.</p>												
<p>ELECTRONIC PROCUREMENT SYSTEM (EPS): Provide DoN 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 Management Office/</p>												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0605013N / Information Technology Development	Project (Number/Name) 2901. / AAUSN IT		
Financial Improvement Project (FMO/FIP) goals for auditability. 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. Program Executive Office Enterprise Information Systems (PEO EIS) is the Mileston Decision Authority (MDA). EPS meets the intent of the National Defense Authorization Act of 2013 by providing an electronic means to award contracts.					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
Title: Modernization			0.110	-	-
Articles:			1.000	1.000	-
Description: Prototype Phase completed. The initial development of "Threat Planner" (original Modernization portfolio) as well as subsequent spirals of K-Net capabilities, to include centralized database checks on individuals; and MTAC-related production and synthesis capabilities in support of Maritime Domain Awareness.					
FY 2013 Accomplishments: Continue in FY-2012 with the developmental efforts directed at emerging technologies in Data Collection and Knowledge Management with an emphasis on integrating them into the law enforcement and counter intelligence mission area of NCIS.					
FY 2014 Plans: N/A					
FY 2015 Plans: N/A					
Title: Modernization - Secretariat			0.855	0.044	1.147
Articles:			-	-	-
Description: The Secretariat has numerous requirements to modernize several systems including financial management, naval records management, and portal applications. These systems will be updated from older technologies to include ADA programming language to Java and Oracle Client-Server to web based. These upgrades are necessary to continue functionality of systems which ensure timely, accurate and efficient operation of the Secretariat's mission.					
FY 2013 Accomplishments: Upgraded and supported multiple projects with RDT&E requirements: Consoloidated Law Enforcement Operations Center (CLEOC), Naval Criminal Justice Information System (DONCJIS).					
FY 2014 Plans: Continue with platform and software upgrade within the Navy Secretariat. SARMIS modernization and design					
FY 2015 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
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 2013	FY 2014	FY 2015
Continue with moderization of approved system within the Navy Secretariat to include platform and software version updates.					
Title: Consolidated Law Enforcement Center (CLEOC)			0.500	-	-
Articles:			-	-	-
FY 2013 Accomplishments: N/A					
FY 2014 Plans: N/A					
FY 2015 Plans: N/A					
Title: Naval Justice Information System (NJIS)			1.896	2.887	-
Articles:			-	-	-
FY 2013 Accomplishments: Completed Materiel Solutions Analysis; conducted Request For Information, Industry Day (including Vendor interviews and COTS demonstrations). Prepared acquisition documentation. Conducted Decision Point "A". Performed risk reduction efforts that will ready the community environment, decrease the program's future risks, and decrease required funding.					
FY 2014 Plans: Release Request for Proposal (RFP), with contract to be awarded in February 2014 for a Commercial off the Shelf (COTS) product NJIS. The design will Include the configuration of the COTS product to include case management and reporting capabilities for all five DON criminal justice community requirements; utilizing the latest technology while incorporating user defined requirements, functionality, and a product that meets the needs of the end user. This will provide end-to-end visibility on all DON incidents and increase efficiency by automating all of the criminal justice communities business processes. In addition, it will ensure all eight Defense Incident Based Reporting System (DIBRS) segments are reported, as required by statute, including the Uniform Crime Reporting Act of 1988, the Victim's Rights and Restitution Act of 1990, the Brady Handgun Act of 1993, and the establishment of a central database on domestic violence mandated by Chapter 47 and Section 1562 of Title 10 U.S.C.					
FY 2015 Plans: N/A					
Title: DON TRACKER			-	2.000	-
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					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
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 plannning conducted. Anticipate SBIR contract award for inital phases of the program.  <b>FY 2013 Accomplishments:</b> N/A  <b>FY 2014 Plans:</b> A contract will be awarded in April 2014 for a fully developed prototype capability for a Commercial off the Shelf (COTS) product of DON TRACKER. The design will include a single DON enterprise-wide technology solution to implement the reengineered business processes. This will support the DON consolidation of multiple RM (Records Management) and TM (Task Management) processes throughout the Department into a single, auditable process implemented uniformly across all DON directorate and commands.  <b>FY 2015 Plans:</b> N/A				
<b>Title:</b> Electronic Procurement System (EPS)  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> N/A --- FY13 RDT&E funding was not certified until November 19, 2013  <b>FY 2014 Plans:</b> Complete Analysis of Alternatives (completed on 21 November 2013). Conduct ITR/ASR SETR Critical Actions for the EPS Program will include: 1) Establish Governance 2) Staffing of Program Office 3) Milestone A Documentation 4) Financial Exchange / Interfaces / Data Migration preparations, plans, prototype		6.096 -	5.062 -	10.000 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>	<b>Project (Number/Name)</b> 2901. / <i>AAUSN IT</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
5) Set up infrastructure (development/testing/source selection)			
<b><i>FY 2015 Plans:</i></b> Planned actions for EPS in FY15 include: - Milestone B - System Engineering Testing Requirements and Events (SETR) Events - Award Commercial Off the Shelf Software (COTS) Solution Contract, vendor provided contract writing system - Navy Enterprise Service Bus (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 SPS. - Continue development of NESB interfaces - Award COTS Solution Contract			
<b>Accomplishments/Planned Programs Subtotals</b>		9.457	9.993
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
MODERNIZATION - Contract will be awarded under a competitive, all source, RFP. NO ACAT			
<p>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.</p> <p>NJIS - Contract will be awarded under a small business set aside RFP. NJIS has a requirement for a contractor to provide full life-cycle software configuration services (requirements analysis, project management and planning, design, configuration, testing, documentation, training, implementation, and post-implementation support). The selected contractor must have knowledge of the existing DoD Law Enforcement 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.</p> <p>DON TRACKER- Increment II contract will be awarded under an extended SBIR contract, sole source RFP. DON TRACKER has a requirement to complete the prototype design capability. The contractor must have knowledge of the current design, its requirements, and conduct capability demonstrations. The contractor may also be required to provide life-cycle software configuration services (design, configuration, testing, documentation, and training).</p>			



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>	<b>Project (Number/Name)</b> 2901. / <i>AAUSN IT</i>
EPS - Commercial Off-The-Shelf (COTS) contract (full and open competition), close the capability / requirements gap and implement Navy Enterprise Service business for financial interfaces to EPS.		
<p><b><u>E. Performance Metrics</u></b></p> <p>"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 &amp; Accreditation Plan.</p> <p>Other specific performance measurements include:</p> <ol style="list-style-type: none"> <li>1. Actual versus planned project scope</li> <li>2. Actual versus planned time schedule</li> <li>3. Actual versus planned costs</li> <li>4. Actual versus planned risks and the mitigation of those risks</li> </ol> <p>NJIS: Program cost, schedule and performance will be measured using a systematic approach with approved programs and methods. The results of these measurements are presented to PEO EIS / SPAWAR 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 &amp; Accreditation Plan. Other specific performance measurements include:</p> <ol style="list-style-type: none"> <li>1. Actual versus planned project scope</li> <li>2. Actual versus planned time schedule</li> <li>3. Actual versus planned costs</li> <li>4. Actual versus planned risks</li> </ol> <p>DON TRACKER: Funds will provide development of a SBIR proof of concept into a fully realized unified tasking and records management solution across the DON. Interface testing is required to validate and verify existing and developed interface design specifications and ensure compliance with applicable laws, regulations and policies. Organizational change management will feature heavily, including the rationalization of multiple (20+) disparate systems and/or redundant capabilities, and the disposition of multiple records pools.</p> <p>EPS: Program cost, schedule and performance metrics will be determined prior to Milestone A and will be a systemic approach following the Defense Business System (DBS) process. The metrics will be presented and approved by all stakeholders. Key to success will be the scope of the requirements and how to leverage existing SPS data and processes. Key measures will include:</p> <ol style="list-style-type: none"> <li>1. Actual versus planned project scope</li> <li>2. Actual versus planned time schedule</li> </ol>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / Information Technology Development	Project (Number/Name) 2901. / AAUSN IT
3. Actual versus planned costs 4. Actual versus planned risks 5. Requirements met by IOC 6. Legacy system retirement cost avoidance		

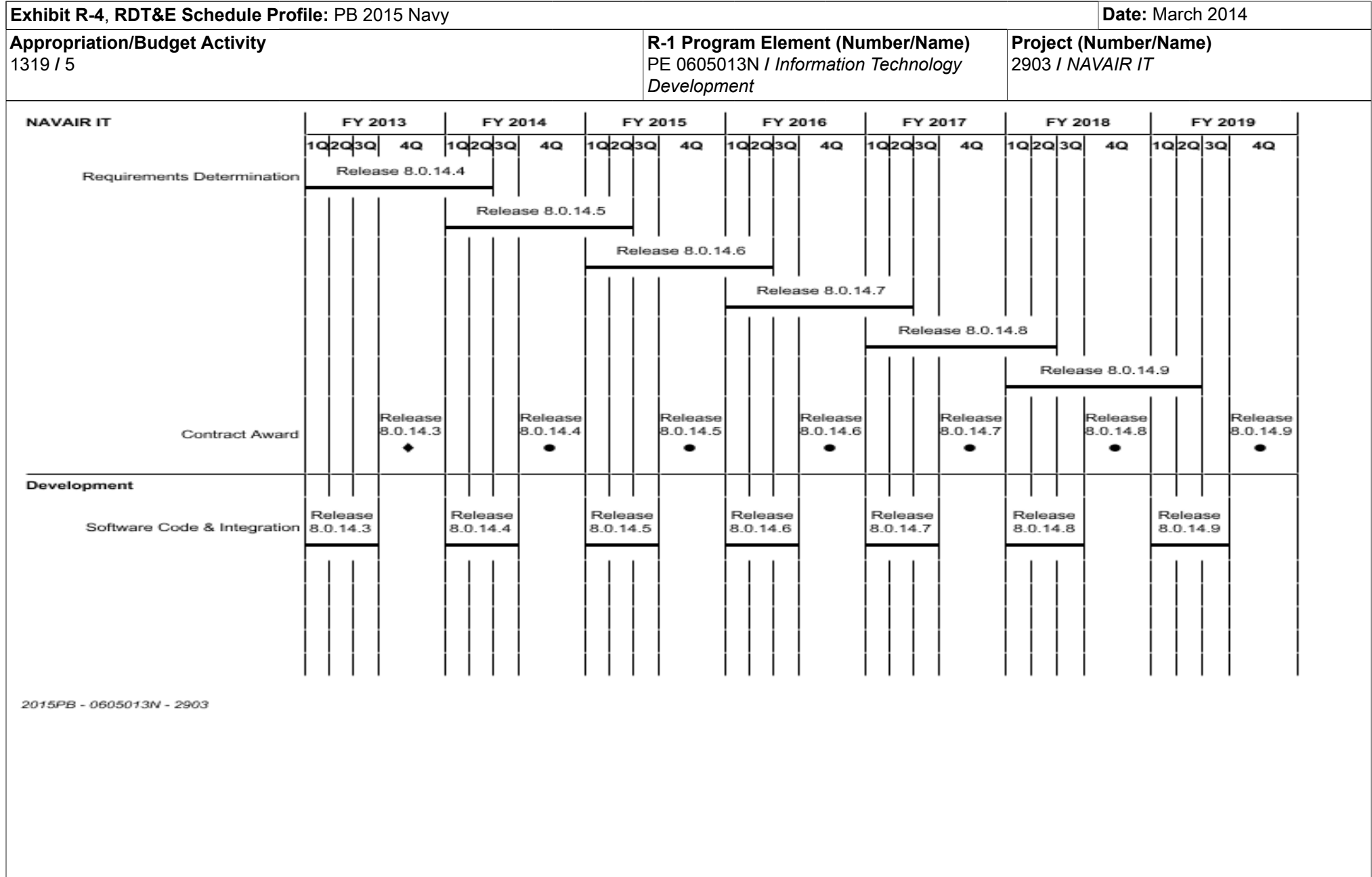
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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605013N / <i>Information Technology Development</i>				Project (Number/Name) 2903 / <i>NAVAIR IT</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2903: <i>NAVAIR IT</i>	0.712	0.643	0.523	0.699	-	0.699	0.704	0.624	0.627	0.604	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
The Configuration Management Information System (CMIS) Program is DoD's standard software system for complete and integrated Configuration Management (CM) of weapon systems from acquisition to disposal. CMIS efficiently manages all product structure data, including complex interrelationship between assemblies and subassemblies, technical documentation and the parts that comprise the item. CMIS 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 CMIS, 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. CMIS 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 CMIS is achieved.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: CMIS Annual Software Release									0.643	0.523	0.699	
									Articles: -	-	-	
FY 2013 Accomplishments: Re-baseline CMIS 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 2014 Plans: Re-baseline CMIS 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 CMIS Software to upgrade to latest version of Oracle, incorporate development efforts associated with COTS obsolescence and evolve an open standard interface to other systems.												
Accomplishments/Planned Programs Subtotals									0.643	0.523	0.699	
C. Other Program Funding Summary (\$ in Millions)												
N/A												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>	<b>Project (Number/Name)</b> 2903 / <i>NAVAIR IT</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b>		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b>		
<p>The Configuration Management Information System (CMIS) Program used Joint Logistics Systems Center (JLSC) funds to evolve CMIS to Software Release 5.0. In June 1998 CMIS 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 CMIS. The CMIS 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 CMIS integration contractor selected through a GSA contract.</p>		
<b>E. Performance Metrics</b>		
<p>CMIS - Milestone C Spiral Development:</p> <p>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.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2904: NAVSEA IT	84.464	16.016	11.711	23.173	-	23.173	31.383	16.647	16.967	17.361	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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). 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. 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.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: NAVSEA IT  Articles:									16.016	11.711	23.173	
									-	-	-	
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.												
FY 2013 Accomplishments: Released the solicitation for the Electronic Technical Working Document (eTWD) contract and began advanced planning for the Naval Shipyards.												
FY 2014 Plans:												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>	<b>Project (Number/Name)</b> 2904 / NAVSEA IT	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
Award eTWD contract and perform acceptance testing and continue deployment planning.			
<b>FY 2015 Plans:</b> Project completed and rolled out to all Navy shipyards. Establish program office and continue advanced planning for MSMS technical refresh.			
<b>Accomplishments/Planned Programs Subtotals</b>		16.016	23.173
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b> Navy information technology (IT) products have been supported by a variety of activities over time and have been developed, deployed and maintained using numerous toolsets and techniques. This non-centralized approach to development has made integration difficult and as a result, has reduced the functional benefits and cost savings that could be realized from common system standards; common processes; shared resources and infrastructure. Furthermore, the lack of standard development methodology and toolsets has increased the corporate sustainment support costs of these automated solutions. Consolidation of the management of these resources under the leadership of NAVSEA 04 PMO-IT at a corporate level has hastened IT system consolidation and supports efforts to further reduce information technology costs. Two key efficiencies from consolidation will be improved system performance at less cost, and consistent, standardized processes across the maritime shore maintenance community. NAVSEA 04 has established the Program Management Office for Information Technology (PMO-IT) to oversee IT development and sustainment efforts, and to acquire and manage IT resources to gain further efficiencies in the systems supporting the ship maintenance processes.			
<b>E. Performance Metrics</b> FY13 - Continue development of electronic Technical Working Document (eTWD) project. Reduction in data centers in support of the Data Center Consolidation (DCC) initiative. FY14 - Plan the deployment of the eTWD solution. FY15 - Deployment of eTWD completed at Naval Shipyards.			

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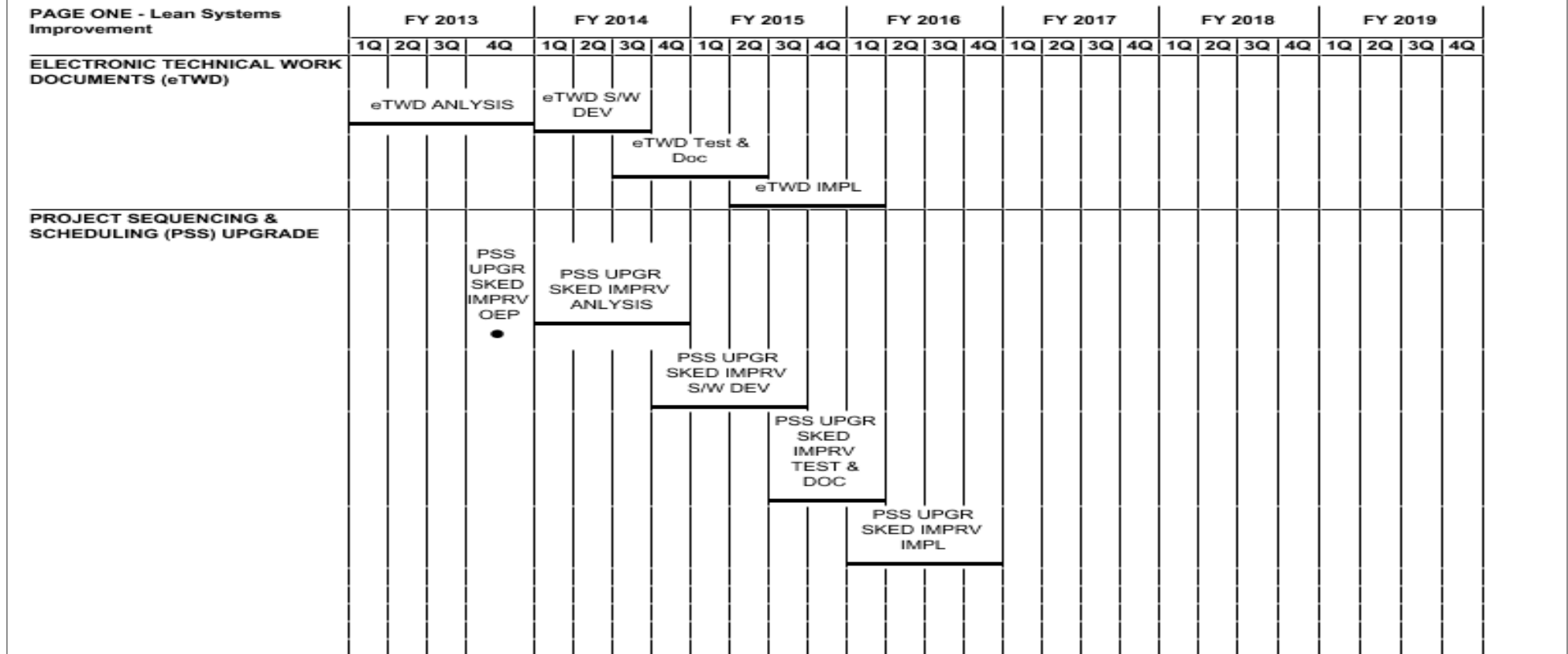
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0605013N / Information Technology  
Development

Project (Number/Name)  
2904 / NAVSEA IT



2015PB - 0605013N - 2904



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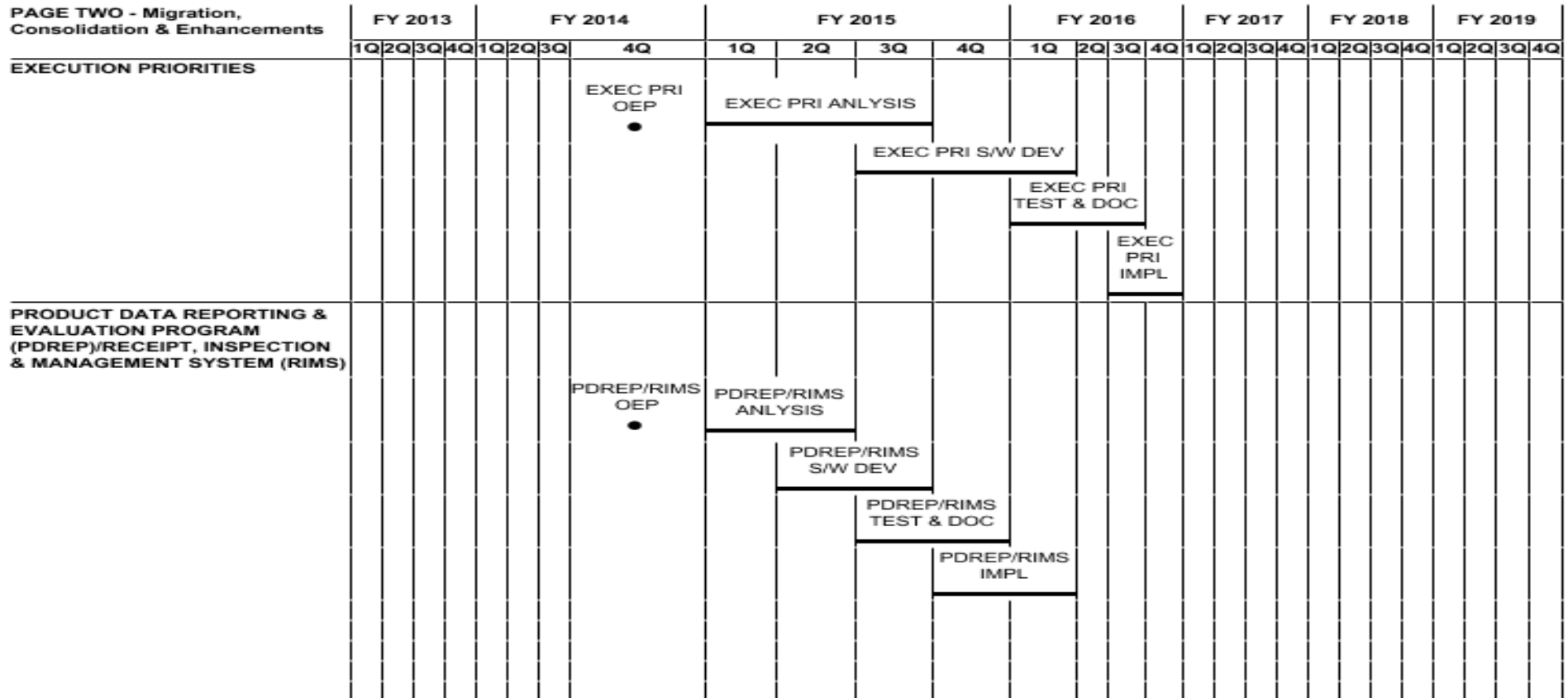
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0605013N / Information Technology  
Development

Project (Number/Name)  
2904 / NAVSEA IT



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PE 0605013N: *Information Technology Development*  
Navy

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<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>
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<b>Project (Number/Name)</b>	2904 / NAVSEA IT
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PAGE THREE - Migration, Consolidation & Enhancements	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	
SHIP MAINTENANCE & MATERIAL MANAGEMENT: 3M XML UPGRADE							3M XML UPGR OEP APP			3M XML UPGR ANLYSIS			3M XML UPGR S/W DEV		3M XML UPGR TEST & DOC		3M XML UPGR IMPL												
MAINTENANCE & SHIPWORK PLANNING (MSWP)			MSWP OEP		MSWP ANLYSIS		MSWP S/W DEV		MSWP TEST & DOC	MSWP IMPL																			

2015PB - 0605013N - 2904

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PE 0605013N: *Information Technology Development*  
Navy

**Volume 3 - 907**

**R-1 Program Element (Number/Name)**  
PE 0605013N / *Information Technology Development*

R-1 Line #138

[illegible]

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

Date: March 2014

[illegible]

1319 / 5

R-1 Program Element (Number/Name)	Program Element Description	Program Element Status	Program Element Comments

