Department of Defense
Fiscal Year (FY) 2015 Budget Estimates

March 2014

Navy

Justification Book Volume 5

Research, Development, Test & Evaluation, Navy

Budget Activity 7

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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
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Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(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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Department of the Navy
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Summary Recap of FYDP Programs					
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Intelligence and Communications	1,095,183	659,017		659,017	764,066
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Central Supply and Maintenance	89,222	83,973		83,973	62,684
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Classified Programs	1,266,818	1,385,048	34,426	1,419,474	1,162,684
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21 Feb 2014

Appropriation: 1319N Research, Development, Test & 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	Sec
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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Appropriation: 1319N Research, Development, Test & 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	Sec
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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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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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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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 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	Sec
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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Budget Activity 02: Applied Research
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12	02	0602747N	Undersea Warfare Applied Res	Volume 1 - 239
13	02	0602750N	(U)Future Naval Capabilities Applied Research	Volume 1 - 249
14	02	0602782N	Mine & Exp Warfare Applied Res	Volume 1 - 289

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19	03	0603651M	JT Non-Lethal Wpns Tech Dev	Volume 