PE 0605013N / Information Technology Development

Project (Number/Name)	Start Date	End Date	Duration (Days)	Actual Cost	Budgeted Cost	Variance	Cost Index	Performance Index	Cost Variance	Cost Performance
1	1/1/2020	1/31/2020	31	10000	10000	0	1.0	1.0	0	1.0
2	2/1/2020	2/28/2020	28	15000	15000	0	1.0	1.0	0	1.0
3	3/1/2020	3/31/2020	31	20000	20000	0	1.0	1.0	0	1.0
4	4/1/2020	4/30/2020	30	25000	25000	0	1.0	1.0	0	1.0
5	5/1/2020	5/31/2020	31	30000	30000	0	1.0	1.0	0	1.0
6	6/1/2020	6/30/2020	30	35000	35000	0	1.0	1.0	0	1.0
7	7/1/2020	7/31/2020	31	40000	40000	0	1.0	1.0	0	1.0
8	8/1/2020	8/31/2020	31	45000	45000	0	1.0	1.0	0	1.0
9	9/1/2020	9/30/2020	30	50000	50000	0	1.0	1.0	0	1.0
10	10/1/2020	10/31/2020	31	55000	55000	0	1.0	1.0	0	1.0
11	11/1/2020	11/30/2020	30	60000	60000	0	1.0	1.0	0	1.0
12	12/1/2020	12/31/2020	31	65000	65000	0	1.0	1.0	0	1.0
13	1/1/2021	1/31/2021	31	70000	70000	0	1.0	1.0	0	1.0
14	2/1/2021	2/28/2021	28	75000	75000	0	1.0	1.0	0	1.0
15	3/1/2021	3/31/2021	31	80000	80000	0	1.0	1.0	0	1.0
16	4/1/2021	4/30/2021	30	85000	85000	0	1.0	1.0	0	1.0
17	5/1/2021	5/31/2021	31	90000	90000	0	1.0	1.0	0	1.0
18	6/1/2021	6/30/2021	30	95000	95000	0	1.0	1.0	0	1.0
19	7/1/2021	7/31/2021	31	100000	100000	0	1.0	1.0	0	1.0
20	8/1/2021	8/31/2021	31	105000	105000	0	1.0	1.0	0	1.0
21	9/1/2021	9/30/2021	30	110000	110000	0	1.0	1.0	0	1.0
22	10/1/2021	10/31/2021	31	115000	115000	0	1.0	1.0	0	1.0
23	11/1/2021	11/30/2021	30	120000	120000	0	1.0	1.0	0	1.0
24	12/1/2021	12/31/2021	31	125000	125000	0	1.0	1.0	0	1.0
25	1/1/2022	1/31/2022	31	130000	130000	0	1.0	1.0	0	1.0
26	2/1/2022	2/28/2022	28	135000	135000	0	1.0	1.0	0	1.0
27	3/1/2022	3/31/2022	31	140000	140000	0	1.0	1.0	0	1.0
28	4/1/2022	4/30/2022	30	145000	145000	0	1.0	1.0	0	1.0
29	5/1/2022	5/31/2022	31	150000	150000	0	1.0	1.0	0	1.0
30	6/1/2022	6/30/2022	30	155000	155000	0	1.0	1.0	0	1.0
31	7/1/2022	7/31/2022	31	160000	160000	0	1.0	1.0	0	1.0
32	8/1/2022	8/31/2022	31	165000	165000	0	1.0	1.0	0	1.0
33	9/1/2022	9/30/2022	30	170000	170000	0	1.0	1.0	0	1.0
34	10/1/2022	10/31/2022	31	175000	175000	0	1.0	1.0	0	1.0
35	11/1/2022	11/30								

2904 / NAVSEA IT

PAGE FIVE- Migration, Consolidation & Enhancements CONTINUED	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
NMMES Technical Refresh						NMMES AP																						
						NMMES OEP APP			NMMES ANALYSIS																			
									NMMES S/W DEV																			
																	NMMES TEST & DOC											
																					NMMES IMPL							
FINANCIAL TECHNICAL UPGRADE									FIN TECH UPGRD OEP				FIN TECH UPGRD ANALYSIS				FIN TECH UPGRD S/W DEV											
																	FIN TECH UPGRD TEST & DOC											
																					FIN TECH UPGRD IMPL							

2015PB - 0605013N - 2904

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PE 0605013N: *Information Technology Development*  
Navy

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**Project (Number/Name)**  
2904 / NAVSEA IT

[illegible]

2015PB - 0605013N - 2904

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**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

**Date:** March 2014

**Appropriation/Budget Activity**  
1319 / 5

**R-1 Program Element (Number/Name)**  
PE 0605013N / *Information Technology Development*

**Project (Number/Name)**  
2904 / NAVSEA IT

PAGE SEVEN- Migration, Consolidation & Enhancements CONTINUED	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>MATERIAL MANAGEMENT UPGRADE</b>								MATL MGMT UPGR OEP ●		MAT MGMT UPGR ANALYSIS																		
												MAT MGMT UPGR S/W DEV																
																MAT MGMT UPGR TEST & DOC												
																MAT MGMT UPGR IMPL ●												
<b>ADVANCED INDUSTRIAL MANAGEMENT (AIM): AIM METRICS</b>								AIM UPGR OEP APP ●		AIM UPGR ANALYSIS																		
												AIM UPGR S/W DEV																
																AIM UPGR TEST & DOC												
																	AIM UPGR IMPL ●											

2015PB - 0605013N - 2904

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605013N / <i>Information Technology Development</i>				Project (Number/Name) 2905. / <i>BUPERS IT</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2905.: <i>BUPERS IT</i>	12.215	28.111	16.285	14.690	-	14.690	20.667	9.244	11.618	9.224	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

## **A. Mission Description and Budget Item Justification**

**BILLET BASE DISTRIBUTION (BBD):** Mission Description: Due to the changing needs of the Navy, transformation of the requisition generation and assignment processes is necessary. Current requisition generation and distribution processes utilize an inventory-based system that does not fully reflect the actual needs of Navy commands or accurately identify the Sailor's currently assigned position. This methodology hinders the ability to accurately measure or ensure personnel readiness, leaving gaps in skills-to-position requirements. Commands, Immediate Superior in Chain, Type Commanders, Major Manpower Claimant, United States Fleet Forces, Manning Control Authorities, and Distribution and Placement personnel currently lack the capabilities necessary to align and sustain sailors in discrete positions. Furthermore, a command's manning cannot be analyzed and the actual knowledge, skills and capabilities critical to a command's mission execution cannot be determined. The objective of BBD is to replace the current inventory-based requisition generation process with automated functionality, which is requirements driven, inventory-balanced, and position-based. 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. FY15 efforts will complete functional testing and deployment of Phase IB which includes continuous alignment of people to position functionality deployed with Phase IA in FY13, creation of a position based requisition, Inventory Projection, Requisition Priority, Alignment Sustainment Functions, and Global Force Management Data Initiative (GFM DI) spaces to faces requirement. FY16 efforts will include performing systems engineering reviews, software design and development of BBD Phase IC which will provide Command user

Interactive capability with regard to alignment and sustainment of people to position.

**INTEGRATED PERSONNEL AND PAY SYSTEMS - NAVY (IPPS-N):** In accordance with DCMO ADM Dated 22 October 2013 the IPPS-N line RDT&E funding is moved to the NSIPS line in order to better align funding with the system being modernized. Since IPPS-N is a strategy and not a system to be fielded, the IPPS-N will cease to be a separately tracked activity. The integrated personnel and pay strategy is to develop economical and efficient solutions allowing the Navy to respond rapidly to warfighter personnel and pay information needs.

**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 of this effort begins in FY14. Phase II (delivery order three) will provide for the following: 1) interface with the Navy's Authoring Instructional Materials (AIM) system and Learning Assessment System (LAS) to provide a more collaborative learning environment, 2) develop enhanced administrator and user features in accordance with sponsor priorities to improve the efficiency of the application, 3) upgrade the application to eliminate dependence on software components that are nearing end of life and improve security features and, 4) provide the ability to deliver content to the learner by creating, de-confliction, prioritizing and scheduling learning event plans, supported by a learning management system and governed by learning event rules.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>	<b>Project (Number/Name)</b> 2905. / <i>BUPERS IT</i>
<p>MY NAVY PORTAL (MNP) Phase 2B: MNP is a web site providing 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 absorb the need for sailors to use various applications which cross multiple lines of business. It will provide a set of technological services commonly used by sailor facing applications and will eliminate redundancy in the implementation of those services across the enterprise. 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 will be executed in multiple phases. Beginning with FY14 requirements will be defined and preliminary design work will begin. FY14 funds most of the development, critical design, testing, and deployment of MNP. In FY15 the My Navy Portal effort will focus on migrating NKO functionality into the newly designed (Sailor/HSI friendly )My Navy Portal user interface and restructuring how Customer Relationship Management is undertaken. Additionally in FY15, applications presently within the BUPERS On Line environment will begin to be integrated into My Navy Portal (selection of those applications will be dependent on Fleet/User feedback as well as technical considerations). Following integration with NKO and the start of BoL application integration, planning for future MPTE application integration will commence. In FY15 the MNP development plan will include beginning a Strategic Communication/Enterprise Change Management effort to educate the Navy's Total Force about My Navy Portal and begin developing training tools to teach users how to use the new tool.</p> <p>TOTAL FORCE MANPOWER MANAGEMENT SYSTEM (TFMMS): TFMMS is the Navy's authoritative source for manpower management. The current capability to generate the authoritative, enterprise-wide, naval manpower information products, including Activity Manpower Documents (AMD), total force positions, manpower resource controls, and organizational structure is based on an outdated, non-standard, force structure definition with limited access to a mainframe classified environment. TFMMS modernization will establish a modernized web based system that can be accessed via a classified and unclassified environment providing increased access, modernized manpower processes, and improved cyber defense. This implementation will be done in two iterations. Iteration 1 contains Billet Change Request (BCR), and Activity Maintenance functionality. The requirements phase will be completed in FY14, and the design phase will begin. Development, testing, and deployment will be done 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 be designed and developed in FY15. Testing and deployment will occur in FY16.</p> <p>PERSONALIZED RECRUITING FOR IMMEDIATE AND DELAYED ENLISTMENT MODERNIZATION II (PRIDE Mod II): PRIDE Mod II will consolidate the officer and enlisted active and reserve processes into one solution allowing NRC to streamline its recruiting force and create multifunction field recruiters who can coordinate officer as well as enlisted Kit processing. This project is for a post-delivery product improvement effort to incorporate biometric signature capability, to further reduce paper-based processing of kits, and to implement deferred requirements.</p> <p>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 and reserve Sailors. Available worldwide, both ashore and shipboard, the system collects, validates, processes, and transfers data necessary to ensure accurate and timely pay and maintenance of personnel records. NSIPS is pivotal in the processes of mobilization and demobilization.</p>		



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>	<b>Project (Number/Name)</b> 2905. / <i>BUPERS IT</i>
<p>The NSIPS and integration of legacy system capability into NSIPS, including Reserve Headquarters System (RHS), Navy Enlisted System (NES), (Officer Personnel Information System (OPINS), Inactive Manpower Management Information System (IMAPMIS), Navy Personnel Database (NPDB), and Defense Manpower Data Center (DMDC).</p> <p>In addition to this transactional portion, there is a NSIPS Analytics Environment (AE) to facilitate data queries of NSIPS data by users and other systems. The NSIPS AE supports functionality to query data on an ad hoc basis. The NSIPS AE contains numerous interfaces to personnel data sources including Change Data Capture (CDC) from a transactional database. Reporting from NSIPS AE is done through various methods including flat file transfers and web services. Within the NSIPS Analytics Environment there is a single database that contains multiple schemas that are logically and physically separated from the operating functions of the transactional environment. These schemas support an Ad-Hoc inquiry capability for NSIPS transactional data, and web services.</p> <p>NSIPS major systems currently include:</p> <ul style="list-style-type: none"> <li>NSIPS Transactional - Navy field level Personnel transaction system</li> <li>NSIPS Reporting/Business Intelligence - reporting and ad hoc query tool</li> <li>Web Afloat - shipboard NSIPS component</li> <li>Web Adhoc - business intelligence analysis</li> <li>Career Information Management System (CIMS) - used for career counseling</li> <li>Navy Retention Monitoring (NRMS) - reports retention statistics</li> <li>Permanent Change of Station Obligation and Expenditure Management System (POEMS) - used to manage costs associated with Permanent Change of Station (PCS)</li> <li>Alternate Final Multiple Score (AFMS) - used to determine eligibility to E-7 selection board for SO and SB ratings</li> <li>Health Professionals Incentive Program (HPIP) - manages the development of medical personnel</li> <li>- Deliver capability to the field (PERSMOD R&amp;S)</li> <li>-NSIPS Modernization Activities;</li> <li>-- Initiate Reserve Headquarters System (RHS) legacy migration to NSIPS; modernize RHS capabilities in accordance with Functional Requirements Document (FRD)</li> <li>-- Finalize analysis (interfaces, data, and reports) between Officer Personnel Information System (OPINS) and NSIPS.</li> </ul> <p>This effort will analyze the data structures and functionality of OPINS and the DoD OSD driven Data mapping effort and enterprise alignment. The goal of this effort is better reports management and increased interoperability between corporate Navy Human Resources systems and OSD systems within the lab environment.</p> <p>Initiate Reserve Headquarters System (RHS) legacy migration to NSIPS; modernize RHS capabilities in accordance with Functional requirements document (FRD)</p> <p>RHS - Will be modernized by migrating RHS legacy functionality into NSIPS. The funding for the RHS migration and modernization will be reflected in the NSIPS line.</p> <p>ANALYSIS OF ALTERNATIVE/ECONOMIC ANALYSIS (AOA): ANALYSIS OF ALTERNATIVE/ECONOMIC ANALYSIS (AOA): As part of the IPPS-N strategy, the Navy plans to conduct 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.</p> <p>FY14 funds the commencement of Pay processes across all pay and personnel systems.</p>		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>	<b>Project (Number/Name)</b> 2905. / <i>BUPERS IT</i>
<p>FY15 funds the commencement of personnel accountability processes across all pay and personnel systems.</p> <p>RISK MANAGEMENT INITIATIVE (RMI): The Risk Management Initiative (RMI) program is a consolidation of DON risk management requirements into a single Program of Record (POR). Instead of modifying multiple legacy safety systems, a COTS product is being procured; process improvements leveraged from the Navy's investment in current risk management and safety systems will be implemented in RMI with a modular approach based on BPR of defined requirements. RMI capability consists of four distinct safety capabilities: Streamlined Incident Reporting (SIR), Single Point of Entry (SPOE), Safety Program Management (SPM), and Analysis &amp; Dissemination (A&amp;D). Each of these capabilities will be acquired as individual Abbreviated Acquisition Programs.</p> <p>The goal of this effort is to use an evolutionary, incremental approach to implement reengineered business processes, and consolidate five legacy stovepipe 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)] into a complementary and supportable RMI capability. RMI will provide modern Safety capabilities for the military (both active and reserve) component of the Navy Total Force, enabling agile responses to business rule changes, automation of routine actions, improve data integrity, and facilitate self-service for organizations and individuals. RMI development and modernization is a key part of the Navy's plan to address outdated Safety systems, capability gaps and Logistic Information Technology (IT) portfolio rationalization. To achieve this vision, RMI will be procured as a "commercial item" under FAR Part 12. SIR configuration/customization will be accomplished under individual task orders under a 5 year (in duration) IDIQ umbrella.</p> <p>The first two capabilities to be acquired in FY14 are SIR and SPOE. Critical Design Review and Application Test Readiness Review will be performed in FY15 for SIR and Single POE. FY15 also funds the SPM and A&amp;D system requirements and preliminary design reviews.</p> <p>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 existing systems do not fully comply with statutory and regulatory directives. Some specific problem areas are:</p> <ul style="list-style-type: none"> <li>- Ineffective tracking of PERSTEMPO.</li> <li>- Inefficient and inaccurate data to legacy pay systems (important when the DOD-wide waiver is lifted).</li> <li>- Rigid and non-responsive systems that lack the ability to statutory and regulatory changes to entitlements.</li> <li>- Lack of capabilities that allow operational commanders to track and make informed decisions about personnel entering, within, or departing their area of operations.</li> <li>- Lack of financial audit capability.</li> </ul> <p>The desired affects of PERSTEMPO strategy are:</p> <ul style="list-style-type: none"> <li>- Generate efficiencies throughout the Fleet to meet statutory requirements and improve Fleet readiness.</li> <li>- Provide improved service to Sailors (improving retention).</li> <li>- Facilitate informed management decision making.</li> </ul> <p>Associated sub-projects:</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / Information Technology Development	Project (Number/Name) 2905. / BUPERS IT		
<p>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 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.</p> <p>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. The Army, Air Force, and Marine Corps reported the daily location of deployed Service members; however, the Navy did not report the required deployment information.</p> <p>Capability change for ITEMPO: The system has had no significant software change in more than 8 years. The report mechanisms are extremely antiquated. User real-time reports are non-existent. ITEMPO is not only a Legislative requirement, but is the right thing to do for our Sailors. It is impossible for OPNAV or BUPERS ITEMPO managers to know the ITEMPO deployment schedule of every unit or individual in the Navy; the responsibility and requirement to report ITEMPO for Sailors must appropriately rest with the Commanding Officer. It is vital that every CO be personally involved to ensure that ITEMPO information is submitted in an accurate and timely manner.</p> <p>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.</p>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
Title: Billet Based Distribution (BBD)		-	2.600	1.583
Articles:		-	-	-
FY 2013 Accomplishments: N/A				
FY 2014 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / Information Technology Development	Project (Number/Name) 2905. / BUPERS IT		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
Perform system engineering reviews and complete software development of BBD Phase IB.				
FY 2015 Plans: Complete detailed requirements analysis on BBD Phase 1C. Complete functional testing and deploy BBD Phase IB.				
Title: Integrated Personnel and Pay Systems - Navy (IPPS-N)		23.611	-	-
Articles:		-	-	-
FY 2013 Accomplishments: IPPS-N: PERSMOD ID/IQ contract vehicle created supporting the initiation of PERSMOD R&S task order to modernize retirements and separations capabilities within NSIPS. Continued detailed analysis of interfaces, data structure mapping, and reports between Reserve Headquarters System (RHS) and Navy Standard Integrated personnel System (NSIPS). This effort was the second phase of analysis of the legacy systems functionality to the proposed OSD driven data structure mapping efforts and enterprise alignment. - Initiated phase one analysis (interfaces, data, and reports) between Officer Personnel Information System (OPINS) and NSIPS. This effort analyzed the data structures and functionality of OPINS and the DoD OSD driven Data mapping effort and enterprise alignment. The goal of this effort is better reports management and increased interoperability between corporate Navy Human Resources systems and OSD systems within the lab environment. - Conducted software testing activities on the lab activities in support of developing test scripts and plans with the expectation of providing this information to the Navy Systems Engineering Technical Review (SETR) process. Testing teams will be composed of support contractors and Government subject matter experts (SME) from multiple commands. - Initiated modeling and simulation efforts to effectively forecast software requirements and technical specification in the Statement of Work development effort. - Initiated development of Navy required SETR documentation, such as Alternative Software Review artifacts, Preliminary Design Review artifacts, Initial Technical Review artifacts, Technical Readiness Review artifacts, and Critical Design Review artifacts. - PERSMOD proposals received. Completed source selection 1st review. RHS legacy decomposition initiated. PAY capability requirements first draft functional requirements document.				
FY 2014 Plans: N/A				
FY 2015 Plans: -In accordance with DCMO ADM Dated 22 October 2013 the IPPS-N line RDT&E POM funding is moved to the NSIPS line in order to better align funding with the system being modernized. Since IPPS-N is a strategy and not a system to fielded the IPPS-N will cease to be a separately tracked activity.				
Title: Learning Management System - Distance Learning (LMS-DL)		-	2.000	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0605013N / Information Technology Development	Project (Number/Name) 2905. / BUPERS IT		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2013	FY 2014	FY 2015
Articles:  FY 2013 Accomplishments: N/A  FY 2014 Plans: LMS-DL Phase II will perform a Systems Requirement Review and three incremental software releases. LMS-DL Phase II will provide a Critical Design Review, an incremental software release and a final Production release.  FY 2015 Plans: N/A			-	-	-
Title: My Navy Portal (MNP)  Articles:  FY 2013 Accomplishments: Completed the RFP development and continued the validation of the functional requirements of the portal.  FY 2014 Plans: Plans are to further refine the integration roadmap and migration patterns associated with applications identified in Phase 2A effort as well as refining requirements and starting the design review.  FY 2015 Plans: Begin Phase 2B development, complete Design Review, and acceptance testing.			4.500 -	4.100 -	1.100 -
Title: Total Force Manpower Management System (TFMMS)  Articles:  FY 2013 Accomplishments: N/A  FY 2014 Plans: Develop System Subsystem Specification (SSS), System Requirements Specification (SRS) and supporting architecture documentation. Additionally, application design will begin and development phase will begin.  FY 2015 Plans: Application design will be completed, development of iteration 1 will be deployed, development of iteration 2 will begin. Iteration 2 will be deployed in early 2016.			- -	2.300 -	3.977 -
Title: Personalized Recruiting for Immediate and Delayed Enlistment Modernization II (PRIDE Mod II)  Articles:			- -	- -	1.370 -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / Information Technology Development	Project (Number/Name) 2905. / BUPERS IT		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A				
FY 2014 Plans: N/A				
FY 2015 Plans: Critical Design Review complete. Development complete and testing underway. Deliver PRIDE Mod II baseline delivery and begin product improvement effort. Complete Systems Requirement Review (SRR), System Functional Review (SFR), and Production Deployment Review (PDR) by end of FY15.				
Title: Analysis of Alternative Economic Analysis (AOA EA)		-	0.500	0.538
Articles:		-	-	-
FY 2013 Accomplishments: N/A				
FY 2014 Plans: Conduct studies and Analysis of Alternative (AoA) of material solutions for emerging business IT requirements. Initiate the AoA for Pay capability processes.				
FY 2015 Plans: Conduct studies and Analysis of Alternative (AoA) of material solutions for emerging business IT requirements. Initiate the AoA for personnel accountability processes.				
Title: Navy Standard Integrated Personnel System (NSIPS)		-	2.501	2.400
Articles:		-	-	-
FY 2013 Accomplishments: N/A				
FY 2014 Plans: - Award PERMOD Retirement and Separation (R&S) contract, initiate NSIPS R&S capability development - Support PAY capability requirements development process - Support RHS requirements development process - Initiate Reserve Headquarters System (RHS) legacy migration to NSIPS				
FY 2015 Plans:				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>	<b>Project (Number/Name)</b> 2905. / <i>BUPERS IT</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p>- NSIPS - Finalize analysis (interfaces, data, and reports) between Officer Personnel Information System (OPINS) and NSIPS. This effort will analyze the data structures and functionality of OPINS and the DoD OSD driven Data mapping effort and enterprise alignment. The goal of this effort is better reports management and increased interoperability between corporate Navy Human Resources systems and OSD systems within the lab environment.</p> <p>Initiate Reserve Headquarters System (RHS) legacy migration to NSIPS, modernize RHS capabilities in accordance with Functional requirements document (FRD)</p>			
<p><b>Title:</b> Risk Management Initiative (RMI)</p> <p align="right"><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b> Award contract. Perform Streamline Incident Reporting (SIR) and and Single Point of Entry (SPOE) system requirements review and preliminary design review.</p> <p><b>FY 2015 Plans:</b> Perform Safety Program Management (SPM) and Analysis &amp; Dissemination (A&amp;D) system requirements and preliminary design review. Perform Streamline Incident Reporting (SIR) and Single Point of Entry (POE) Critical Design Review and application test readiness review.</p>		- -	2.284 -
<p><b>Title:</b> Personnel TEMPO (PERSTEMPO)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> 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.</p> <p>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</p>		- -	1.932 -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>	<b>Project (Number/Name)</b> 2905. / <i>BUPERS IT</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2013</b>	<b>FY 2014</b>
<p>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.</p> <p>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 on a weekly basis. Also, this will correct the finding by DoD Inspector General Report NO. DODIG 2012-112 of Jul 18, 2012. The Army, Air Force, and Marine Corps reported the daily location of deployed Service members, however, the Navy did not report the required deployment information.</p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b> N/A</p> <p><b>FY 2015 Plans:</b></p> <ul style="list-style-type: none"> <li>- Start PERSTEMPO design.</li> <li>- Complete PERSTEMPO design reviews.</li> <li>- Start building the modifications on the ITEMPO and Deployment Health Location development sub-projects, based on approved FRDs.</li> <li>- 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.</li> </ul>			
<b>Accomplishments/Planned Programs Subtotals</b>		28.111	16.285
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>Remarks</b>			
<b>D. Acquisition Strategy</b>			
BBD Phase I: Acquisition will be through contract technical services. The required services will be procured through a performance-based service acquisition using Cost Plus Fixed Fee (CPFF) 8a contract. Acquisition will be primarily through SPAWAR HQ. An incremental development approach will be used.			



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>	<b>Project (Number/Name)</b> 2905. / <i>BUPERS IT</i>
<p>IPPS-N/NSIPS: The current strategy consists of an incremental migration of Human Resources functionality aligned with the capability areas mapped to the DoD Hire to Retire End to End Lifecycle to the Navy Standard Integrated Personnel System (NSIPS). The first capability for NSIPS will be retirements and separations personnel functions. This strategy will also support the development of an Authoritative Data warehouse providing governance, validation and continuity of the data transfer between NSIPS and the data environment.</p> <p>LMS-DL: Acquisition will be through an IDIQ contract for technical services. New delivery order is expected to fulfill these requirements. Of the three contract delivery orders required, the first one is completed, the second acquisition phase or delivery order was issued in FY12 and the third and final delivery order will be issued in FY14.</p> <p>MNP: The second phase (2B) and all subsequent phases of MNP execution will be accomplished via a cost plus fixed fee contractual approach using RDTE funds. Individual contract orders will be issued for the engineering and systems design and development associated with each MNP phase. FY15 RDTE funds will be specifically used for executing the third phase (2C) of MNP design and development.</p> <p>TFMMS: Task orders will be awarded using the Aliant MAC contract.</p> <p>PRIDE MOD: Task order will be awarded using existing SPAWAR contract and will be competitively awarded.</p> <p>RMI: Award a single vendor Indefinite Delivery / Indefinite Quantity (IDIQ) The approach for RMI is an incremental COTS configuration model that provides usable increments of capability within 24 month cycles after funds certification for each. The RDTE beginning in FY14 will be used for development of the Streamlined Incident Reporting and Single Point of Entry capability increments through separate task orders. Safety Program Management and Analysis &amp; Dissemination will be initiated with FY15 RDTE.</p> <p>(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.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>BBD: Meet program system engineering and technical review milestones for development of BBD Phase IB and IC with no outstanding severity 1-3 defects for production release.</p> <p>IPPS-N/NSIPS:</p> <ol style="list-style-type: none"> <li>1. Demonstrate the feasibility of at least one technical architecture approach for IPPS-N.</li> <li>2. A 20% reduction in the number of redundant transactional systems for personnel and pay.</li> <li>3. A 15% reduction in system interfaces.</li> <li>4. Documented plan and preliminary design for the consolidation of legacy personnel systems.</li> </ol>		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>	<b>Project (Number/Name)</b> 2905. / <i>BUPERS IT</i>
<p>LMS-DL: Meet program, systems engineering, and technical review milestones for ETMDS for delivery orders two and three. Provide a capability that will allow Naval Education and Training Command to virtually present at least 10% of the scheduled training that is now presented in person.</p> <p>MNP: Meet major systems engineering and technical review milestones. Begin integrating/connecting NKO and BOL systems and functions into MNP as the presentation layer.</p> <p>TFMMS: Performance objectives and thresholds will be established during the requirements phase.</p> <p>PRIDE MOD: Performance objectives and thresholds will be established during the requirements phase.</p> <p>RMI: Meet major systems engineering and technical review milestones.</p> <p>(U) 2905 PERSTEMPO: Meet program system engineering and technical review milestones for development with no outstanding severity 1-3 defects for production release.</p>		

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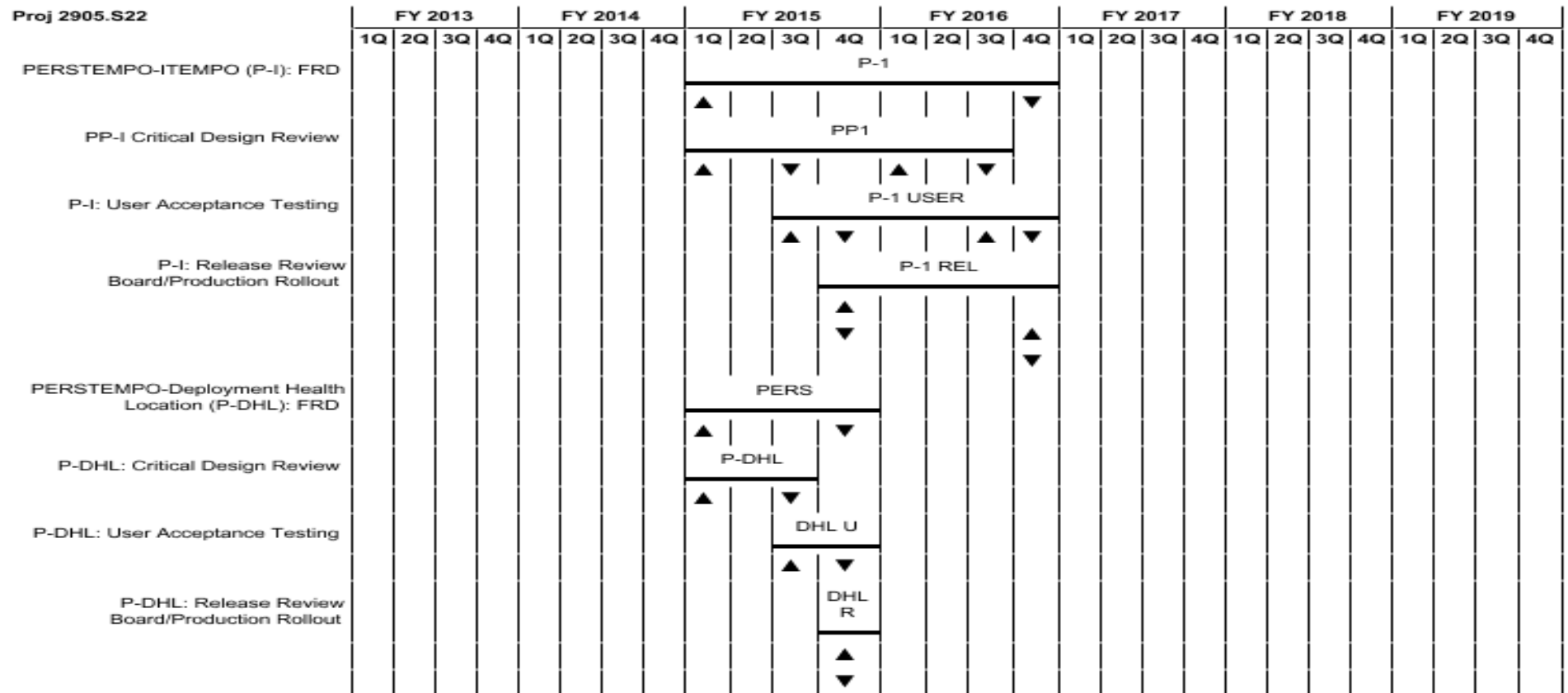
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
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Development

Project (Number/Name)  
2905. / BUPERS IT



2015OSD - 0605013N - 2905.S22 Up=Demonstration; Down=Prototype & Documentation

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3167: Joint Technical Data Integration (JTDI)	11.955	7.424	1.964	2.848	-	2.848	6.602	5.366	4.312	4.004	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
JTDI Program - 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 Support Program II (MALSP II) Expeditionary Pack up Kit (EPUK): 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 an 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. 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 2013	FY 2014	FY 2015	
Title: JTDI									1.897	1.640	1.694	
									Articles: -	-	-	
FY 2013 Accomplishments:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
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. The increase in JTDI FY 13 core RDTE is required to replace critical web based services for Naval Aviation Weapon System Websites and critical technology replacement to maintain equipment readiness across multiple services.  <b>FY 2014 Plans:</b> 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.  <b>FY 2015 Plans:</b> 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.				
Title: MALSP II EPUK  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> Procure, deliver and begin deployment of EPUK suites to USMC forces within the PACOM AOR. 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. Conduct analysis of alternatives for MAL-EIT Increments 2 and 3 to determine possible COTS, GOTS and/or developmental solutions.  <b>FY 2014 Plans:</b> Continue procurement, delivery and deployment of EPUK suites to USMC forces. Complete analysis of alternatives for MAL-EIT Increments 2 and 3 to determine possible COTS, GOTS and/or developmental solutions. Award contract for increments 2 and 3 COTS/GOTS and/or developmental solutions. Begin software development of Next Generation Buffer Management System. Hire and fund labor resources for MAL-EIT program management billet vacancies and IPT SME support. 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.  <b>FY 2015 Plans:</b> Complete procurement, delivery and deployment of EPUK suites to USMC forces. Conduct evaluation, integration, and testing of planned software capabilities for increments 2 and 3. Begin delivery and deployment of NGBMS to USMC forces. Conduct		5.527 -	0.324 -	1.154 -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
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.												
Accomplishments/Planned Programs Subtotals										7.424	1.964	2.848
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN/4265/JTDI: JTDI Other Aviation Support Equipment	2.793	0.566	-	-	-	-	-	-	-	-	88.624	
• OPN/4265/MALSP II: Marine Aviation Logistics Support Program (MALSP II) Other Aviation Support Equipment	0.354	0.069	-	-	-	-	-	-	-	-	0.776	
• OPN/4268/JTDI: JTDI Aviation Support Equipment	-	-	1.193	-	1.193	0.868	0.859	2.425	2.473	Continuing	Continuing	
• OPN/4268/MALSP II: Marine Aviation Logistics Support Program (MALSP II) Aviation Support	-	-	0.374	-	0.374	0.215	2.113	0.228	0.234	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
JTDI Program - The management approach includes the Program Management Office residing in NAVAIR with Milestone Decision Authority (MDA) 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 (IDIQ) contracts.												
MALSP II Expeditionary Pack up Kit (EPUK) Program - The management approach includes the Program Management Office residing in the NAVAIR with MDA delegated to the NAVAIR CIO. The evolutionary development approach will be used to execute requirements. Contracting for the prime integrator will be via competitively awarded IDIQ contracts.												
E. Performance Metrics												
JTDI and MALSP II EPUK Program - Successfully achieve government testing of annual software release.												

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

Date: March 2014

Appropriation/Budget Activity

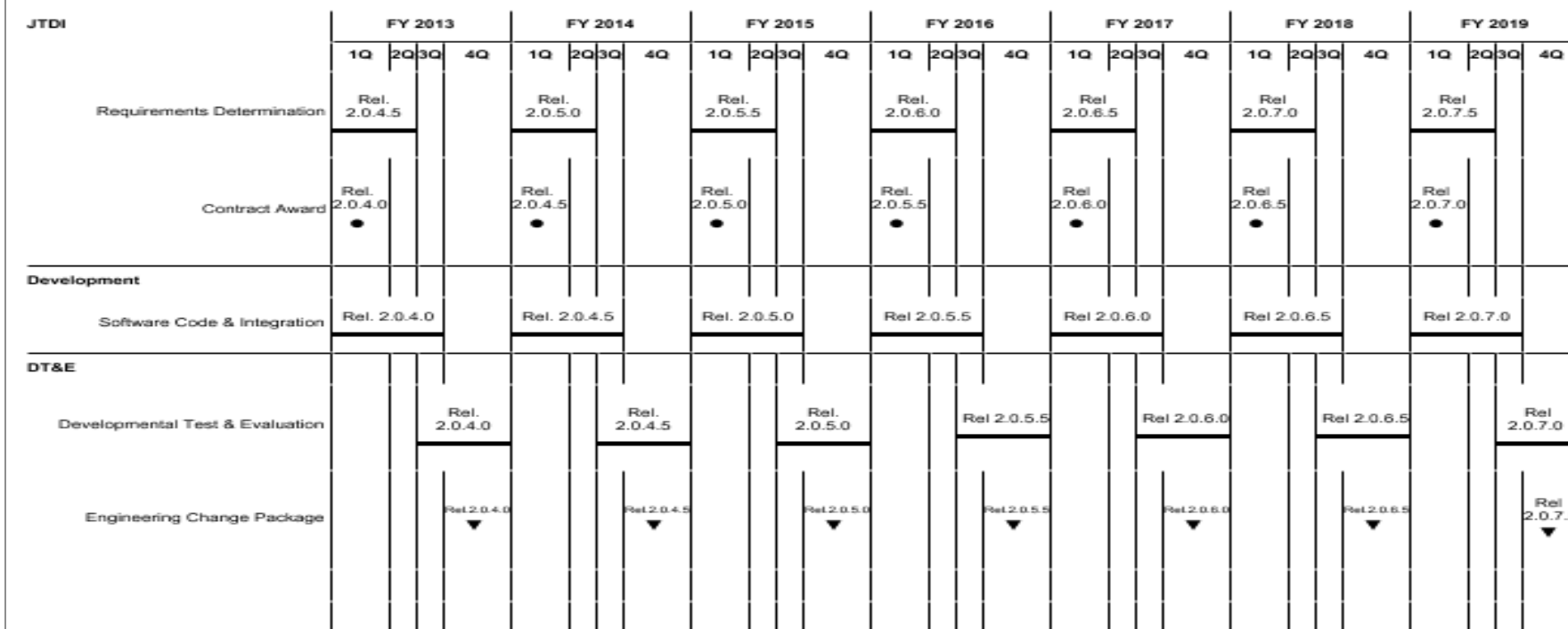
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R-1 Program Element (Number/Name)

PE 0605013N / Information Technology Development

Project (Number/Name)

3167 / Joint Technical Data Integration (JTDI)



2015DON - 0605013N - 3167

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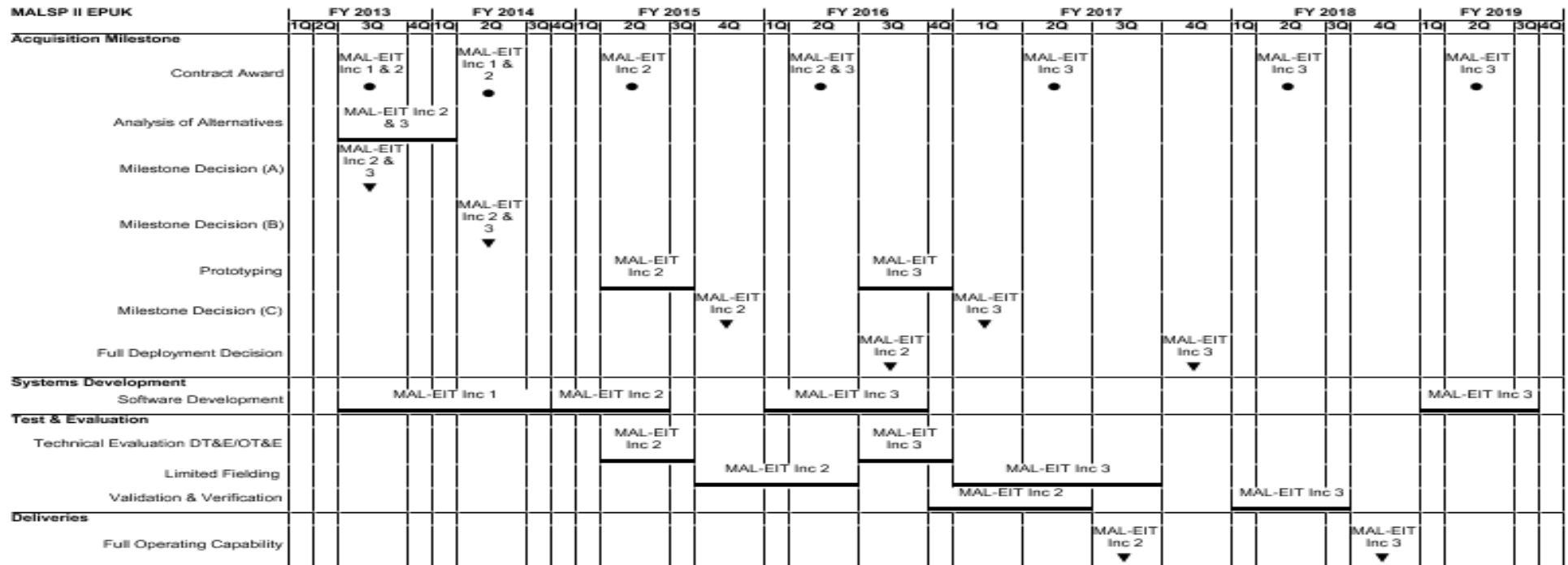
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy

Date: March 2014

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)



2015DON - 0605013N - 3167



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3185: Joint Airlift Information System (JALIS)	0.409	0.364	0.282	0.337	-	0.337	0.343	0.345	0.355	0.363	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Joint Air Logistic Information System (JALIS) is a critical element of the DoD CONUS and OCONUS 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 real time graphic display; and designated scheduling organizations to compare airlift requirements to available aircraft and create mission assignments. Using a combination of system displays and email updates, JALIS informs applicable users of mission details and modifications. Geographically distributed, JALIS has a user base in excess of 4000 members, and moves thousands of DOD Personnel and tons of cargo annually in support of Navy Unique Fleet Essential Airlift, Army's Operational Support Airlift Agency (OSAA), United States Transportation Command (USTRANSCOM), and 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 2013	FY 2014	FY 2015	
Title: Joint Air Logistic Information System (JALIS)  Articles:  FY 2013 Accomplishments: Developed electronic log, designed & developed opportune lift & possible solutions display, graphical maps, and aircraft position map.  FY 2014 Plans: Capture fully burdened costs for each airlift request; implement CJCS requirement for commercial cost comparisons; modify JALIS to accept standardized airport data from the National Geospatial-Intelligence Agency; provide more robust data reporting.  FY 2015 Plans: Incrementally design and develop new JALIS capabilities from prioritized requirements within the Common Movement Management System (CMMS) approved Functional Requirements Document dtd May 2010, and generate new capabilities approved by the JALIS Configuration Control Board.									0.364	0.282	0.337	
									-	-	-	
Accomplishments/Planned Programs Subtotals									0.364	0.282	0.337	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605013N / <i>Information Technology Development</i>	Project (Number/Name) 3185 / <i>Joint Airlift Information System (JALIS)</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> Contract activities will focus on developing the following capabilities: <ol style="list-style-type: none"> <li>1. Provide executive management more complete and accurate comparisons of commercial versus military costs.</li> <li>2. Provide stakeholders with more flexible and robust data querying tools.</li> <li>3. Provide scheduling and squadron users more accurate and up-to-date airport data.</li> </ol>		
<b>E. Performance Metrics</b> Performance metrics for JALIS include: <ol style="list-style-type: none"> <li>1. Increase the accuracy and completeness of fully-burdened commercial costs by 60%</li> <li>2. Reduce time to create and run new reports by 30%</li> <li>3. Reduce data administrator time required to update airport data by 80%</li> <li>4. Decrease training requirements for Schedulers by 15%</li> </ol>		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
9406: Maintenance Data Warehouse	4.985	2.223	7.049	13.423	-	13.423	14.878	8.979	7.178	6.918	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Maintenance Data Warehouse/NAVAIR DECKPLATE	2.223	7.049	13.423
<b>Articles:</b>	-	-	-
<b>FY 2013 Accomplishments:</b>			
Continue transition of Aircraft Inventory and Readiness Reporting System and Logistics Management Decision Support System functionality into DECKPLATE and begin transition of Auto Log Set (ALS) functionality into DECKPLATE.			
<b>FY 2014 Plans:</b>			
Continue transition of ALS functionality into DECKPLATE and begin transition of original equipment manufacturer (OEM)/DEPOT functionality. Increase in funding in FY14 is due to POM 14 issues which increased funding for transition of Condition Based Maintenance (CBM) functionality/Naval Aviation Logistics Command Management Information System into DECKPLATE. Increase in FY14 funding to facilitate the transition of CBM into DECKPLATE was a POM14 issue. CBM is a much more complex application and none of the functionality currently exists in DECKPLATE.			
<b>FY 2015 Plans:</b>			
Continue transition of ALS functionality into DECKPLATE and continue transition of OEM/DEPOT functionality. Additionally, an increase in funding in FY15 and FY16 is due to a POM 15 issue which increased funding for support of Integrated Logistics			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0605013N / Information Technology Development				Project (Number/Name) 9406 / Maintenance Data Warehouse				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>										<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
Support Management System which will develop a web-based business intelligence tool (ILSMS v 3.0) 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 in funding in FY15 and FY16 is also due to a POM 15 issue for Auto Log Set which is an Automated Logistics Environment Deckplate component that provides a central repository for aircraft maintenance information into DECKPLATE.												
Accomplishments/Planned Programs Subtotals										2.223	7.049	13.423
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• OPN, 4265: Other Aviation Support Equipment	0.786	0.439	-	-	-	-	-	-	-	-	6.665	
• OPN, 4268: Aviation Support Equipment	-	-	2.890	-	2.890	3.380	1.966	2.130	2.404	Continuing	Continuing	
Remarks												
<b>D. Acquisition Strategy</b>												
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.												
<b>E. Performance Metrics</b>												
Maintenance Data Warehouse/NAVAIR DECKPLATE												
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.												

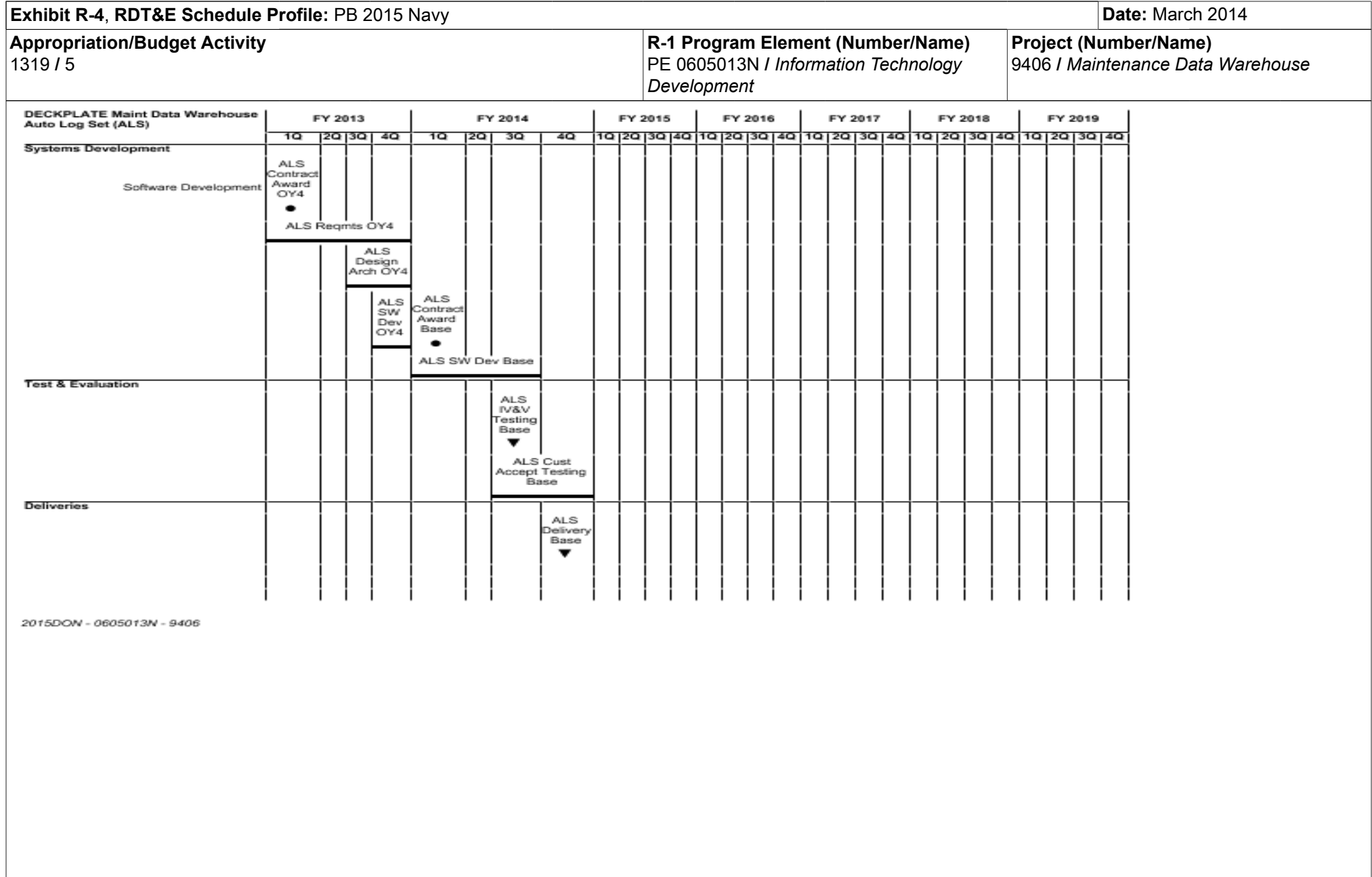
# UNCLASSIFIED

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605013N / <i>Information Technology Development</i>	<b>Project (Number/Name)</b> 9406 / <i>Maintenance Data Warehouse</i>
<p>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&amp;V for determining that documentation delivered by the contractor matches the system processing and operational procedures.</p> <p>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.</p> <p>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).</p> <p>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.</p> <p>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.</p>		

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																Date: March 2014													
Appropriation/Budget Activity 1319 / 5										R-1 Program Element (Number/Name) PE 0605013N / Information Technology Development										Project (Number/Name) 9406 / Maintenance Data Warehouse									
DECKPLATE Maint Data Warehouse AIRRS/LMDSS		FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q				
Systems Development																													
Software Development		AIRRS/LMDSS Contract OY4 ●																											
		AIRRS/LMDSS SW Dev OY4																											
Test & Evaluation																													
		AIRRS/LMDSS IV&V Testing OY4 ▼																											
		AIRRS/LMDSS Cust Accept Testing OY4																											
Deliveries																													
		AIRRS/LMDSS Delivery OY4 ▼																											
2015DON - 0605013N - 9406																													

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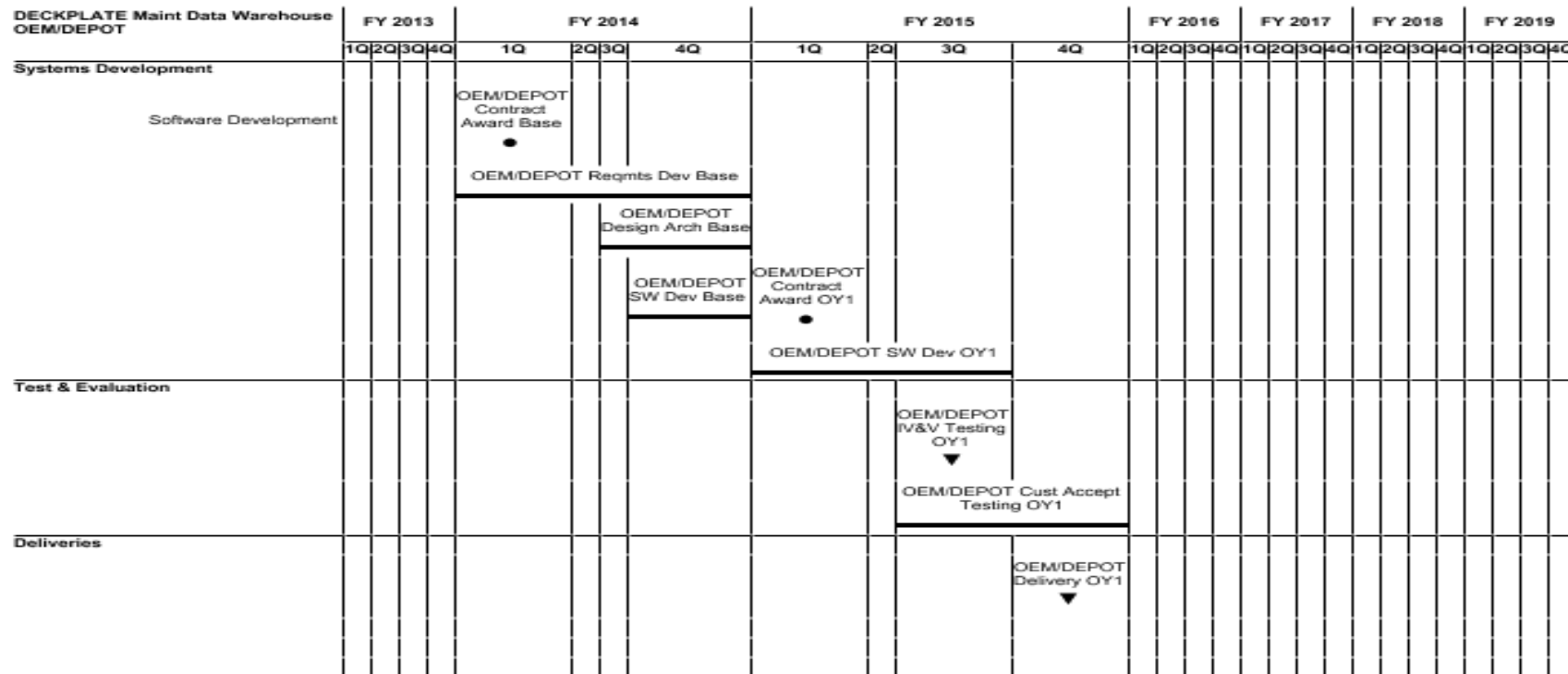
**Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy**

Date: March 2014

**Appropriation/Budget Activity**  
1319 / 5

**R-1 Program Element (Number/Name)**  
PE 0605013N / *Information Technology Development*

<b>Project (Number/Name)</b>	9406 / Maintenance Data Warehouse
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2015DOW - 0605013N - 9406



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PE 0605013N: *Information Technology Development*  
Navy

**Volume 3 - 937**

**R-1 Program Element (Number/Name)**  
PE 0605013N / *Information Technology Development*

<b>Project (Number/Name)</b>	9406 / Maintenance Data Warehouse
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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy

Date: March 2014

Appropriation/Budget Activity

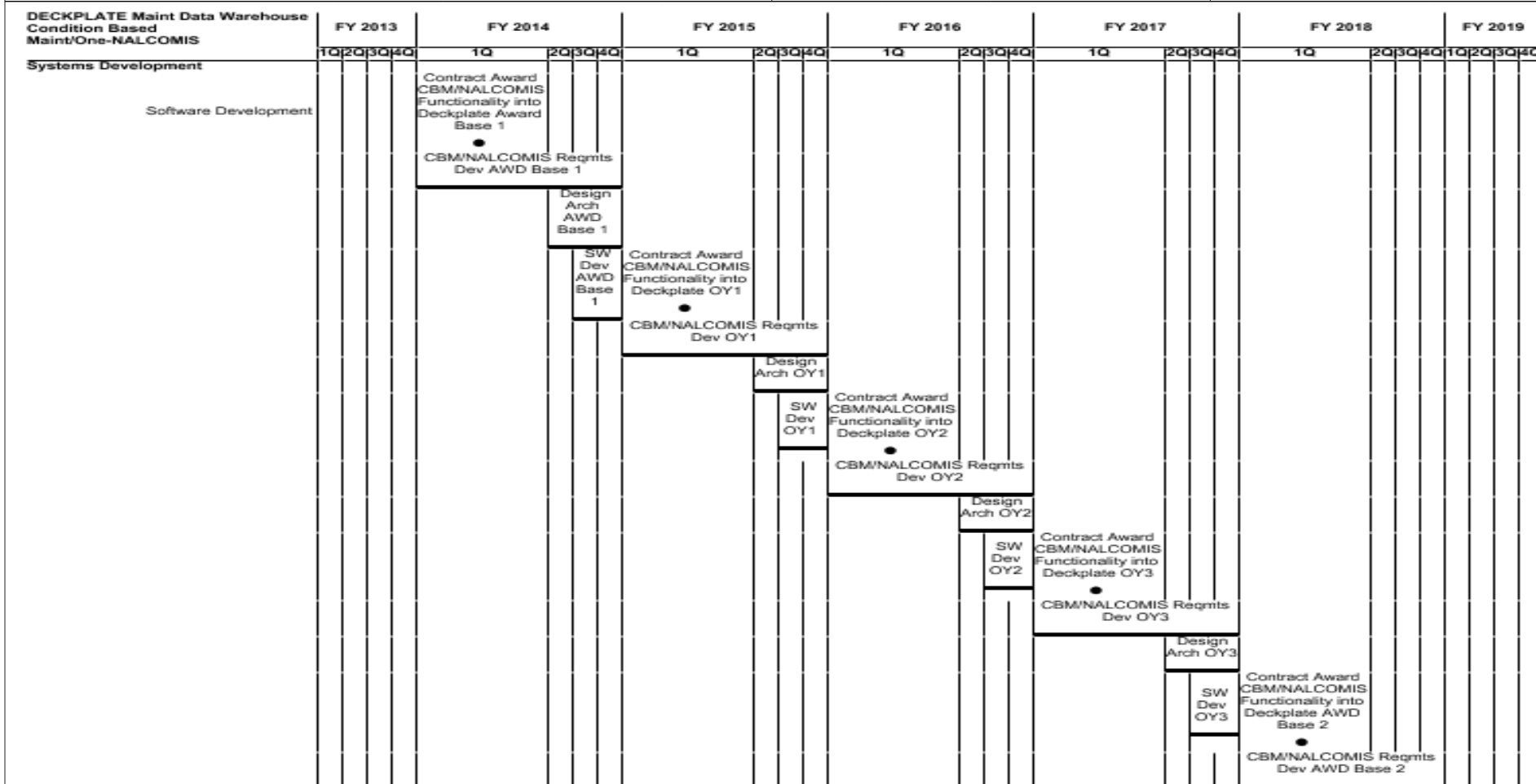
1319 / 5

R-1 Program Element (Number/Name)

PE 0605013N / Information Technology Development

Project (Number/Name)

9406 / Maintenance Data Warehouse



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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy										Date: March 2014									
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605013N / Information Technology Development					Project (Number/Name) 9406 / Maintenance Data Warehouse									
2015DOW - 0605013N - 9406																			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	3,297.334	535.552	462.280	573.187	-	573.187	714.100	471.360	185.078	186.245	165.764	6,590.900
3059: CH-53K Development	3,297.334	535.552	462.280	573.187	-	573.187	714.100	471.360	185.078	186.245	165.764	6,590.900
MDAP/MAIS Code: 390												
# The FY 2015 OCO Request will be submitted at a later date.												
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 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.												
FY15 RDT&E efforts focus on CH-53K SDD activities that include: ground and flight test of GTV, EDMs, associated subsystems and components, and the continued fabrication and assembly of SDTAs.												
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.												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	606.204	503.180	597.407	-	597.407
Current President's Budget	535.552	462.280	573.187	-	573.187
Total Adjustments	-70.652	-40.900	-24.220	-	-24.220
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-40.900			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.000	-			
• SBIR/STTR Transfer	-17.298	-			
• Program Adjustments	-	-	-6.576	-	-6.576
• Rate/Misc Adjustments	0.001	-	-17.644	-	-17.644
• Congressional General Reductions Adjustments	-49.355	-	-	-	-
Change Summary Explanation					
Technical: Not applicable.					
Schedule - Late delivery of components into qualification, and subsequent qualification challenges, have delayed Ground Test Vehicle (GTV) delivery, Flight Readiness Reviews (FRR - GTV & 1st Flight), Engineering Development Models (EDM) delivery and CH-53K 1st Flight, and have moved Milestone C (MSC) and other associated events to 3Q 2016. Budgetary constraints delayed start of the Aircraft Procurement (APN) program by one year. As such, Advanced Acquisition Contracts (AAC) and LRIP awards have been adjusted accordingly. In order to procure aircraft that effectively demonstrate manufacturing processes are both mature and under control, two (2) additional RDT&E,N-funded System Demonstration Test Articles (SDTAs) in FY15 with delivery in 4Q 2018 and 1Q 2019 were added to the program.					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3059: CH-53K Development	3,297.334	535.552	462.280	573.187	-	573.187	714.100	471.360	185.078	186.245	165.764	6,590.900
Quantity of RDT&E Articles	0.000	4.000	-	2.000	-	2.000	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 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.												
FY15 RDT&E efforts focus on CH-53K SDD activities that includes ground and flight test of GTV, EDMs, associated subsystems and components, and the continued fabrication and assembly of SDTAs.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Air Vehicle Development									449.542	364.678	477.487	
									Articles: 4.000	-	2.000	
FY 2013 Accomplishments:												
Performed Systems Design and Development fabrication and assembly activities for the CH-53K EDM air vehicles and its associated subsystems and components, GFE and CH-53K ancillary systems. Initiated System Demonstration Test Articles procurement and start aircraft systems ground testing and flight test preparation.												
FY 2014 Plans:												
Perform 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												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
ancillary systems. Focus on ground and flight test of Ground Test Vehicle (GTV) and EDMs and continued fabrication of System Demonstration Test Articles and associated components.  <b>FY 2015 Plans:</b> 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.				
<b>Title:</b> Integrated Logistics Support and Test & Evaluation (T&E)  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> Performed in-house, field activity, and contractor support of Integrated Logistic support. T&E activities included further component qualifications and initial GTV testing. Continued to increase staffing of Integrated Test Team in preparation for flight test.  <b>FY 2014 Plans:</b> Perform in-house, field activity, and contractor support of Integrated Logistic support. T&E activities include further component qualifications and ground and flight testing. Continue to increase staffing of Integrated Test Team for flight test.  <b>FY 2015 Plans:</b> 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.		24.281 -	47.269 -	43.943 -
<b>Title:</b> Systems Engineering & Project Management  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> Performed in-house, field activity, and contractor support of IPTs to allowed 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.  <b>FY 2014 Plans:</b> 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 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.  <b>FY 2015 Plans:</b>		61.729 -	50.333 -	51.757 -



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
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 2013	FY 2014	FY 2015
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 producibility improvements in support of System Demonstration Test Articles (SDTA's), engineering support, program management support, and travel for the CH-53K program.			
Accomplishments/Planned Programs Subtotals	535.552	462.280	573.187

## C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN / 0158: CH-53K (Heavy Lift)	-	-	-	-	-	41.300	472.865	729.842	1,055.118	19,854.942	22,154.067
• APN / 0605: CH-53K (Heavy Lift) - Initial Spares	-	-	-	-	-	6.580	34.760	62.179	99.466	470.315	673.300

## 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, 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. Additionally, the program initiated procurement of the SDTA T408-GE-400 engines, which have been converted from Contractor Furnished Equipment to Government Furnished Equipment.

## 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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPIF	Sikorsky : Stratford, CT	2,738.528	394.259	Dec 2012	322.651	Dec 2013	426.433	Dec 2014	-		426.433	1,283.799	5,165.670	5,165.670
Government Furnished Equipment	Various	Various : Various	41.372	13.583	Dec 2012	2.000	Dec 2013	8.070	Dec 2014	-		8.070	11.429	76.454	-
Government Furnished Equipment	SS/CPIF	GE : Lynn, MA	0.000	23.271	Apr 2013	13.110	Apr 2014	27.234	Apr 2015	-		27.234	51.069	114.684	114.684
Incentive Fees	SS/CPIF	Sikorsky : Stratford, CT	34.070	18.429	Dec 2012	26.917	Dec 2013	15.750	Dec 2014	-		15.750	19.205	114.371	114.371
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	73.400	-		-		-		-		-	-	73.400	-
Subtotal			2,887.370	449.542		364.678		477.487		-		477.487	1,365.502	5,544.579	-
Remarks															
Award Fee earned prior to contract conversion was fifty-five percent of the available award fee pool. Cost Plus Award Fee (CPAF) to Cost Plus Incentive Fee (CPIF) contract conversion awarded 31 Mar 11. Primary Hardware Development Target Value of Contract includes System Demonstration Test Articles (SDTA's). FY14 Incentive Fees associated with potential Schedule Incentives based on continued progress of the Engineering Development Model (EDMs) aircraft.															
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	NAWCAD : Lakehurst, NJ	0.000	1.824	Dec 2012	4.737	Dec 2013	0.540	Dec 2014	-		0.540	23.844	30.945	-
Integrated Logistics Support	WR	NAWCAD : Lakehurst, NJ	7.100	2.275	Dec 2012	5.100	Dec 2013	4.566	Dec 2014	-		4.566	17.134	36.175	-
Integrated Logistics Support	WR	NADEP : Cherry Point, NC	4.200	2.100	Dec 2012	3.000	Dec 2013	4.775	Dec 2014	-		4.775	11.525	25.600	-
Integrated Logistics Support	C/CPFF	GDIT : Fairfax, VA	6.089	2.395	Apr 2013	3.591	Apr 2014	3.420	Apr 2015	-		3.420	6.150	21.645	21.645
Integrated Logistics Support	WR	Various : Various	34.650	0.945	Dec 2012	2.491	Dec 2013	2.691	Dec 2014	-		2.691	14.871	55.648	-
Studies & Analyses	WR	NSWC : Crane, IN	2.500	-	Dec 2012	1.000	Dec 2013	-		-		-	-	3.500	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Analyses	Various	Various : Various	21.627	0.300	Jun 2013	0.500	Dec 2013	-		-		-	3.500	25.927	-
Subtotal			76.166	9.839		20.419		15.992		-		15.992	77.024	199.440	-
Remarks Integrated Logistics Support/GDIT entry identified separately for OSD15 submit. Requirement had previously been included within the ILS/Various entry.															
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	Various : Various	11.846	3.462	Dec 2012	6.700	Dec 2013	3.136	Dec 2014	-		3.136	29.520	54.664	-
Developmental Test & Evaluation	WR	NAWCAD : Pax River, MD	6.234	9.481	Dec 2012	16.472	Dec 2013	20.919	Dec 2014	-		20.919	20.855	73.961	-
Operational Test & Evaluation	WR	COMPTEVFOR : Norfolk, VA	1.619	0.399	Dec 2012	0.678	Dec 2013	0.878	Dec 2014	-		0.878	34.122	37.696	-
Live Fire Test & Evaluation	WR	NAWCWD : China Lake, CA	3.396	1.100	Dec 2012	3.000	Dec 2013	3.018	Dec 2014	-		3.018	15.082	25.596	-
Subtotal			23.095	14.442		26.850		27.951		-		27.951	99.579	191.917	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	Various	Various : Various	13.925	1.960	Dec 2012	2.232	Dec 2013	1.928	Dec 2014	-		1.928	9.355	29.400	-
Government Engineering Support	WR	NAWCAD : Pax River, MD	210.812	45.610	Dec 2012	33.845	Dec 2013	36.250	Dec 2014	-		36.250	125.176	451.693	-
Program Management Support	C/CPFF	Camber : MD	22.000	13.408	Dec 2012	12.481	Mar 2014	11.960	Mar 2015	-		11.960	5.092	64.941	64.941
Program Management Support	Various	Various : Various	58.854	0.501	Dec 2012	1.500	Dec 2013	1.350	Dec 2014	-		1.350	38.594	100.799	-

## UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy	Date: March 2014
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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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Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	NAWCAD : Pax River, MD	3.162	0.250	Dec 2012	0.275	Dec 2013	0.269	Dec 2014	-		0.269	2.225	6.181	-
Prior year Mgmt cost no longer funded in the FYDP	Various	Various : Various	1.950	-		-		-		-		-	-	1.950	-
<b>Subtotal</b>			310.703	61.729		50.333		51.757		-		51.757	180.442	654.964	-

**Remarks**

Camber/PM Support target value of \$65M represents the initial contract duration. When follow-on PM support contract is awarded for FY14, target will be updated to reflect the revised total.

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	3,297.334	535.552	462.280	573.187	-	573.187	1,722.547	6,590.900	-

**Remarks**

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

Date: March 2014

Appropriation/Budget Activity

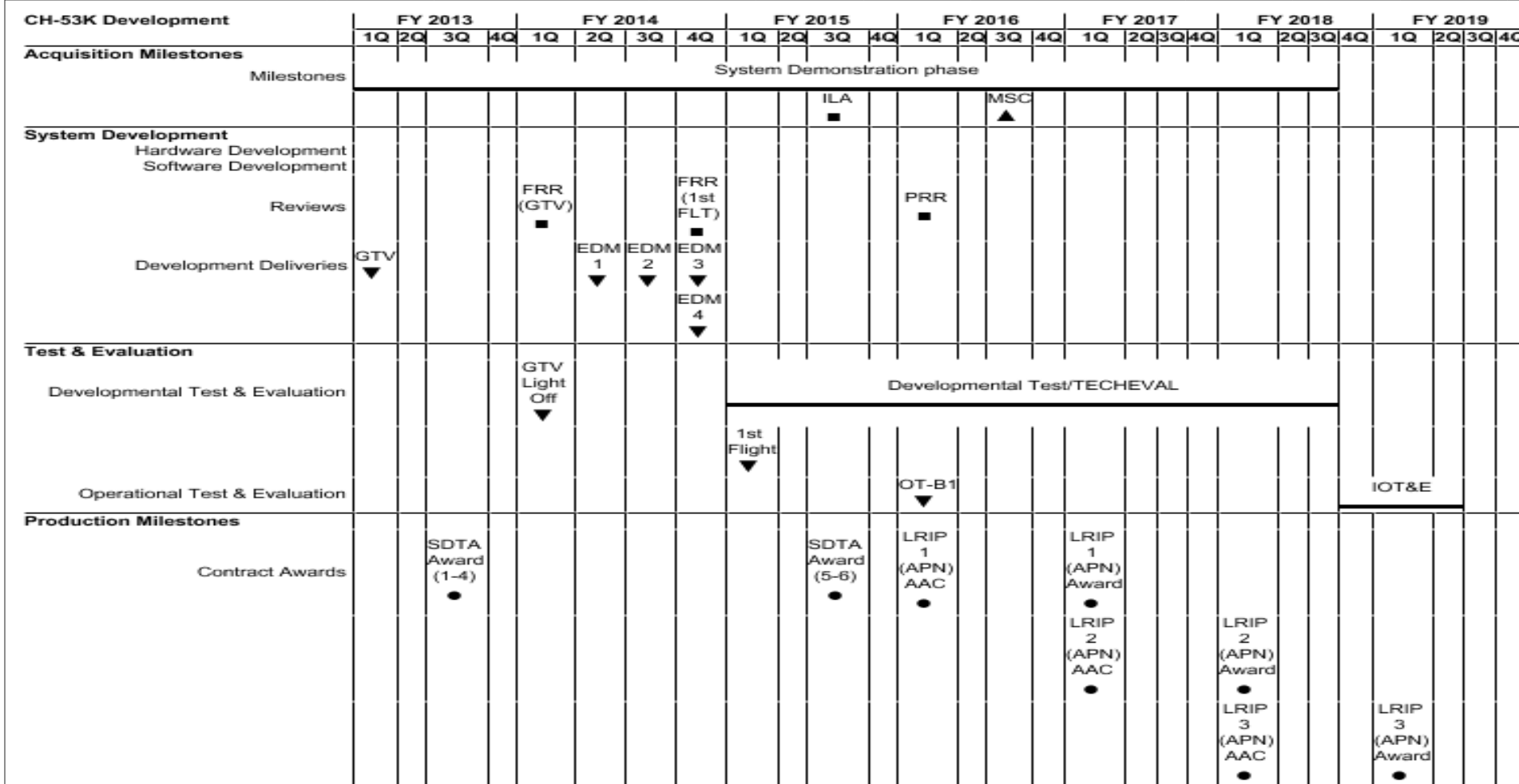
1319 / 5

R-1 Program Element (Number/Name)

PE 0605212N / CH-53K

Project (Number/Name)

3059 / CH-53K Development



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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy																		Date: March 2014					
Appropriation/Budget Activity										R-1 Program Element (Number/Name)								Project (Number/Name)					
1319 / 5										PE 0605212N / CH-53K								3059 / CH-53K Development					
																		LRIP 4 (APN) AAC					
																		●					
Deliveries																							
Sys. Dem. Test Articles (RDT&E)																							

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605212N / CH-53K	<b>Project (Number/Name)</b> 3059 / CH-53K Development	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b>CH-53K Development</b>				
Acquisition Milestones: Milestones: System Demonstration phase	1	2013	3	2018
Acquisition Milestones: Milestones: Integrated Logistics Assessment (ILA)	3	2015	3	2015
Acquisition Milestones: Milestones: Milestone C	3	2016	3	2016
System Development: Reviews: Flight Readiness Review (FRR) - Ground Test Vehicle (GTV)	1	2014	1	2014
System Development: Reviews: Flight Readiness Review (FRR) - 1st Flight	4	2014	4	2014
System Development: Reviews: Production Readiness Review (PRR)	1	2016	1	2016
System Development: Development Deliveries: Ground Test Vehicle (GTV) Delivery	1	2013	1	2013
System Development: Development Deliveries: Engineering Development Model (EDM) #1 delivery	2	2014	2	2014
System Development: Development Deliveries: Engineering Development Model (EDM) #2 delivery	3	2014	3	2014
System Development: Development Deliveries: Engineering Development Model (EDM) #3 delivery	4	2014	4	2014
System Development: Development Deliveries: Engineering Development Model (EDM) #4 delivery	4	2014	4	2014
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	1	2015	1	2015
Test & Evaluation: Operational Test & Evaluation: Operational Test & Evaluation (OT) B1 (OT-B1)	1	2016	1	2016
Test & Evaluation: Operational Test & Evaluation: IOT&E	4	2018	2	2019

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014	
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 (1-4)	3	2013	3	2013
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	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	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	1	2019	1	2019
Production Milestones: Contract Awards: LRIP Advance Acquisition Contract (lot 4) - APN	1	2019	1	2019
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	1	2017	1	2017
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #3-4	2	2017	2	2017
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #5	4	2018	4	2018
Deliveries: Sys. Dem. Test Articles (RDT&E): System Demonstration Test Articles (SDTA) #6	1	2019	1	2019



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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605220N / Ship to Shore Connector (SSC)							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	0.000	-	-	67.815	-	67.815	7.812	7.061	3.163	1.147	Continuing	Continuing
3133: Ship to Shore Connectors Contract Design	0.000	-	-	3.391	-	3.391	3.187	3.261	1.119	1.147	Continuing	Continuing
3137: SSC Construction	0.000	-	-	64.424	-	64.424	4.625	3.800	2.044	-	-	74.893
MDAP/MAIS Code: Other MDAP/MAIS Code(s): 303												
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Note: This is a new Program Element (PE) for FY15. Funding for this effort was previously under PE 0604567N under projects 3133 and 3137. This new PE is not a new start and is a continuation of efforts financed under PE 0604567N.												
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. The second craft (Craft 101) will be available to support Initial Operational Test and Evaluation (IOT&E) as needed, but will be a fleet asset after delivery.												
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 crafts, 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.												

**UNCLASSIFIED**

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0605220N / Ship to Shore Connector (SSC)			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	67.815	-	67.815
Total Adjustments	-	-	67.815	-	67.815
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	67.815	-	67.815
Change Summary Explanation					
Cost/Funding:					
All Projects: FY 2015-FY 2019 funding transferred into this PE from PE 0604567N					
All Projects: Reduced FY 15 funding due to the Department's decision to reduce contracted services.					
Project 3137: Added funding in FY 15 to the SSC construction project in order to properly finance the two ships under construction caused by Sequestration.					
Technical: Not applicable.					
Schedule: Not applicable.					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0605220N / <i>Ship to Shore Connector (SSC)</i>				<b>Project (Number/Name)</b> 3133 / <i>Ship to Shore Connectors Contract Design</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
3133: <i>Ship to Shore Connectors Contract Design</i>	-	-	-	3.391	-	3.391	3.187	3.261	1.119	1.147	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
<b>MDAP/MAIS Code:</b> 303												
# The FY 2015 OCO Request will be submitted at a later date.												
<b>A. Mission Description and Budget Item Justification</b>												
Note: Funding for this project unit effort is realigned from PE 0604567N Project 3133. Project is not a new start.												
<p>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&amp;E plans and programs. The Test and Training craft (Craft 100) and first production craft (Craft 101), which will be operationally fielded, are funded in RDT&amp;E Project 3137 in PE 0604567N through FY14 and PE 0605220N in FY15 and out.</p>												
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>									<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
<b>Title:</b> Ship to Shore Connector (Contract Des)									-	-	3.391	
<b>Articles:</b>									-	-	-	
<b>FY 2013 Accomplishments:</b> N/A												
<b>FY 2014 Plans:</b> N/A												
<b>FY 2015 Plans:</b> 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.												
<b>Accomplishments/Planned Programs Subtotals</b>									-	-	3.391	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
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			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTEN/0604567N: SSC (PRJ 3133/3137)	112.697	87.457	-	-	-	-	-	-	-	-	419.310
• RDTEN/0605220N: SSC Construction (PRJ 3137)	-	-	64.424	-	64.424	4.625	3.800	2.044	-	-	74.893
• SCN 5112: Ship to Shore Connector	-	-	123.233	-	123.233	258.123	278.807	442.362	627.315	-	1,729.840
Remarks											
D. Acquisition Strategy											
The Test and Training craft (Craft 100) and first production craft (Craft 101) will be procured and constructed with RDT&E funds. The Detail Design and Construction contract includes options for construction of an additional seven craft, if exercised.											
E. Performance Metrics											
Continue Test and Evaluation Master Plan (TEMP) updates. Continue Developmental Testing Phase B and Operational Testing Phase B.											

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>													<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5							<b>R-1 Program Element (Number/Name)</b> PE 0605220N / <i>Ship to Shore Connector (SSC)</i>					<b>Project (Number/Name)</b> 3133 / <i>Ship to Shore Connectors Contract Design</i>			

<b>Support (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	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	-		-		-		-		-	-	-	-
<b>Subtotal</b>			0.000	-		-		-		-		-	-	-	-

<b>Test and Evaluation (\$ in Millions)</b>				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various : Various	0.000	-		-		0.624	Oct 2014	-		0.624	Continuing	Continuing	Continuing
Operational Test & Evaluation	Various	Various : Various	0.000	-		-		0.961	Oct 2014	-		0.961	Continuing	Continuing	Continuing
Live Fire Test & Evaluation	Various	Various : Various	0.000	-		-		1.806	Oct 2014	-		1.806	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	-		-		3.391		-		3.391	-	-	-

			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			0.000	-		-		3.391		-		3.391	-	-	-

**Remarks**

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Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Navy

Date: March 2014

## 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

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
<b>Proj 3133</b>																												
Developmental Test/Operational Test (DT/OT-B)																												
Low Rate Initial Production (LRIP) Approval																												
Acquisition Milestone C																												
Program Review (PR) (FY16)																												
Development Test/Operational Test C (DT/OT-C)																												
Development Test/Operational Test D (DT/OT-D)																												
Program Review (PR) (FY17)																												
Integrated Developmental Test/Operational Test																												
Operational Test Readiness Review (OTRR)																												
Integrated Operational Test and Evaluation (IOT&E)																												
Full Rate Production (FRP) Program Review (PR) (FY18)																												

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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

## 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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 3133</b>				
Developmental Test/Operational Test (DT/OT-B)	1	2015	1	2015
Low Rate Initial Production (LRIP) Approval	1	2015	1	2015
Acquisition Milestone C	1	2015	1	2015
Program Review (PR) (FY16)	1	2016	1	2016
Development Test/Operational Test C (DT/OT-C)	1	2015	3	2018
Development Test/Operational Test D (DT/OT-D)	1	2015	4	2019
Program Review (PR) (FY17)	2	2017	2	2017
Integrated Developmental Test/Operational Test	2	2017	3	2018
Operational Test Readiness Review (OTRR)	2	2018	2	2018
Integrated Operational Test and Evaluation (IOT&E)	3	2018	3	2018
Full Rate Production (FRP) Program Review (PR) (FY18)	4	2018	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3137: SSC Construction	-	-	-	64.424	-	64.424	4.625	3.800	2.044	-	-	74.893
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 303												
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
Note: Funding for this project unit effort is realigned from PE 0604567N Project 3133. Project is not a new start.												
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 for the first two craft. The lead craft will be maintained as a test and training platform throughout its life cycle. The second craft (Craft 101) will be available to support IOT&E as needed, but will be a fleet asset after delivery. 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 crafts, which begin reaching extended service life in 2015. Below reflects total program funding for Craft 100 and Craft 101 in project 3137, between PE 0604567N and PE 0605220N.												
TEST AND TRAINING CRAFT 100:												
Plans/Basic Construction:												
TOTAL 226.6 (FY15 31.0)												
Change Orders:												
TOTAL 13.9 (FY15 3.8)												
Electronics												
TOTAL 9.2 (FY15 .3)												
HM&E:												
TOTAL 27.9 (FY15 1.3)												
Other Support:												
TOTAL 43.5 (FY15 7.9)												
Ordnance												
Total 0.05 (FY15 0.05)												
Post Delivery/Outfitting:												
TOTAL 2.0 (FY15 0.0)												



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014			
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0605220N / Ship to Shore Connector (SSC)		Project (Number/Name) 3137 / SSC Construction		
Ship Total: TOTAL 323.2 (FY15 44.4)						
CRAFT 101: Basic Construction TOTAL 51.0 (FY15 14.7) Change Orders: TOTAL 2.2 (FY15 1.1) Electronics: TOTAL: 2.2 (FY15 .4) HM&E TOTAL: 3.7 (FY15 0.8) Other Support TOTAL: 14.1(FY15 3.0) Ordnance TOTAL 0.05 (FY15 0.05) Post Delivery/Outfitting TOTAL 2.0 (FY15 0.0) Ship Total: TOTAL 75.3 (FY15 20.0)						
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2013	FY 2014	FY 2015
<b>Title:</b> SSC Construction  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> N/A  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> Execute planning and construction activities for Test and Training Craft 100 and Craft 101.				-	-	64.424
				-	-	-
Accomplishments/Planned Programs Subtotals				-	-	64.424

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014	
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0605220N / Ship to Shore Connector (SSC)				Project (Number/Name) 3137 / SSC Construction			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTEN/0604567N: SSC (PRJ 3133/3137)	112.697	87.457	-	-	-	-	-	-	-	-	419.310
• RDTEN/0605220N: SSC Contract Design (PRJ 3133)	-	-	3.391	-	3.391	3.187	3.261	1.119	1.147	-	12.105
• SCN 5112: Ship to Shore Connector	-	-	123.233	-	123.233	258.123	278.807	442.362	627.315	-	1,729.840
Remarks											
D. Acquisition Strategy											
The Test and Training craft (Craft 100) and first production craft (Craft 101) will be procured and constructed with RDT&E funds. The Detail Design and Construction contract includes options for construction of an additional seven craft, if exercised.											
E. Performance Metrics											
Achieve Milestone C											
Continue Construction of Test and Training Craft 100 and Craft 101											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0605220N / <i>Ship to Shore Connector (SSC)</i>				Project (Number/Name) 3137 / <i>SSC Construction</i>					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Ship Design	C/CPFF	Various : Various	0.000	-		-		-		-		-	-	-	-
Test & Trng Craft Detail Design/Construction	C/FPIF	Textron : New Orleans, LA	0.000	-		-		31.000	Oct 2014	-		31.000	-	31.000	-
Test & Trng Craft Government Furnished Equipment (GFE)	Various	Various : Various	0.000	-		-		0.350	Oct 2014	-		0.350	-	0.350	-
Test & Trng Craft Change Orders	C/FPIF	Textron : New Orleans, LA	0.000	-		-		3.810	Oct 2014	-		3.810	-	3.810	-
Craft 101 Ship Design	C/CPFF	Alion : Washington, DC	0.000	-		-		-		-		-	-	-	-
Craft 101 LLTM & Construction Planning	C/FPIF	Textron : New Orleans, LA	0.000	-		-		14.680	Oct 2014	-		14.680	-	14.680	-
Craft 101 Government Furnished Equipment	Various	Various : Various	0.000	-		-		1.260	Oct 2014	-		1.260	-	1.260	-
Craft 101 Change Orders	C/FPIF	Textron : New Orleans, LA	0.000	-		-		1.120	Oct 2014	-		1.120	-	1.120	-
Subtotal			0.000	-		-		52.220		-		52.220	-	52.220	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Trng Craft Studies and Analysis	Various	Various : Various	0.000	-		-		2.880	Oct 2014	-		2.880	-	2.880	-
Craft 101 Studies and Analysis	Various	Various : Various	0.000	-		-		0.970	Oct 2014	-		0.970	-	0.970	-
Test & Trng Craft Integrated Logistics Support	WR	NSWC : Various	0.000	-		-		0.100	Oct 2014	-		0.100	-	0.100	-
Craft 101 Integrated Logistics Support	WR	NSWC : Various	0.000	-		-		2.007	Oct 2014	-		2.007	-	2.007	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date: March 2014</b>			
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0605220N / <i>Ship to Shore Connector (SSC)</i>						<b>Project (Number/Name)</b> 3137 / <i>SSC Construction</i>			
<b>Support (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Subtotal</b>			0.000	-		-		5.957		-		5.957	-	5.957	-
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Test & Trng Craft Construction Test Program	Various	Various : Various	0.000	-		-		1.290	Oct 2014	-		1.290	-	1.290	-
<b>Subtotal</b>			0.000	-		-		1.290		-		1.290	-	1.290	-
<b>Management Services (\$ in Millions)</b>				<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Test & Trng Craft Contractor Engineering Support	C/CPFF	CSC/Alion : Washington, DC	0.000	-		-		3.987	Jun 2015	-		3.987	-	3.987	-
Travel	Various	Various : Various	0.000	-		-		0.060	Oct 2014	-		0.060	-	0.060	-
Test & Trng Craft Government Engineering Support	WR	Various : Various	0.000	-		-		0.910	Oct 2014	-		0.910	-	0.910	-
Craft 101 Contractor Engineering Services	WR	CSC/Alion : Washington, DC	0.000	-		-		-		-		-	-	-	-
Craft 101 Government Engineering Services	WR	Various : Various	0.000	-		-		-		-		-	-	-	-
<b>Subtotal</b>			0.000	-		-		4.957		-		4.957	-	4.957	-
			<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			0.000	-		-		64.424		-		64.424	-	64.424	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy							Date: March 2014			
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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Exhibit R-4, RDT&amp;E Schedule Profile: PB 2015 Navy

Date: March 2014

## Appropriation/Budget Activity

1319 / 5

## R-1 Program Element (Number/Name)

PE 0605220N / Ship to Shore Connector (SSC)

## Project (Number/Name)

3137 / SSC Construction

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
<b>Proj 3137</b>																												
Test and Training Craft Construction (Start Fab)																												
Craft 101 Construction																												
Low Rate Initial Production (LRIP) Approval																												
Acquisition Milestone C																												
Program Review (PR) (FY16)																												
Test and Training Craft Delivery																												
Test and Training Craft Post Delivery Test and Trials (PDT&T)																												
Program Review (PR) (FY17)																												
Craft 101 Delivery																												
Craft 101 Post Delivery Test and Trials (PDT&T)																												
Full Rate Production (FRP) Program Review (PR) (FY18)																												

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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

## 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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b>Proj 3137</b>				
Test and Training Craft Construction (Start Fab)	1	2015	1	2017
Craft 101 Construction	1	2015	4	2017
Low Rate Initial Production (LRIP) Approval	1	2015	1	2015
Acquisition Milestone C	1	2015	1	2015
Program Review (PR) (FY16)	1	2016	1	2016
Test and Training Craft Delivery	1	2017	1	2017
Test and Training Craft Post Delivery Test and Trials (PDT&T)	1	2017	2	2018
Program Review (PR) (FY17)	2	2017	2	2017
Craft 101 Delivery	4	2017	4	2017
Craft 101 Post Delivery Test and Trials (PDT&T)	4	2017	4	2018
Full Rate Production (FRP) Program Review (PR) (FY18)	4	2018	4	2018

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0605450N / Joint Air-to-ground Missile (JAGM)
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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	205.820	-	-	6.300	-	6.300	25.900	19.800	9.000	4.400	Continuing	Continuing
2211: Joint Air-to-Ground Missile	205.820	-	-	6.300	-	6.300	25.900	19.800	9.000	4.400	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## 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 Cobra. The JAGM system includes the missile, trainers, containers, support equipment and the M299 launcher.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	-	5.500	-	-	-
Current President's Budget	-	-	6.300	-	6.300
Total Adjustments	-	-5.500	6.300	-	6.300
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	6.300	-	6.300

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2211: Joint Air-to-Ground Missile	205.820	-	-	6.300	-	6.300	25.900	19.800	9.000	4.400	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 Cobra. The JAGM system includes the missile, trainers, containers, support equipment and the M299 launcher. The USN/USMC is addressing future Engineering and Manufacturing Development (EMD) and Low Rate Initial Production funding requirements in the current budget cycle.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
Title: JAGM Technology Development (TD) Phase  <div>Articles:</div>  <b>FY 2013 Accomplishments:</b> N/A  <b>FY 2014 Plans:</b> N/A  <b>FY 2015 Plans:</b> FY15 funding will go toward initial AH-1Z platform integration, development of technologies that extend missile range, test planning, procurement of integration hardware, acquisition and buildup of test articles, and joint cost and schedule planning for Milestone B and EMD.										-	-	6.300
										-	-	-
Accomplishments/Planned Programs Subtotals										-	-	6.300
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• RDT&E ARMY, 0605450A: JAGM	9.686	15.127	85.300	-	85.300	68.800	23.800	2.500	-	Continuing	Continuing	
• WPA ARMY, C70302000: JAGM	-	-	-	-	-	5.000	52.000	72.500	111.700	Continuing	Continuing	
• WPN NAVY, 2248: JAGM	-	-	-	-	-	-	-	-	50.000	Continuing	Continuing	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy							<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0605450N / <i>Joint Air-to-ground Missile (JAGM)</i>			<b>Project (Number/Name)</b> 2211 / <i>Joint Air-to-Ground Missile</i>		

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
<b>Remarks</b>											

**D. Acquisition Strategy**

The JAGM system is a pre-Acquisition Category 1C 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**

Commence Milestone B in FY15.

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**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

JAGM		FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Test and Evaluation																													
Integration										AH-1Z Integration																			

2015PB - 0605450N - 2211

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy	<b>Date:</b> March 2014
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<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>					<b>R-1 Program Element (Number/Name)</b> PE 0605500N / <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i>							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	7,232.670	391.364	272.352	308.037	-	308.037	257.692	227.845	202.416	194.355	Continuing	Continuing
2696: <i>Multi-Mission Maritime Aircraft</i>	7,154.707	306.383	185.211	150.550	-	150.550	115.768	39.386	18.120	-	-	7,970.125
3181: <i>P-8A Spiral One Development</i>	61.934	52.280	54.144	68.458	-	68.458	20.385	-	-	-	-	257.201
3218: <i>P-8A Spiral 2 Development</i>	6.029	19.212	27.997	89.029	-	89.029	120.018	186.373	181.223	184.115	Continuing	Continuing
3368: <i>P-8 Improvements</i>	0.000	-	-	-	-	-	1.521	2.086	3.073	10.240	Continuing	Continuing
9999: <i>Congressional Adds</i>	10.000	13.489	5.000	-	-	-	-	-	-	-	-	28.489

**MDAP/MAIS Code:** 334

# The FY 2015 OCO Request will be submitted at a later date.

**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 for the Full Rate Production review was approved 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 successfully 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. 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 Increment 1 in CY13. The scope of SDD also includes the engineering and verification of correction of deficiencies identified in testing and Fleet operational use. P-8A entered Production and Deployment phase in the 4th quarter of FY10 after completing MS-C Defense Acquisition Board.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy I BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0605500N / <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i>
<p>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, and 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.</p> <p>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, the Spiral 2 (Increment 3) will incorporate the following capabilities into the P-8A: MAC Enhancement, RCI ECP's including ECP3 (early delivery of 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 Spiral 2 (Increment 3) for the P-8A and Tactical Operations Center (ground support facility). Acquisition Decision Memorandum, dated 18 October 2013, approved Pre-Engineering Development activities leading up to MS-B.</p> <p>The P-8A Multi-mission Maritime Aircraft (MMA) program is based on an evolutionary acquisition strategy including a sequence of Rapid Capability Insertions (RCI) that will retain cost-wise effectiveness for winning major combat operations beyond 2020. In order to pace the threat, RCIs will incorporate incremental software and hardware improvements to existing sensors, communications systems and weapons capabilities to build on the P-8A Spiral 2 (Increment 3) Applications Based Architecture (ABA) and capability baseline. These capabilities, and other emergent capability requirements, will be prioritized through the Navy Integration and Interoperability (I&amp;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.</p> <p>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.</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0605500N / Multi-mssn Maritime Aircraft (MMA) (P-8A)				
B. Program Change Summary (\$ in Millions)		FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget		421.102	317.358	356.817	-	356.817
Current President's Budget		391.364	272.352	308.037	-	308.037
Total Adjustments		-29.738	-45.006	-48.780	-	-48.780
• Congressional General Reductions		-	-0.006			
• Congressional Directed Reductions		-	-50.000			
• Congressional Rescissions		-	-			
• Congressional Adds		-	5.000			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-12.390	-			
• Program Adjustments		-	-	66.438	-	66.438
• Rate/Misc Adjustments		-	-	-115.218	-	-115.218
• Congressional General Reductions Adjustments		-32.348	-	-	-	-
• Congressional Add Adjustments		15.000	-	-	-	-
Congressional Add Details (\$ in Millions, and Includes General Reductions)						
Project: 9999: Congressional Adds						
Congressional Add: Small Business Technology Insertion						
Congressional Add: P-8A Sensor Development - Cong						
Congressional Add Subtotals for Project: 9999						
Congressional Add Totals for all Projects						
Change Summary Explanation						
Technical: Not applicable.						
Schedule:						
Project 2696: Initial Operational Test & Evaluation was completed on 25 March 2013. At a 26 June 2013 DAB, the program received approval to change the program strategy to include an LRIP Lot 4 in FY13 and to defer the Full Rate Production (FRP) DAB until FY14. LRIP Lot 4 contract was awarded in July 2013. Initial Operational Capability (IOC) was achieved in November 2013 and the FRP decision was approved on January 3, 2014. IT&E extended through 2Q FY18. FOT&E 3 (VCD) start moved from 2Q FY18 to 4Q FY16 and end date moved from 3Q FY18 to 1Q FY17. FRP Contract Award moved from 4Q FY13 to 2Q FY14. LRIP task end date moved from 3Q FY15 to 3Q FY16.						

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>		<b>R-1 Program Element (Number/Name)</b> PE 0605500N / <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i>
<p>Project 3181: Technology Development (TD)/Risk Reduction Phase extended to 4Q FY13, OT&amp;E (EOC) shifted from 4Q FY13 start to 3Q FY14 start to correct software deficiencies. Retrofit Kits (ECP1) moved from 1Q FY14 to 3Q FY14. Kit Delivery start date moved from 3Q FY14 to 2Q FY15 and end date moved from 4Q FY17 to 1Q FY18.</p> <p>Project 3218: Scheduling adjustments reflect signed Acquisition Strategy and current funding profile. 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. Based on current program profile: MS B moved from 3Q FY16 to 2Q FY17. MS C changed from 2Q FY18 to 2Q FY19. Prototyping task end date extended from 2Q FY16 to 2Q FY17. EMD start date moved from 3Q FY16 to 2Q FY17 and end date moved from 1Q FY18 to 2Q FY19. Preliminary Design Review changed from 1Q FY16 to 4Q FY 16, Critical Design Review changed from 1Q FY17 to 2Q FY18. Lab Testing start date moved from 2Q FY15 to 1Q FY16, and the end date moved from 1Q FY17 to 4Q FY18. IT start date moved from 2Q FY17 to 1Q FY18. To add further fidelity to the schedule the following changes were made: Tech Dev / Risk Reduction task became separate lines named H/W Dev and Risk Reduction with the end date extended from 3Q FY16 to 2Q FY17. Tech Dev/Risk Reduction contract award became separate actions named H/W Dev ABA and Risk Reduction with the award shifting from 2QFY14 to 3Q FY14 for Risk Reduction and 4Q FY14 for ABA; Engineering and Manufacturing Development (EMD) Contract Award was separated to become EMD ABA and EMD Platform Integration and moved from 3Q FY16 to 2Q F17; and added Capability Development &amp; Integration task.</p>		



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2696: Multi-Mission Maritime Aircraft	7,154.707	306.383	185.211	150.550	-	150.550	115.768	39.386	18.120	-	-	7,970.125
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 for the Full Rate Production review was approved on January 3, 2014.												
The primary objectives of System 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, conduct ground and flight tests and prepare for 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. 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 builds 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 of Increment 1 in CY13. The scope of SDD also includes the engineering and verification of correction of deficiencies identified in testing and Fleet operational use. P-8A entered Production and Deployment phase in the 4th quarter of FY10 after completing MS-C Defense Acquisition Board.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Continue System Development & Demonstration									258.855	161.874	129.318	
									Articles: -	-	-	
FY 2013 Accomplishments:												
SDD phase. Scope of effort included: design and test P-8A SIL, 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, and training devices to support continuation of engineering for correction of deficiencies, completion of Initial Operational Test & Evaluation (IOT&E) and start of Follow-on Operational Test & Evaluation/Verification Corrected Deficiencies (FOT&E/VCD) and verification of correction of												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
deficiencies. Conducted periodic cost and schedule performance reviews associated with Earned Value Management (EVM) and prepared and conducted technical, test and logistic reviews.				
FY 2014 Plans: SDD phase. Scope of effort includes: ground and flight test articles (SDD Stage I, FY06, Qty-3; SDD Stage II, FY09, Qty-3), other test articles, associated TOC Systems, and training devices to support continuation of engineering for correction of deficiencies and FOT&E/VCD and verification of correction of deficiencies. Conduct the periodic cost and schedule performance reviews associated with EVM and prepare and conduct 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, conduct of Integrated Test and Evaluation (IT&E) and FOT&E/VCD. Conduct of periodic cost and schedule performance reviews associated with EVM and preparation and conduct of technical, test and logistic reviews.				
Title: Continue Engineering and Technical Development and Test for Sys Dev & Demonstration contracts		47.528	23.337	21.232
Articles:		-	-	-
FY 2013 Accomplishments: Continued analysis of contracted deliverables; directed technical and logistic support of system development and delivery; assessment of contractors readiness to proceed in design/development; evaluated contract cost, schedule, and performance; test preparations, provided necessary government furnished equipment and test articles, risk assessment/mitigation; program control; performance status; and planned and prepared for future Milestone/Decision Reviews and developed associated documentation. Modeling & Simulation tools developed to assess proposed risk mitigations. Conducted and supported IT&E, IOT&E, Live Fire Test & Evaluation (LFT&E) and Follow-On Test & Evaluation/Verification Corrected Deficiencies (FOT&E/VCD).				
FY 2014 Plans: Continue analysis of contracted deliverables; direct technical and logistic support of system development test aircraft; engineering for correction of deficiencies; verification of correction of deficiencies; 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 2015 Plans: Continue analysis of contracted deliverables; direct technical and logistic support of system development test aircraft; engineering for correction of deficiencies; verification of correction of deficiencies; evaluate contract cost, schedule, and performance; test				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
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.												
Accomplishments/Planned Programs Subtotals										306.383	185.211	150.550
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• APN1/0193: P-8A MMA	2,585.181	3,359.525	2,051.784	-	2,051.784	3,205.188	2,587.718	2,597.225	1,713.216	57.075	24,002.463	
• APN6/0605: P-8A Initial Spares	151.170	21.858	0.204	-	0.204	9.802	16.206	16.504	-	-	471.554	
• MILCON: P-8A MILCON	-	105.919	27.826	-	27.826	126.694	-	-	-	-	367.873	
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.												
E. Performance Metrics												
Completed Initial Operational Test & Evaluation 2nd quarter 2013												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Award Fee for Primary HW	C/CPAF	Boeing : Seattle, WA	195.505	10.826	Jun 2013	-		-		-		-	-	206.331	206.331
Primary HW Dev - Boeing	C/CPAF	Boeing : Seattle, WA	6,384.241	245.442	Oct 2012	157.180	Oct 2013	124.868	Oct 2014	-		124.868	130.225	7,041.956	7,041.956
Primary HW Dev - SPAWAR	WR	SPAWAR : San Diego, CA	41.245	1.081	Nov 2012	-		-		-		-	-	42.326	-
Sys Eng (gov)	WR	NAWC AD : Pax River, MD	63.655	1.506	Nov 2012	4.694	Nov 2013	4.450	Nov 2014	-		4.450	9.197	83.502	-
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	71.469	-		-		-		-		-	-	71.469	-
Subtotal			6,756.115	258.855		161.874		129.318		-		129.318	139.422	7,445.584	-
Remarks															
Due to sequestration and other budget uncertainties, program office slowed work and subsequently received an underexecution mark in FY15. This underexecution mark is not apparent due to the increase received for correction of deficiencies. The total award fee issued to date was 2.4% of the total budget. No award fee is planned for FY 2014 based on current contract.															
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Int. Log Gov	WR	NAWC AD : Pax River, MD	41.824	1.538	Nov 2012	1.335	Nov 2013	0.643	Nov 2014	-		0.643	1.170	46.510	-
Int. Log Gov	WR	NAWC TSD : Orlando, FL	15.030	0.709	Nov 2012	-		0.135	Nov 2014	-		0.135	-	15.874	-
Tech Dev Gov	WR	NAWC AD : Pax River, MD	69.835	1.004	Nov 2012	1.000	Nov 2013	1.584	Nov 2014	-		1.584	1.298	74.721	-
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	16.082	-		-		-		-		-	-	16.082	-
Subtotal			142.771	3.251		2.335		2.362		-		2.362	2.468	153.187	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev T&E - Gov	WR	NAWC AD : Pax River, MD	69.233	10.582	Nov 2012	7.250	Nov 2013	7.261	Nov 2014	-		7.261	11.757	106.083	-
GFE & GFI	WR	NAWC AD : Pax River, MD	56.093	16.023	Nov 2012	4.933	Nov 2013	4.000	Nov 2014	-		4.000	10.592	91.641	-
LFT&E - Gov	WR	NAWC WD : China Lake	25.971	2.946	Nov 2012	0.111	Nov 2013	-		-		-	-	29.028	-
Oper Test & Eval	WR	NAWC AD : Pax River, MD	2.286	6.680	Nov 2012	3.000	Nov 2013	3.000	Nov 2014	-		3.000	3.900	18.866	-
Prior year T&E cost no longer funded in the FYDP	Various	Various : Various	10.487	-		-		-		-		-	-	10.487	-
Subtotal			164.070	36.231		15.294		14.261		-		14.261	26.249	256.105	-
Remarks															
Funding increased in FY15 for correction of deficiencies identified during IOT&E and FOT&E.															
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mgmt Suppt Serv (NON- FFRDC)	C/CPFF	RBC INC : Alexandria, VA	24.213	2.901	Nov 2012	0.628	Nov 2013	0.622	Nov 2014	-		0.622	1.866	30.230	30.230
Eng Tech Serv (NON- FFRDC)	C/CPFF	ASEC : Lexington Park MD	6.512	1.113	Nov 2012	0.404	Nov 2013	0.400	Nov 2014	-		0.400	1.200	9.629	9.629
Program Mgmt Support	WR	NAWC AD : Pax River, MD	37.567	3.805	Nov 2012	4.551	Nov 2013	3.462	Nov 2014	-		3.462	1.821	51.206	-
Travel	Various	NAWC AD : Pax River, MD	3.399	0.227	Oct 2012	0.125	Oct 2013	0.125	Nov 2014	-		0.125	0.248	4.124	-
Prior year Mgmt cost no longer funded in the FYDP	Various	Various : Various	20.060	-		-		-		-		-	-	20.060	-
Subtotal			91.751	8.046		5.708		4.609		-		4.609	5.135	115.249	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2015 Navy										<b>Date:</b> March 2014				
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0605500N / <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i>					<b>Project (Number/Name)</b> 2696 / <i>Multi-Mission Maritime Aircraft</i>				
	<b>Prior Years</b>	<b>FY 2013</b>		<b>FY 2014</b>		<b>FY 2015 Base</b>		<b>FY 2015 OCO</b>		<b>FY 2015 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>	7,154.707	306.383		185.211		150.550		-		150.550	173.274	7,970.125	-	
<b>Remarks</b>														

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PE 0605500N: *Multi-mssn Maritime Aircraft (MMA) (P-8A)*  
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PE 0605500N / Multi-mssn Maritime Aircraft  
(MMA) (P-8A)

2696 / Multi-Mission Maritime Aircraft



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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy															Date: March 2014				
Appropriation/Budget Activity										R-1 Program Element (Number/Name)					Project (Number/Name)				
1319 / 5										PE 0605500N / Multi-mssn Maritime Aircraft (MMA) (P-8A)					2696 / Multi-Mission Maritime Aircraft				
FRP 2										2					1				
FRP 3										2					2				
FRP 4										1					2				
2015PB - 0605500N - 2696										3					3				
										4					4				
										2					2				
										3					3				
										4					4				
										2					2				
										3					3				
										3					3				



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605500N / <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i>	<b>Project (Number/Name)</b> 2696 / <i>Multi-Mission Maritime Aircraft</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>Multi-Mission Maritime Aircraft</i></b>				
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: System Development & Demonstration (SDD)	1	2013	3	2013
Systems Development: Hardware/Software Development: Production and Deployment	1	2013	4	2018
Systems Development: Hardware/Software Development: Correction of Deficiencies Engineering	1	2013	4	2018
Test & Evaluation: Technical Evaluation: Integrated Test & Evaluation (Flight Test)	1	2013	2	2018
Test & Evaluation: Operational Evaluation: Initial Operational Test and Evaluation (IOT&E)	1	2013	2	2013
Test & Evaluation: Operational Evaluation: Fatigue Testing	1	2013	4	2018
Test & Evaluation: Operational Evaluation: Follow-on Test & Evaluation 1 (Defferals & High Priority Correction of Deficiencies)	3	2013	1	2014
Test & Evaluation: Operational Evaluation: Follow-on Test & Evaluation 2 (Verification of Correction of Deficiencies)	2	2015	3	2015
Test & Evaluation: Operational Evaluation: Follow-on Test & Evaluation 3 (Verification of Correction of Deficiencies)	4	2016	1	2017
Production Milestones: Low Rate Initial Production (LRIP)	1	2013	3	2016
Production Milestones: Full Rate Production (FRP)	3	2014	4	2019
Production Milestones: Contract Awards: LRIP Lot #4 (APN)	4	2013	4	2013
Production Milestones: Contract Awards: FRP Contract Award	2	2014	2	2014
Deliveries: LRIP 1: LRIP Aircraft (APN) Q1 2013	1	2013	1	2013
Deliveries: LRIP 1: LRIP Aircraft (APN) Q2 2013	2	2013	2	2013

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Exhibit R-4A, RDT&amp;E Schedule Details: PB 2015 Navy

Date: March 2014

## 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

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deliveries: LRIP 2: LRIP Aircraft (APN) Q2 2013	2	2013	2	2013
Deliveries: LRIP 2: LRIP Aircraft (APN) Q3 2013	3	2013	3	2013
Deliveries: LRIP 2: LRIP Aircraft (APN) Q4 2013	4	2013	4	2013
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
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

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy			Date: March 2014		
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	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
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

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3181: P-8A Spiral One Development	61.934	52.280	54.144	68.458	-	68.458	20.385	-	-	-	-	257.201
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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. Spiral One (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 2013	FY 2014	FY 2015	
Title: Perform technology demonstrations and analyses of proposed new capabilities  Articles:  FY 2013 Accomplishments: Continued development of integration design of new P-8A capabilities. Conducted ECP2 design review. Conducted laboratory and preliminary development testing. Awarded primary Integration/Engineering & Manufacturing Development (EMD) contract for comprehensive design, installation, test and initial fielding of all Spiral One (Increment 2) capabilities.  FY 2014 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 2015 Plans: Continue development of integration design of new P-8A capabilities. 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.									36.683	38.712	45.316	
									-	-	-	
Title: Conduct technical, cost, risk and logistics analysis of proposed technologies  Articles:									15.597	15.432	23.142	
									-	-		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2013	FY 2014	FY 2015
<b>FY 2013 Accomplishments:</b> 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.												
<b>FY 2014 Plans:</b> 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.												
<b>FY 2015 Plans:</b> 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.												
Accomplishments/Planned Programs Subtotals										52.280	54.144	68.458
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• APN5/0586: P-8 Series	4.895	9.485	29.797	-	29.797	30.042	20.372	21.532	208.514	2,389.538	2,714.175	
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).												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HW Dev - Integration/EMD	C/CPFF	Boeing : Seattle, WA	0.000	31.271	Nov 2012	33.443	Nov 2013	39.189	Nov 2014	-		39.189	13.502	117.405	117.405
Sys Eng (gov)	WR	NAWC AD : Pax River, MD	19.364	5.412	Nov 2012	5.269	Nov 2013	6.127	Nov 2014	-		6.127	4.666	40.838	-
Prior year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	23.455	-		-		-		-		-	-	23.455	-
Subtotal			42.819	36.683		38.712		45.316		-		45.316	18.168	181.698	-
Support (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Sup	WR	NAWC AD : Pax River, MD	2.192	0.561	Nov 2012	0.509	Nov 2013	0.728	Nov 2014	-		0.728	0.723	4.713	-
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	0.742	-		-		-		-		-	-	0.742	-
Subtotal			2.934	0.561		0.509		0.728		-		0.728	0.723	5.455	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval	WR	NAWC AD : Pax River, MD	2.728	4.384	Nov 2012	7.561	Nov 2013	5.920	Nov 2014	-		5.920	-	20.593	-
GFE/GFI/GFP	WR	NAWC AD : Pax River, MD	2.983	8.457	Nov 2012	3.598	Nov 2013	6.400	Nov 2014	-		6.400	-	21.438	-
Oper Test & Eval	WR	NAWC AD : Pax River, MD	0.000	-		2.100	Nov 2013	8.405	Nov 2014	-		8.405	-	10.505	-
Subtotal			5.711	12.841		13.259		20.725		-		20.725	-	52.536	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Services	C/CPFF	ASEC : Lexington Park, MD	1.288	0.127	Nov 2012	0.200	Nov 2013	-		-		-	-	1.615	1.615
Mgmt Suppt Serv (NON-FFRDC)	C/CPFF	RBC INC : Alexandria, VA	5.592	0.539	Nov 2012	0.752	Nov 2013	0.729	Nov 2014	-		0.729	0.728	8.340	8.340
Program Mgmt Support	WR	NAWC AD : Pax River, MD	3.424	1.498	Nov 2012	0.662	Nov 2013	0.910	Nov 2014	-		0.910	0.716	7.210	-
Travel	WR	NAWC AD : Pax River, MD	0.166	0.031	Oct 2012	0.050	Oct 2013	0.050	Oct 2014	-		0.050	0.050	0.347	-
Subtotal			10.470	2.195		1.664		1.689		-		1.689	1.494	17.512	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			61.934	52.280		54.144		68.458		-		68.458	20.385	257.201	-
Remarks															

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

Date: March 2014

Appropriation/Budget Activity

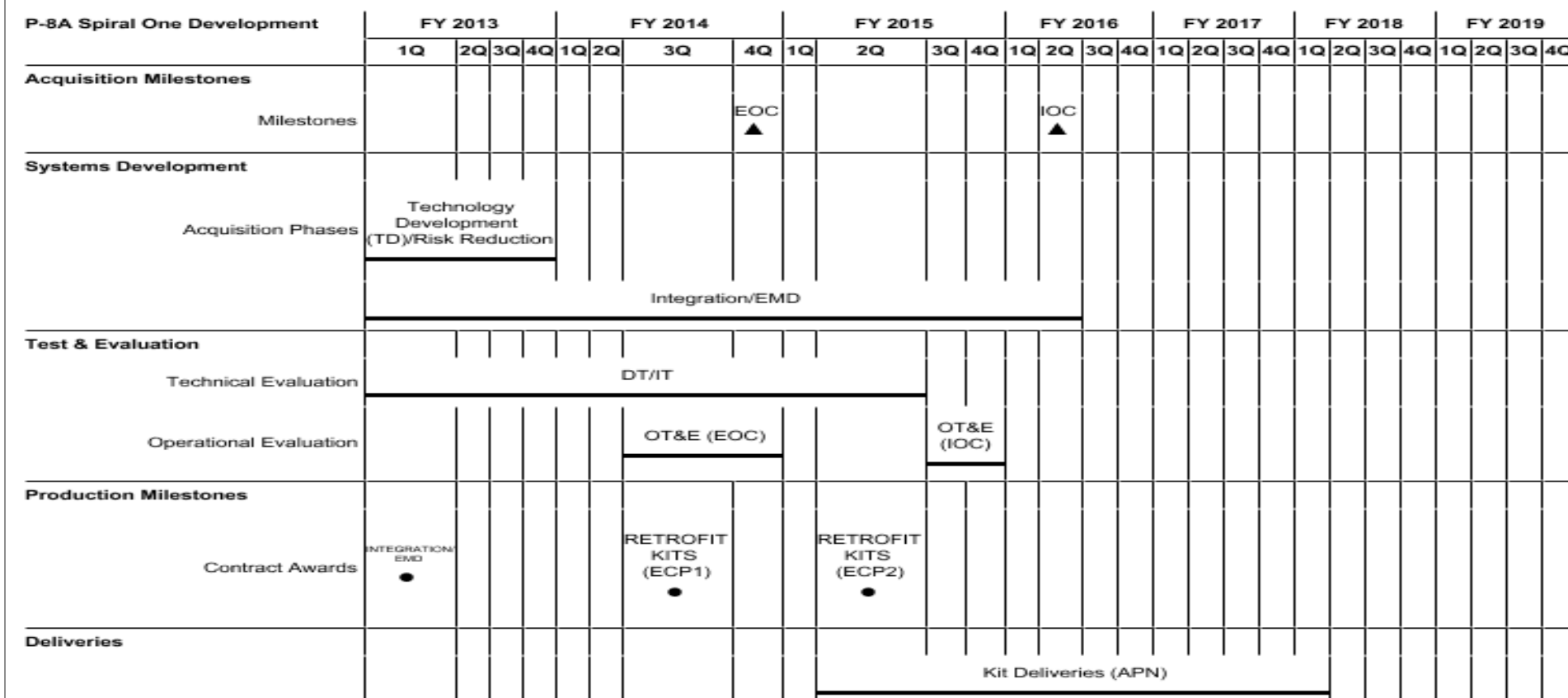
1319 / 5

R-1 Program Element (Number/Name)

PE 0605500N / Multi-mssn Maritime Aircraft (MMA) (P-8A)

Project (Number/Name)

3181 / P-8A Spiral One Development



2015PB - 0605500N - 3181



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605500N / <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i>	<b>Project (Number/Name)</b> 3181 / <i>P-8A Spiral One Development</i>	

**Schedule Details**

<b>Events by Sub Project</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
<b><i>P-8A Spiral One Development</i></b>				
Acquisition Milestones: Milestones: Early Operational Capability (EOC)	4	2014	4	2014
Acquisition Milestones: Milestones: Initial Operational Capability (IOC)	2	2016	2	2016
Systems Development: Acquisition Phases: Technology Development (TD)/Risk Reduction	1	2013	4	2013
Systems Development: Acquisition Phases: Integration/EMD	1	2013	2	2016
Test & Evaluation: Technical Evaluation: Developmental Testing (Integration Testing)	1	2013	2	2015
Test & Evaluation: Operational Evaluation: Operational Test & Evaluation (OT&E) (EOC)	3	2014	4	2014
Test & Evaluation: Operational Evaluation: Operational Test & Evaluation (OT&E) (IOC)	3	2015	4	2015
Production Milestones: Contract Awards: Contract Award Integration/ Engineering, Manufacturing, and Development (EMD)	1	2013	1	2013
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

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3218: P-8A Spiral 2 Development	6.029	19.212	27.997	89.029	-	89.029	120.018	186.373	181.223	184.115	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

**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 Spiral 2 (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)**

	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Title:</b> Perform technology demonstrations and analyses of proposed new capabilities	15.331	22.991	80.084
<b>Articles:</b>	-	-	-
<b>FY 2013 Accomplishments:</b> Initiated design for integrating new capabilities into P-8A TOC. Completed engineering studies and prepared Spiral 2 (Increment 3) technology development system specifications. Continued government led competitive prototyping efforts.			
<b>FY 2014 Plans:</b> Continue government led competitive prototyping efforts for Spiral 2 (Increment 3) Architecture. Award development contracts for Spiral 2 (Increment 3) Architecture and other Spiral 2 (Increment 3) capabilities such as Multi-Static Active Coherent (MAC) Enhancement development. Begin Risk Reduction Interface for architecture to include development of system interfaces. Continue P-8A TOC design and integration efforts.			
<b>FY 2015 Plans:</b> 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			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy							Date: March 2014				
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							FY 2013	FY 2014	FY 2015		
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.											
<b>Title:</b> Conduct technical, cost, risk and logistics analysis of proposed technologies							3.881	5.006	8.945		
<b>Articles:</b>							-	-	-		
<b>FY 2013 Accomplishments:</b> 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.											
<b>FY 2014 Plans:</b> 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. Continue government prototyping.											
<b>FY 2015 Plans:</b> 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.											
Accomplishments/Planned Programs Subtotals							19.212	27.997	89.029		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APN5/0586: P-8 Series	4.895	9.485	29.797	-	29.797	30.042	20.372	21.532	208.514	2,389.538	2,714.175
Remarks											
<b>D. Acquisition Strategy</b>											
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, 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 Capabilities, 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.											

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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

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 Spiral 2 (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 2nd quarter 2017.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HW Dev - Engineering Studies	C/FP	Various : Various	1.000	2.665	Nov 2012	-		-		-		-	-	3.665	3.665
Primary Hdw Dev - R/R (Interface)	C/CPIF	Boeing : Seattle	0.000	-		3.344	May 2014	5.532	Nov 2014	-		5.532	5.803	14.679	14.679
Primary HW Dev - R/R (Capability Analysis)	C/CPIF	Boeing : Seattle	0.000	-		-		5.599	Nov 2014	-		5.599	9.257	14.856	14.856
Primary HW Dev - ABA (Vendor A)	C/CPIF	TBD : TBD	0.000	-		0.625	Aug 2014	11.834	Nov 2014	-		11.834	13.184	25.643	25.643
Primary HW Dev - ABA (Vendor B)	C/CPIF	TBD : TBD	0.000	-		0.625	Aug 2014	11.834	Nov 2014	-		11.834	13.184	25.643	25.643
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	-		-		-		-		-	95.864	95.864	95.864
Primary HW Dev - Prototyping	Various	Various : Various	0.000	-		2.642	Nov 2013	2.642	Nov 2014	-		2.642	3.519	8.803	-
Primary HW Dev - MAC Enhancements	Various	Various : Various	0.000	4.723	Jun 2013	7.000	Nov 2013	11.000	Nov 2014	-		11.000	70.589	93.312	-
RCI2 - ECP3	C/CPIF	Boeing : Seattle	0.000	-		-		7.716	Nov 2014	-		7.716	39.317	47.033	-
Capability Development & Integration	Various	Various : Various	0.000	-		1.110	Nov 2013	11.505	Nov 2014	-		11.505	271.799	284.414	-
Sys Eng (gov)	WR	NAWC AD : Pax River, MD	2.227	7.943	Nov 2012	7.645	Nov 2013	12.422	Nov 2014	-		12.422	75.612	105.849	-
Subtotal			3.227	15.331		22.991		80.084		-		80.084	683.992	805.625	-
Remarks															
Scheduling adjustments reflect signed Acquisition Strategy and current funding profile. \$33M reduction in FY15 due to underexecution of FY13 funding. To provide further clarification of Product Development activities, a decomposition of specific contracting actions has been provided.															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Sup	WR	NAWC AD : Pax River, MD	0.504	0.243	Nov 2012	0.489	Nov 2013	0.757	Nov 2014	-		0.757	5.175	7.168	-
Studies & Analysis	C/CPFF	JHU : Pax River, MD	0.644	0.373	Dec 2012	0.413	Dec 2013	0.762	Nov 2014	-		0.762	1.642	3.834	3.834
Subtotal			1.148	0.616		0.902		1.519		-		1.519	6.817	11.002	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval	WR	NAWC AD : Pax River, MD	0.000	0.328	Nov 2012	0.370	Nov 2013	2.295	Nov 2014	-		2.295	Continuing	Continuing	Continuing
GFE/GFI/GFP	WR	NAWC AD : Pax River, MD	0.000	-		-		-		-		-	22.622	22.622	-
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			0.000	0.328		0.370		2.295		-		2.295	-	-	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Eng Tech Serv (NON-FFRDC)	C/CPFF	Various : Various	0.204	1.031	Nov 2012	1.181	Nov 2013	1.868	Nov 2014	-		1.868	4.387	8.671	8.671
Mgmt Suppt Serv (NON-FFRDC)	C/CPFF	RBC : Alexandria, VA	1.102	0.959	Nov 2012	1.163	Nov 2013	1.824	Nov 2014	-		1.824	11.511	16.559	16.559
Program Mgmt Support	WR	NAWC AD : Pax River, MD	0.348	0.947	Nov 2012	1.290	Nov 2013	1.339	Nov 2014	-		1.339	7.783	11.707	-
Travel	WR	NAWC AD : Pax River, MD	0.000	-		0.100	Oct 2013	0.100	Oct 2014	-		0.100	0.600	0.800	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2015 Navy</b>												<b>Date:</b> March 2014		
<b>Appropriation/Budget Activity</b> 1319 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0605500N / <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i>				<b>Project (Number/Name)</b> 3218 / <i>P-8A Spiral 2 Development</i>				

Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
<b>Subtotal</b>			1.654	2.937		3.734		5.131		-		5.131	24.281	37.737	-

**Remarks**  
Continued engineering and management support reflected in FY15 profile are necessary to mature prototyping efforts.

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	6.029	19.212	27.997	89.029	-	89.029	-	-	-

**Remarks**

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PE 0605500N: *Multi-mssn Maritime Aircraft (MMA) (P-8A)*  
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(MMA) (P-8A)

3218 / P-8A Spiral 2 Development





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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605500N / Multi-mssn Maritime Aircraft (MMA) (P-8A)	<b>Project (Number/Name)</b> 3218 / P-8A Spiral 2 Development	

**Schedule Details**

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>P-8A Spiral 2 Development</i></b>				
Acquisition Milestones: Milestones: Increment 3 MS B	2	2017	2	2017
Acquisition Milestones: Milestones: Increment 3 MS C	2	2019	2	2019
Systems Development: Hardware Development	2	2013	2	2017
Systems Development: Risk Reduction	2	2013	2	2017
Systems Development: Prototyping	2	2013	2	2017
Systems Development: Capability Development & Integration	4	2014	4	2019
Systems Development: Engineering Manufacturing & Development (EMD)	2	2017	2	2019
Systems Development: Engineering Studies	1	2013	2	2013
Systems Development: Reviews: Preliminary Design Review (PDR)	4	2016	4	2016
Systems Development: Reviews: Critical Design Review (CDR)	2	2018	2	2018
Test & Evaluation: Integrated Test (IT)	1	2018	4	2019
Test & Evaluation: Lab Testing	1	2016	4	2017
Production Milestones: Contract Awards: Contract Award - Hardware Development ABA	4	2014	4	2014
Production Milestones: Contract Awards: Contract Award - Risk Reduction	3	2014	3	2014
Production Milestones: Contract Awards: Engineering Manufacturing & Development (EMD) ABA	2	2017	2	2017
Production Milestones: Contract Awards: Engineering Manufacturing & Development (EMD) Platform Integration	2	2017	2	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
3368: P-8 Improvements	-	-	-	-	-	-	1.521	2.086	3.073	10.240	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
The P-8A Multi-mission Maritime Aircraft (MMA) program is based on an evolutionary acquisition strategy including a sequence of Rapid Capability Insertions (RCI) that will retain cost-wise effectiveness for winning major combat operations beyond 2020. In order to pace the threat, RCIs will incorporate incremental software and hardware improvements to existing sensors, communications systems and weapons capabilities to build on the P-8A Spiral 2 (Increment 3) Applications Based Architecture (ABA) and 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)												
N/A												
C. Other Program Funding Summary (\$ in Millions)												
N/A												
Remarks												
D. Acquisition Strategy												
The P-8A Multi-mission Maritime Aircraft (MMA) program is based on an evolutionary acquisition strategy including a sequence of Rapid Capability Insertions (RCI) that will retain cost-wise effectiveness for winning major combat operations beyond 2020. In order to pace the threat, RCIs will incorporate incremental software and hardware improvements to existing sensors, communications systems and weapons capabilities to build on the P-8A Spiral 2 (Increment 3) Applications Based Architecture (ABA) and 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												
RCI4 contract award scheduled for 2nd quarter 2019.												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014																										
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0605500N / Multi-mssn Maritime Aircraft (MMA) (P-8A)				<b>Project (Number/Name)</b> 9999 / Congressional Adds																											
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>																								
9999: <i>Congressional Adds</i>	10.000	13.489	5.000	-	-	-	-	-	-	-	-	28.489																								
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-																										
<p># The FY 2015 OCO Request will be submitted at a later date.</p> <p><b>A. Mission Description and Budget Item Justification</b> Congressional Add.</p> <p><b>B. Accomplishments/Planned Programs (\$ in Millions)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th><b>FY 2013</b></th> <th><b>FY 2014</b></th> </tr> </thead> <tbody> <tr> <td><b>Congressional Add:</b> Small Business Technology Insertion</td> <td>13.489</td> <td>-</td> </tr> <tr> <td><b>FY 2013 Accomplishments:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td><b>FY 2014 Plans:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td><b>Congressional Add:</b> P-8A Sensor Development - Cong</td> <td>-</td> <td>5.000</td> </tr> <tr> <td><b>FY 2013 Accomplishments:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td><b>FY 2014 Plans:</b> N/A</td> <td></td> <td></td> </tr> <tr> <td><b>Congressional Adds Subtotals</b></td> <td>13.489</td> <td>5.000</td> </tr> </tbody> </table> <p><b>C. Other Program Funding Summary (\$ in Millions)</b> N/A</p> <p><b>Remarks</b></p> <p><b>D. Acquisition Strategy</b> Not required for Congressional Adds.</p> <p><b>E. Performance Metrics</b> Not required for Congressional Adds.</p>														<b>FY 2013</b>	<b>FY 2014</b>	<b>Congressional Add:</b> Small Business Technology Insertion	13.489	-	<b>FY 2013 Accomplishments:</b> N/A			<b>FY 2014 Plans:</b> N/A			<b>Congressional Add:</b> P-8A Sensor Development - Cong	-	5.000	<b>FY 2013 Accomplishments:</b> N/A			<b>FY 2014 Plans:</b> N/A			<b>Congressional Adds Subtotals</b>	13.489	5.000
	<b>FY 2013</b>	<b>FY 2014</b>																																		
<b>Congressional Add:</b> Small Business Technology Insertion	13.489	-																																		
<b>FY 2013 Accomplishments:</b> N/A																																				
<b>FY 2014 Plans:</b> N/A																																				
<b>Congressional Add:</b> P-8A Sensor Development - Cong	-	5.000																																		
<b>FY 2013 Accomplishments:</b> N/A																																				
<b>FY 2014 Plans:</b> N/A																																				
<b>Congressional Adds Subtotals</b>	13.489	5.000																																		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary HW Dev - NAWCAD	WR	NAWC AD : Patuxent River, MD	0.048	0.012	Dec 2013	-		-		-		-	-	0.060	-
Primary HW Dev - Progeny	C/CPFF	PROGENY : Manassas, VA	8.417	4.700	Nov 2013	-		-		-		-	-	13.117	13.117
Primary HW Dev - SBIR - Various	Various	Various : Various	0.583	2.846	Dec 2013	-		-		-		-	-	3.429	-
Primary HD Dev - Prototyping - Various	Various	Various : Various	0.000	4.600	Nov 2013	-		-		-		-	-	4.600	-
Primary HD Dev - Sensor Development	Various	Various : Various	0.000	-		5.000	May 2014	-		-		-	-	5.000	-
Subtotal			9.048	12.158		5.000		-		-		-	-	26.206	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Services	WR	NAWC AD : Paxtuxent River, MD	0.061	0.061	Apr 2014	-		-		-		-	-	0.122	-
Mgmt Suppt Serv (NONFFRDC)	C/CPFF	RBC INC : Alexandria,	0.891	1.270	Mar 2014	-		-		-		-	-	2.161	2.161
Subtotal			0.952	1.331		-		-		-		-	-	2.283	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			10.000	13.489		5.000		-		-		-	-	28.489	-
Remarks															

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2015 Navy</b>	<b>Date: March 2014</b>
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<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					<b>R-1 Program Element (Number/Name)</b> PE 0204202N / DDG-1000							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	1,136.335	120.842	187.904	202.522	-	202.522	128.998	7.226	-	-	-	1,783.827
2464: DD(X) Sys Design, Dev & Integration	868.634	96.144	187.904	202.522	-	202.522	128.998	7.226	-	-	-	1,491.428
4009: Advanced Gun System (AGS) on DD(X)	267.701	24.698	-	-	-	-	-	-	-	-	-	292.399

**MDAP/MAIS Code: 197**

# The FY 2015 OCO Request will be submitted at a later date.

**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>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	124.655	187.910	185.793	-	185.793
Current President's Budget	120.842	187.904	202.522	-	202.522
Total Adjustments	-3.813	-0.006	16.729	-	16.729
• Congressional General Reductions	-	-0.006			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	9.999	-			
• SBIR/STTR Transfer	-3.315	-			
• Program Adjustments	-	-	21.278	-	21.278
• Rate/Misc Adjustments	-	-	-4.549	-	-4.549
• Congressional General Reductions Adjustments	-10.497	-	-	-	-

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0204202N / <i>DDG-1000</i>	
<b><u>Change Summary Explanation</u></b> FY15 change from previous PB submit due to Department's recognition of additional funding requirements and NWCF rate adjustments.		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2464: DD(X) Sys Design, Dev & Integration	868.634	96.144	187.904	202.522	-	202.522	128.998	7.226	-	-	-	1,491.428
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 Release; 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 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 2013	FY 2014	FY 2015
Title: Product / Software Development										64.501	85.131	77.531
										Articles: -	-	-
Description: Software Development												
FY 2013 Accomplishments: Completion of Release 6 Hull, Mechanical & Electrical (HM&E) build. Continuation of development of Release 6 Self Defense Test Ship/Post Delivery Availability (SDTS/PDA) software build. Delivery of engineering builds to SDTS for Total Ship Computing Environment Infrastructure (TSCEI) integration. Began system engineering and development of Post Shakedown Availability (PSA) software release.												
FY 2014 Plans: Complete development and test of Release 6 software build requirements for SDTS/PDA. Complete Multi-Function Radar (MFR) with Volume Search software modifications. Develop capability required to launch and control missiles for Integrated Test ITB-1. Continue development of software build to support 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). Develop corrections to HM&E and combat systems code in support of ship activation.												
FY 2015 Plans: Continue development of software build to support PSA required capabilities. Complete Post Delivery Availability (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 required to correct issues to the												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014			
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 2013	FY 2014	FY 2015
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.						
Title: Test and Evaluation				31.243	102.373	124.700
Articles:				-	-	-
Description: Test and Evaluation Master Plan Execution						
FY 2013 Accomplishments: Continued planning for Developmental Test (DTB3-360) Software Testing. Completed Engineering Survivability Assessments for Live Fire Test and Evaluation. Continued planning for Integrated Test (ITB1-120) Extended Sea Sparrow Missile (ESSM) engagements using the Self Defense Test Ship (SDTS). Prepared for land based testing of Anti-Air Warfare (AAW) SDTS suite at SCSC Wallops Island. Continue development of Modeling and Simulation (M&S) probability of raid and annihilation (PRA) test bed. Initiated M&S measures of effectiveness (MOE) test bed.						
FY 2014 Plans: Procure test ordnance ESSM and STANDARD Missile 2 (SM-2) to conduct Integrated Test (ITB1 - SDTS and ITB3 - Lead Ship) for Anti-Air Warfare Mission Testing. Procure Long Range Land Attack Projectile (LRLAP) rounds, blast shapes, propellant charges and pallets to conduct Integrated Test (ITB3 - Lead Ship) Land Attack Mission Testing. Procure Tomahawk rounds to conduct Integrated Testing (ITB4 - Lead Ship) Land Attack Mission Testing. Conduct SDTS suite land based test at Wallops Island. Conduct DTB3-414 SPY 3 volume surveillance testing at SCSC Wallops Island. Prepare for installation of the AAW suite on the SDTS. Continue development of M&S PRA and MOE.						
FY 2015 Plans: Conduct Integrated Testing (ITB1-120) ESSM engagements using the SDTS. Demonstrate safe firing of a SM-2 on the SDTS. Conduct Integrated Testing (ITB3 - Lead Ship). Procure test ordnance ESSM and SM-2 to conduct Operational Testing and Follow-on Test and Evaluation (FOT&E) for Anti-Air Warfare Mission Testing. Plan Integrated Test (ITB4 - Lead Ship). Procure LRLAP rounds, blast shapes, and pallets to conduct Integrated Test (ITB4 - Lead Ship) Land Attack Mission. Continue development of M&S PRA and MOE. Plan Operational Evaluation.						
Title: Management Support				0.400	0.400	0.291
Articles:				-	-	-
Description: Government and Contractor Engineering Support.						
FY 2013 Accomplishments: Continued to provide travel.						
FY 2014 Plans:						



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015
Continue to provide travel.												
FY 2015 Plans: Continue to provide travel.												
Accomplishments/Planned Programs Subtotals										96.144	187.904	202.522
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• SCN / 2119: DDG 1000	668.339	231.694	419.532	-	419.532	213.368	140.253	-	-	-	3,807.529	
• OMN / 3B1K: Specialized Skill Training (BSO 24)	2.939	3.351	3.173	-	3.173	3.130	3.205	3.183	3.254	-	26.684	
• WPN / 2307: Evolved Sea Sparrow Missile	7.198	-	-	-	-	-	-	-	-	-	7.198	
• RDTE / 0439: Standard Missile Improvement	22.690	12.706	8.825	-	8.825	-	-	-	-	-	61.139	
• PANMC / 0198: LRLAP 6	6.553	3.906	113.092	-	113.092	105.875	93.691	84.961	77.084	-	485.162	
• OPN/9020: OPN Spares	-	4.844	0.975	-	0.975	6.500	-	-	-	-	12.319	
• SCN/5110: Outfitting/Post Delivery	9.130	34.144	79.772	-	79.772	79.262	68.516	7.295	45.957	148.546	476.564	
• OPN/0947: DDG 1000 Class Support Equipment	-	-	2.996	-	2.996	35.099	35.102	3.205	3.209	-	79.611	
• WPN/2356: Standard Missile Mods	-	-	-	-	-	16.600	-	-	-	-	16.600	
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.												

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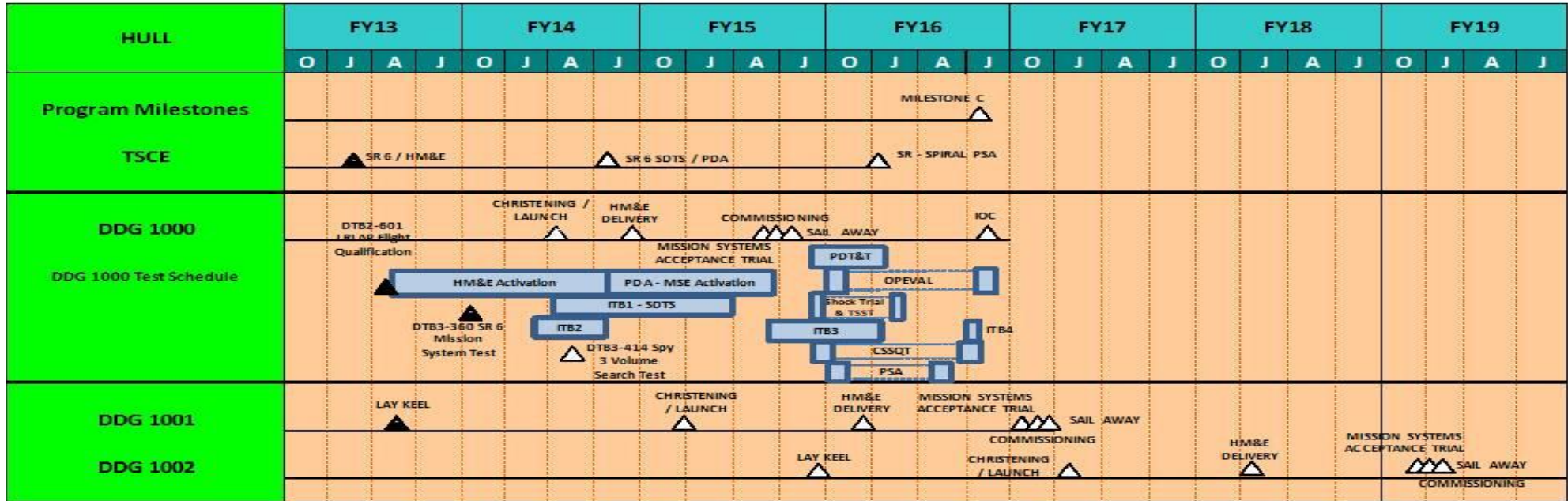
Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0204202N / DDG-1000				Project (Number/Name) 2464 / DD(X) Sys Design, Dev & Integration					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Ship Integration Development Phase IV	SS/CPAF	Raytheon : Tewksbury MA	650.131	64.501	Dec 2012	85.131	Jan 2014	77.531	Dec 2014	-		77.531	87.719	965.013	-
Ship Integration Development	SS/CPFF	Converteam : Pittsburgh, PA	12.250	-		-		-		-		-	-	12.250	-
Subtotal			662.381	64.501		85.131		77.531		-		77.531	87.719	977.263	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SDTS (ITB1-120) / PRA TB	SS/CPFF	Raytheon : Portsmouth, RI	73.426	9.545	Oct 2012	16.981	Jan 2014	15.300	Dec 2014	-		15.300	2.200	117.452	-
T&E Engineering	C/CPIF	CSC : Washington, DC	0.815	0.915	Dec 2012	0.870	Feb 2014	0.991	Dec 2014	-		0.991	1.800	5.391	-
SDTS/PRA	Various	Various : Various	4.634	5.738	Dec 2012	11.094	Dec 2013	40.400	Nov 2014	-		40.400	28.475	90.341	-
PRA/MOE	C/CPIF	NSMA : Arlington, VA	1.700	1.796	Dec 2012	1.000	Feb 2014	2.000	Dec 2014	-		2.000	1.000	7.496	-
Eng/M&S/Cert Agents	WR	NSWC : Dahlgren, VA	4.576	1.352	Dec 2012	2.100	Dec 2013	2.100	Nov 2014	-		2.100	1.800	11.928	-
Integrated Test	WR	NSWC : Bethesda, MD	9.110	0.800	Dec 2012	1.700	Dec 2013	-		-		-	-	11.610	-
SDTS/PRA/Test Bed	Various	Various : Various	6.045	1.438	Nov 2012	1.230	Nov 2013	1.400	Nov 2014	-		1.400	0.200	10.313	-
SDTS	WR	SCSC : Wallops, Is, VA	6.127	0.586	Dec 2012	1.100	Dec 2013	-		-		-	-	7.813	-
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.	3.770	1.102	Dec 2012	1.575	Dec 2013	4.406	Dec 2014	-		4.406	3.125	13.978	-
LRLAP Test Article ITB3/ ITB4 (EMD)	C/CPIF	BAE : Minneapolis, MN	0.000	-		23.250	Feb 2014	34.600	Dec 2014	-		34.600	0.900	58.750	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
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)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
LFT&E Engineering	C/CPIF	ROI : Mullica Hills, NJ	27.071	1.281	Dec 2012	6.900	Feb 2014	0.800	Dec 2014	-		0.800	0.800	36.852	-
ESSM/SM2	C/CPIF	Raytheon : Tucson, AZ	4.715	4.745	Dec 2012	3.600	Feb 2014	14.800	Dec 2014	-		14.800	10.239	38.099	-
MOE Test Bed	WR	NUWC : Newport, RI	0.005	0.573	Dec 2012	0.282	Nov 2013	1.803	Dec 2014	-		1.803	0.800	3.463	-
TTWCS	C/CPIF	Lockheed Martin : Valley Forge, PA	0.000	-		6.000	Feb 2014	-		-		-	-	6.000	-
Travel	Various	NAVSEA : Washington, DC	0.000	0.048	Oct 2012	0.049	Oct 2013	-		-		-	-	0.097	-
SDTS/Integrated Test	Various	PEO IWS : Washington, DC	0.000	1.049	Dec 2012	24.642	Dec 2013	3.400	Nov 2014	-		3.400	1.800	30.891	-
ITB4	C/CPFF	General Dynamics : ME	0.000	-		-		1.900	Dec 2014	-		1.900	-	1.900	-
T&E Engineering	WR	NSWC : Panama City, FL	0.000	0.275	Jan 2013	-		0.800	Dec 2014	-		0.800	-	1.075	-
Subtotal			151.744	31.243		102.373		124.700		-		124.700	53.139	463.199	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	Various	NAVSEA : Washington, DC	2.070	0.400	Dec 2012	0.400	Dec 2013	0.291	Dec 2014	-		0.291	0.400	3.561	-
Government Services Engineering	Various	Various : Various	52.439	-		-		-		-		-	-	52.439	-
Subtotal			54.509	0.400		0.400		0.291		-		0.291	0.400	56.000	-
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			868.634	96.144		187.904		202.522		-		202.522	141.258	1,496.462	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014	
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			
DAB	DEFENSE ACQUISITION BOARD	IOC	INITIAL OPERATIONAL CAPABILITY
DAE	DEFENSE ACQUISITION EXECUTIVE	IPS	INTEGRATED POWER SYSTEM
SR	SOFTWARE RELEASE	ECS	ENGINEERING CONTROL SYSTEM
▲	COMPLETED EVENT	LRLAP	LONG RANGE LAND ATTACK PROJECTILE
HM&E	HULL, MECHANICAL & ELECTRICAL	PD&T	POST DELIVERY TEST & TRIALS
SDTS	SELF-DEFENSE TEST SHIP	TSST	TOTAL SHIP SURVIVABILITY TEST
PDA	POST DELIVERY AVAILABILITY	OPEVAL	OPERATIONAL EVALUATION
PSA	POST SHAKEDOWN AVAILABILITY		

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy			<b>Date:</b> March 2014	
<b>Appropriation/Budget Activity</b> 1319 / 5		<b>R-1 Program Element (Number/Name)</b> PE 0204202N / <i>DDG-1000</i>		<b>Project (Number/Name)</b> 2464 / <i>DD(X) Sys Design, Dev &amp; Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 2464</i></b>				
Software Release SR6 Self Defense Test Ship/Post Delivery Availability	4	2014	4	2014
Conduct ITB-1-120 - SDTS	3	2014	2	2015
Software Release-Spiral Post Shakedown Availability	2	2016	2	2016
Conduct ITB-3	3	2015	2	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0204202N / DDG-1000				Project (Number/Name) 4009 / Advanced Gun System (AGS) on DD(X)			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
4009: Advanced Gun System (AGS) on DD(X)	267.701	24.698	-	-	-	-	-	-	-	-	-	292.399
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
A. Mission Description and Budget Item Justification												
These funds provided for the development of the Advanced Gun System (AGS) and the development, qualification and initial production of the Long Range Land Attack Projectile (LRLAP) associated with the development of DDG 1000. The AGS consists of a major caliber gun, an automated ammunition handling system, and a guided projectile/propelling charge. The AGS will, at a minimum, meet the Land Attack and Surface Dominance Missions assigned to the gun system. The system will provide a high rate of fire (10 rounds per minute) with a magazine capacity of 600 rounds (total for both guns). LRLAP will be stored throughout its life cycle in an 8 round pallet which is handled by the AGS magazine. By palletizing the munition, AGS is able to significantly reduce manning and improve munition reliability, safety and resupply. System Design and Development began in FY06 with final land based qualification testing in FY13. The Long Range Land Attack Projectile (LRLAP) is a rocket-assisted projectile that will deliver a high explosive unitary payload with Global Positioning System (GPS) accuracy. Funding for previous years is included in PE 0604300N.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: System Engineering, Development and Testing  Description: System Engineering, Development and Testing  FY 2013 Accomplishments: LRLAP guided flight tests and qualification testing.  FY 2014 Plans: N/A  FY 2015 Plans: N/A									24.698	-	-	
									Articles: -	-	-	
Accomplishments/Planned Programs Subtotals									24.698	-	-	
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• SCN / 2119: DDG 1000	668.339	231.694	419.532	-	419.532	213.368	140.253	-	-	-	3,807.529	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014		
Appropriation/Budget Activity 1319 / 5				R-1 Program Element (Number/Name) PE 0204202N / DDG-1000				Project (Number/Name) 4009 / Advanced Gun System (AGS) on DD(X)			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OMN / 3B1K: Specialized Skill Training (BSO 24)	2.939	3.351	3.173	-	3.173	3.130	3.205	3.183	3.254	-	26.684
• WPN / 2307: Evolved Sea Sparrow Missile	7.198	-	-	-	-	-	-	-	-	-	7.198
• RDTE / 0439: Standard Missile Improvement	22.690	12.706	8.825	-	8.825	-	-	-	-	-	61.139
• PANMC/0198: LRLAP 6	6.553	3.906	113.092	-	113.092	105.875	93.691	84.961	77.084	-	485.162
• OPN/9020: OPN Spares	-	4.844	0.975	-	0.975	6.500	-	-	-	-	12.319
• SCN/5110: Outfitting/Post Delivery	9.130	34.144	79.772	-	79.772	79.262	68.516	7.295	45.957	148.546	476.564
• OPN/0947: DDG 1000 Class Support Equipment	-	-	2.996	-	2.996	35.099	35.102	3.205	3.209	-	79.611
• WPN/2356: Standard Missile Mods	-	-	-	-	-	16.600	-	-	-	-	16.600
Remarks											
D. Acquisition Strategy											
A revised acquisition strategy was determined that supports the DDG-1000/DDG-51 restart shipyard allocation workload MOAs. Execution of the MOAs shifted primary construction of all three DDG-1000 class ships to Bath Iron Works (BIW). DDG 1001/1002 awarded to BIW 4th quarter FY11. AGS is developed via a sole source contract to BAE. Lockheed is the key supplier to BAE for LRLAP development.											
E. Performance Metrics											
Successfully achieve LRIP Decision. Successfully achieve Integrated Operational Capability. Successfully complete LRLAP guided flights and Initial Operational Test and Evaluation (IOT&E) test events.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy												Date: March 2014			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0204202N / DDG-1000				Project (Number/Name) 4009 / Advanced Gun System (AGS) on DD(X)					
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPAF	BAE : Minneapolis MN	246.602	14.879	Dec 2012	-		-		-		-	-	261.481	-
Subtotal			246.602	14.879		-		-		-		-	-	261.481	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	Various	Various : Not Specified	6.872	-		-		-		-		-	-	6.872	-
Test and Evaluation	WR	White Sands Missile Range : New Mexico	5.596	4.298	Nov 2012	-		-		-		-	-	9.894	-
Subtotal			12.468	4.298		-		-		-		-	-	16.766	-
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Services	Various	Various : Not Specified	1.202	0.320	Dec 2012	-		-		-		-	-	1.522	-
Government Engineering Services	WR	NSWC DD : Dahlgren VA	4.883	2.470	Nov 2012	-		-		-		-	-	7.353	-
Government Engineering Services	WR	NSWC PHD : Pt Hueneme CA	0.816	0.321	Nov 2012	-		-		-		-	-	1.137	-
Government Engineering Services	WR	NSWC IHD : Indian Head MD	1.505	1.458	Nov 2012	-		-		-		-	-	2.963	-
Government Engineering Services	WR	NAWC, China Lake : China Lake, CA	0.225	0.952	Nov 2012	-		-		-		-	-	1.177	-
Subtotal			8.631	5.521		-		-		-		-	-	14.152	-



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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy										Date: March 2014					
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0204202N / DDG-1000					Project (Number/Name) 4009 / Advanced Gun System (AGS) on DD(X)					
			Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			267.701	24.698		-		-		-		-	-	292.399	-

Remarks

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

Date: March 2014

Appropriation/Budget Activity  
1319 / 5

R-1 Program Element (Number/Name)  
PE 0204202N / DDG-1000

Project (Number/Name)  
4009 / Advanced Gun System (AGS) on  
DD(X)

	FY13				FY14				FY15				FY16				FY17				FY18				FY19			
LRLAP Phase/ Milestones	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
Reviews	Sys. Dev. and Demo																											
Major Component Tests	CDR																											
Guided Flight Tests	Component/AUR Qualification																											
	Live Fire Tests																											
	DT Guided Flights																											

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0204202N / <i>DDG-1000</i>	<b>Project (Number/Name)</b> 4009 / <i>Advanced Gun System (AGS) on DD(X)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>Proj 4009</i></b>				
Critical Design Review (CDR)	3	2013	3	2013
Component/AUR Qualification	1	2013	4	2013
Live Fire Tests	1	2013	4	2013
DT Guided Flights	1	2013	4	2013

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2015 Navy **Date:** March 2014

<b>Appropriation/Budget Activity</b> 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	<b>R-1 Program Element (Number/Name)</b> PE 0304231N / Tactical Command System - MIP
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COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	2.290	1.072	2.140	1.011	-	1.011	1.007	1.016	1.045	1.073	Continuing	Continuing
2009: OSIS Evolutionary Development (OED)	2.290	1.072	2.140	1.011	-	1.011	1.007	1.016	1.045	1.073	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## 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 FY15: Commence RM Version 6.x development and begin the certification process.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO</b>	<b>FY 2015 Total</b>
Previous President's Budget	1.170	2.140	1.171	-	1.171
Current President's Budget	1.072	2.140	1.011	-	1.011
Total Adjustments	-0.098	-	-0.160	-	-0.160
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-0.001	-	-0.160	-	-0.160
• Congressional General Reductions Adjustments	-0.097	-	-	-	-

## Change Summary Explanation

Schedule:

1. Certification Test & Evaluation (CT&E) of Radiant Mercury (RM) Version 5.1 shifted from 3QFY12 to 3QFY13 due to National Security Agency (NSA) schedule delays.
2. Delivery of RM Version 5.1 shifted from 2QFY13 to 4QFY13 due to NSA schedule delays.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
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 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2009: OSIS Evolutionary Development (OED)	2.290	1.072	2.140	1.011	-	1.011	1.007	1.016	1.045	1.073	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
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 (NCDOD), 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 FY15: Commence RM Version 6.x development and begin the certification process.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)									FY 2013	FY 2014	FY 2015	
Title: Radiant Mercury (RM)									1.072	2.140	1.011	
									Articles: -	-	-	
FY 2013 Accomplishments: Completed development of Radiant Mercury (RM) Version 5.1, representing a critical interim step in RM's ultimate migration to Security Enhanced (SE) Linux in Version 6.0 and continued certification and delivery of RM Version 5.1. Version 5.1 allows RM to use a new, non-proprietary Lightweight Directory Access Protocol (LDAP) server to provide multi-zone user authentication and removed a dependency on the current vendor who introduced a new licensing model which had the potential to significantly												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy							Date: March 2014				
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>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							FY 2013	FY 2014	FY 2015		
raise the cost of using their products. Commenced development definition of RM Version 6.0 to run on SE Linux, removing further dependency on proprietary vendor products.											
<b>FY 2014 Plans:</b> Complete development of the 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 and customers. SE Linux will allow the developer to customize the Operating System (OS) for the RM application, increasing processing speed and improving security. Improve 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 configure the system. Use Free and Open Source Software (FOSS) to manage the log, audit reduction, and mission assessment capabilities. Enhance Message Analysis Generator (MAG) Generic Interface Functionality (MGIF) in order to take advantage of software and capabilities developed elsewhere within the Navy, DoD, and the Intelligence Communities (IC). Complete certification testing.											
<b>FY 2015 Plans:</b> Deliver RM Version 6.0. Commence RM Version 6.x development and begin the certification 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 FY16. In parallel to these testing activities, the software will also be provided to several RM customers who maintain their own labs. These customers will provide valuable feedback on the stability and utility of the new software.											
Accomplishments/Planned Programs Subtotals							1.072	2.140	1.011		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPN/2608: Trusted Information System (TIS)	0.428	0.396	0.324	-	0.324	0.286	0.293	0.298	0.305	Continuing	Continuing
Remarks											
<b>D. Acquisition Strategy</b>											
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											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0304231N / <i>Tactical Command System - MIP</i>	<b>Project (Number/Name)</b> 2009 / <i>OSIS Evolutionary Development (OED)</i>
<p>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.</p> <p><b><u>E. Performance Metrics</u></b></p> <p>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.</p> <p>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.</p>		



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PE 0304231N: *Tactical Command System - MIP*  
Navy

**Volume 3 - 1025**

R-1 Program Element (Number/Name)	Program Element Description	Program Element Status	Program Element Comments

PE 0304231N / Tactical Command System -  
MIP

2009 / OSIS Evolutionary Development (OED)

Fiscal Year	2013				2014				2015				2016				2017				2018				2019			
	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
Test & Evaluation																												
Certification Test			CT&E - RM Version 5.1 ▲					△ CT&E - RM Version 6.0							CT&E - RM Version 6.x △					△ CT&E - RM Version 7.0								△ CT&E - RM Version 7.x
RM Software Deliveries			DELIVERY RM Version 5.1 ▲					△ DELIVERY RM Version 6.0							△ DELIVERY RM Version 6.x													△ DELIVERY RM Version 7.0

Exhibit R-4. Schedule Profile

1. CT&E of RM Version 5.1 slipped from 3Q 2012 to 3Q 2013 due to NSA schedule delays.
2. Delivery of RM Version 5.1 slipped from 2Q 2013 to 4Q 2013 due to NSA Schedule delays.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0304785N / Tactical Cryptologic Systems							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	237.065	21.362	9.406	10.357	-	10.357	18.949	14.507	11.958	25.161	Continuing	Continuing
2134.: Shipboard IW Exploit	237.065	21.362	9.406	10.357	-	10.357	18.949	14.507	11.958	25.161	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

## 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)."

Integrated Communications and Data System (ICADS) AN/URC-148(V) is a Chief of Naval Operations (CNO) directed mission critical system which provides limited back-up, mobile communications capability for large deck naval platforms. The system provides a reliable, limited solution for re-establishing command and control for high value unit, subordinate units, and controlling fleet entities. ICADS is comprised of several mature systems. Specific program details held at a higher classification.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy				Date: March 2014	
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0304785N / Tactical Cryptologic Systems			
B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	23.255	9.406	9.340	-	9.340
Current President's Budget	21.362	9.406	10.357	-	10.357
Total Adjustments	-1.893	-	1.017	-	1.017
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	6.902	-	6.902
• Rate/Misc Adjustments	-0.001	-	-5.885	-	-5.885
• Congressional General Reductions Adjustments	-1.892	-	-	-	-
Change Summary Explanation					
Increase in funding from FY14 to FY15 due to technical adjustment in FY15 in support of counter C4ISR GRAYWING/PARAGON capabilities for SSEE Programs. Funds to support developmental efforts in support of FRP and achieve IOC.					
Schedule changes:					
SSEE Mods - Milestone C Decision slipped from FY13Q3 to FY14Q1.					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0304785N / <i>Tactical Cryptologic Systems</i>				Project (Number/Name) 2134. / <i>Shipboard IW Exploit</i>			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2134.: <i>Shipboard IW Exploit</i>	237.065	21.362	9.406	10.357	-	10.357	18.949	14.507	11.958	25.161	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

# The FY 2015 OCO Request will be submitted at a later date.

## 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 SSEE Inc F 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 Electronic Warfare (EW) Battle Management Network. 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

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0304785N / Tactical Cryptologic Systems	Project (Number/Name) 2134. / Shipboard IW Exploit
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.		
Integrated Communications and Data System (ICADS) AN/URC-148(V) is a Chief of Naval Operations (CNO) directed mission critical system which provides limited back-up, mobile communications capability for large deck naval platforms. The system provides a reliable, limited solution for re-establishing command and control for high value unit, subordinate units, and controlling fleet entities. ICADS is comprised of several mature systems. Specific program details held at a higher classification.		
FY15 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.		
FY15 funding for SSEE Inc G will be used to complete acquisition activities, contract development, and continue to integrate and improve upon all aspects of the "BMD EXCOM ASW CNO CEB IO Countermeasure Red Flash/Medusa" in support of a MS B in FY 16. Expand upon the SSEE Inc F 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 Electronic Warfare (EW) Battle Management Network		
FY15 funding for SSEE Modifications will complete 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 enhance system capabilities for Graywing and Paragon in order to meet FRP performance thresholds.		
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)		
Title: Ship's Signal Exploitation Equipment Inc F (SSEE Inc F)		
Articles:		
FY 2013 Accomplishments:		
Expanded Signal 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. Developed and delivered Electronic		

	FY 2013	FY 2014	FY 2015
1.311	1.311	2.119	1.554
-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014			
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 2013	FY 2014	FY 2015
<p>Warfare (EW) capabilities based on FY13 SOI threats for integration into SSEE Inc F. Developed usability enhancements to increase afloat warfighter effectiveness. Enhanced the SSEE Inc F remote capabilities providing increased functionality and capabilities to remote users. Continued software and hardware development of Medusa for inclusion into the Ship's Signal Exploitation Equipment (SSEE) Increment (Inc) F hotel rack. Began Medusa Phase II hardware and software development.</p> <p><b>FY 2014 Plans:</b></p> <p>Continue pre-planned product improvements (P3I) to provide enhanced and additional capabilities into the SSEE Inc F system. Expand SOI processing capabilities to allow collection of the newest high priority modern technology threat signals for tightly integrated IO/non-kinetic capabilities. Continue development and deliver EW capabilities based upon the warfighter identified, FY14 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. Incorporate the next incremental software build, which will also allow transition of the SSEE Inc F software Graphic User Interface (GUIs) to SSEE Inc E. Continue development of third party software, including an Interface Control Drawing (ICD) and Software Development Kit (SDK) processes, which will allow new capabilities to be hosted into the SSEE Inc F system in support of the "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa". Continue hardware and software development of Medusa Phase II.</p> <p><b>FY 2015 Plans:</b></p> <p>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 HW 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.</p>						
<p><b>Title:</b> Ship's Signal Exploitation Equipment Inc G (SSEE Inc G)</p> <p><b>Articles:</b></p> <p><b>FY 2013 Accomplishments:</b></p> <p>Commenced pre-acquisition activities with a focus on developing, analyzing, and documenting the results of the research studies on cyber capabilities (details classified) and their incorporation into SSEE Inc G. Developed a notional SSEE Inc G schedule and Plan of Actions and Milestones (POAM) through FY19.</p> <p><b>FY 2014 Plans:</b></p>				0.680 -	0.840 -	1.472 -

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
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 2013	FY 2014	FY 2015
Continue with pre-acquisition activities to prepare requirements documents, AoA analysis and preparation to support a milestone (MS) B in FY16.  FY 2015 Plans: Complete acquisition activities, contract development, and continue to integrate and improve upon all aspects of the "BMD EXCOM ASW CNO CEB IO Countermeasure Red Flash/Medusa" in support of a MS B in FY 16.				
Title: Integrated Communications and Data Systems (ICADS)  FY 2013 Accomplishments: Developed and integrated ICADS Lite system design variants to provide the warfighter with a smaller scalable system to meet COMPACFLT emerging requirements. Specific program details held at a higher classification.  FY 2014 Plans: N/A  FY 2015 Plans: N/A		3.527 Articles: -	- -	- -
Title: Ship's Signal Exploitation Equipment Inc E (SSEE Inc E)  FY 2013 Accomplishments: Complete software development of Medusa Phase II which integrates the Direction Finding (DF) and Information Operations (IO) capabilities to the SSEE Inc E system.  FY 2014 Plans: Integrate, assemble and test Medusa Splitrock capabilities to the SSEE Inc E System  FY 2015 Plans: N/A		0.361 Articles: -	0.200 -	- -
Title: SSEE Modifications  FY 2013 Accomplishments: Accelerated development, integration and testing of the Paragon and Graywing capability. Completed Phase I development towards MS C. Fabricated High Gain Information Operation (HGIO) and Hemispherical Broad Band Direction Finding antennas and below-deck rack components. Integrated topside components, Paragon, and Graywing into Engineering Design Model		14.386 Articles: -	5.348 -	7.331 -



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014		
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0304785N / <i>Tactical Cryptologic Systems</i>	Project (Number/Name) 2134. / <i>Shipboard IW Exploit</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2013	FY 2014	FY 2015
(EDM) #2. Conducted SSEE Modifications Performance Acceptance Testing (PAT), stress testing, quality assurance dry runs, engineering dry runs, and Factory Acceptance Testing (FAT). Developed and taught maintenance and operators training curriculum for Graywing, Paragon, and the HGIO. Constructed Interactive Electronic Technical Manual (IETM). Conducted SSEE Modifications Developmental Test (DT)/Operational Assessment (OA) in support of MS C. Commenced Phase 1.5 development needed to support a Full Rate Production (FRP) decision which includes Information Operations (IO) path calibration, Radio Frequency Direction (RFD) automation, new software to correct system bias, and Special Performance Report (SPR) fixes to correct discrepancies uncovered during integration and testing.  <b>FY 2014 Plans:</b> Complete Phase 1.5 development for Operational Testing (OT) and commence 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 FRP performance thresholds. Integrate SSEE Modifications with SSEE Increment F special capabilities. Continue support of SSEE Modifications Low Rate Initial Production (LRIP) system to MIL-STD-461F and MIL-STD-464C standards. Conduct topside survey for SSEE Modifications installation on ARLEIGH BURKE Flight IIA Class Destroyers. Develop Level 3 Technical Data Packages.  <b>FY 2015 Plans:</b> 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.				
Title: Shipboard IW Exploit  <b>Articles:</b>  <b>FY 2013 Accomplishments:</b> Shore based Graywing: - Assembled system and performed end-to-end hardware testing. - Integrated and tested the control software including user interface for operations, displays and diagnostics. - Integrated and tested the Mission Planning Tool modified for land operation. - Performed end-to-end testing of the system. Document resulted in after-test reports.		1.097 -	0.899 -	- -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy							<b>Date:</b> March 2014				
<b>Appropriation/Budget Activity</b> 1319 / 5				<b>R-1 Program Element (Number/Name)</b> PE 0304785N / <i>Tactical Cryptologic Systems</i>		<b>Project (Number/Name)</b> 2134. / <i>Shipboard IW Exploit</i>					
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>							<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>		
- Developed operator user manuals, diagnostic procedures and a capabilities description.  Medusa Upgrade: - Conducted benchtop testing of new Medusa firmware against designated signals. - Conducted field test against surrogate threat system. Documented test results. - Documented firmware modifications.  <b>FY 2014 Plans:</b> 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.  <b>FY 2015 Plans:</b> N/A											
<b>Accomplishments/Planned Programs Subtotals</b>							21.362	9.406	10.357		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u> <u>Base</u>	<u>FY 2015</u> <u>OCO</u>	<u>FY 2015</u> <u>Total</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN / 2360: <i>Shipboard IW Exploit</i>	90.027	100.736	124.862	-	124.862	145.987	157.602	165.884	188.683	Continuing	Continuing
• OPN / 2188: <i>Electronic Warfare MILDEC</i>	-	8.958	-	-	-	-	-	-	-	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
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											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy		<b>Date:</b> March 2014
<b>Appropriation/Budget Activity</b> 1319 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0304785N / <i>Tactical Cryptologic Systems</i>	<b>Project (Number/Name)</b> 2134. / <i>Shipboard IW Exploit</i>
<p>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.</p> <p><b>E. Performance Metrics</b></p> <p>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. 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.</p>		

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PE 0304785N: *Tactical Cryptologic Systems*  
Navy

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PE 0304785N / Tactical Cryptologic Systems

2134. *I Shipboard IW Exploit*EXHIBIT R4. Schedule Profile

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

Date: March 2014

Appropriation/Budget Activity

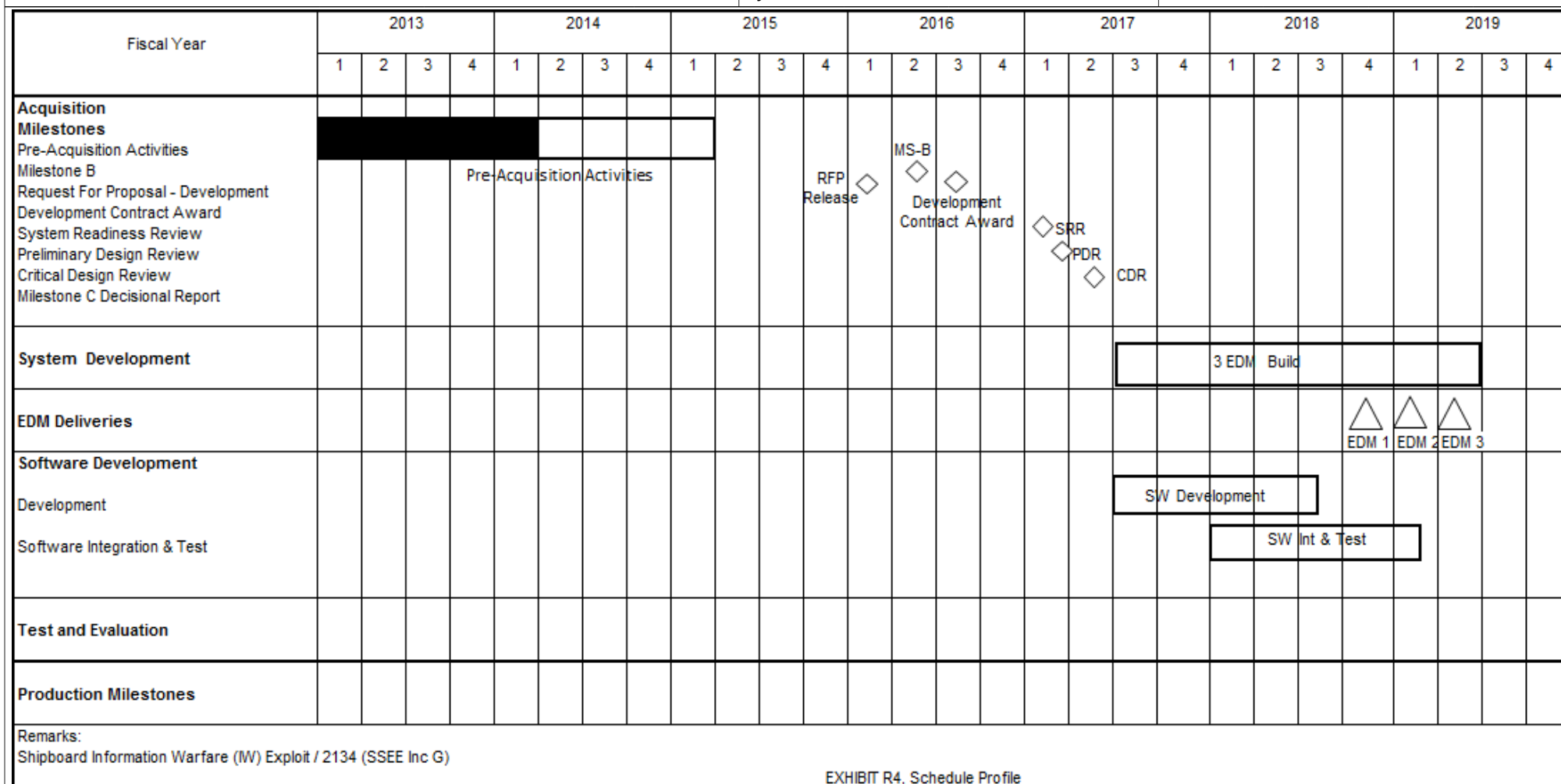
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R-1 Program Element (Number/Name)

PE 0304785N / Tactical Cryptologic Systems

Project (Number/Name)

2134. / Shipboard IW Exploit



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PE 0304785N: *Tactical Cryptologic Systems*  
Navy

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PE 0304785N / Tactical Cryptologic Systems

2134. *I Shipboard IW Exploit*

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 7 Systems, 1 Maintenance Training Systems 5) FY17 Production Milestones include 10 Systems and 2 Operator Training System 6) FY18 Production Milestones include 9 Systems and 1 Operator Training System 7) SSEE MODS Software development integrated and tested in junction with SSEE INC F Software builds.
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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 7 Systems, 1 Maintenance Training Systems
- 5) FY17 Production Milestones include 10 Systems and 2 Operator Training System
- 6) FY18 Production Milestones include 9 Systems and 1 Operator Training System
- 7) SSEE MODS Software development integrated and tested in junction with SSEE INC F Software builds.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy										Date: March 2014		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0305124N / Special Applications Program							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	0.000	-	22.800	23.975	-	23.975	47.451	48.101	49.051	49.983	Continuing	Continuing
3103: Intelligence Engineering	0.000	-	22.800	23.975	-	23.975	47.451	48.101	49.051	49.983	Continuing	Continuing

# The FY 2015 OCO Request will be submitted at a later date.

**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>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2013</u></b>	<b><u>FY 2014</u></b>	<b><u>FY 2015 Base</u></b>	<b><u>FY 2015 OCO</u></b>	<b><u>FY 2015 Total</u></b>
Previous President's Budget	-	22.800	26.000	-	26.000
Current President's Budget	-	22.800	23.975	-	23.975
Total Adjustments	-	-	-2.025	-	-2.025
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-2.025	-	-2.025

**Change Summary Explanation**

Technical: Details held at higher classification.

Schedule: Details held at higher classification.

**UNCLASSIFIED**

<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2015 Navy										<b>Date:</b> March 2014																						
<b>Appropriation/Budget Activity</b> 1319 / 5					<b>R-1 Program Element (Number/Name)</b> PE 0305124N / <i>Special Applications Program</i>				<b>Project (Number/Name)</b> 3103 / <i>Intelligence Engineering</i>																							
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015 Base</b>	<b>FY 2015 OCO #</b>	<b>FY 2015 Total</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>Cost To Complete</b>	<b>Total Cost</b>																				
3103: <i>Intelligence Engineering</i>	-	-	22.800	23.975	-	23.975	47.451	48.101	49.051	49.983	Continuing	Continuing																				
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-																						
<p># The FY 2015 OCO Request will be submitted at a later date.</p> <p><b>A. Mission Description and Budget Item Justification</b>            Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.</p> <p><b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b></p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td align="center"><b>FY 2013</b></td> <td align="center"><b>FY 2014</b></td> <td align="center"><b>FY 2015</b></td> </tr> <tr> <td><b>Title:</b> Intelligence Engineering</td> <td align="center">-</td> <td align="center">22.800</td> <td align="center">23.975</td> </tr> <tr> <td align="right"><b>Articles:</b></td> <td align="center">-</td> <td align="center">-</td> <td align="center">-</td> </tr> <tr> <td colspan="4"> <p><b>Description:</b> Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.</p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b>                Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.</p> <p><b>FY 2015 Plans:</b>                Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.</p> </td> </tr> <tr> <td align="right" colspan="2"><b>Accomplishments/Planned Programs Subtotals</b></td> <td align="center">-</td> <td align="center">22.800</td> </tr> </table> <p><b>C. Other Program Funding Summary (\$ in Millions)</b> N/A</p> <p><b>Remarks</b></p> <p><b>D. Acquisition Strategy</b>            Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.</p>														<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Title:</b> Intelligence Engineering	-	22.800	23.975	<b>Articles:</b>	-	-	-	<p><b>Description:</b> Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.</p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b>                Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.</p> <p><b>FY 2015 Plans:</b>                Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.</p>				<b>Accomplishments/Planned Programs Subtotals</b>		-	22.800
	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>																													
<b>Title:</b> Intelligence Engineering	-	22.800	23.975																													
<b>Articles:</b>	-	-	-																													
<p><b>Description:</b> Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.</p> <p><b>FY 2013 Accomplishments:</b> N/A</p> <p><b>FY 2014 Plans:</b>                Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.</p> <p><b>FY 2015 Plans:</b>                Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.</p>																																
<b>Accomplishments/Planned Programs Subtotals</b>		-	22.800																													



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0305124N / <i>Special Applications Program</i>	Project (Number/Name) 3103 / <i>Intelligence Engineering</i>

E. Performance Metrics

Additional details with respect to this line item are held at a higher classification. This line item is reported to Congress via separate channels.

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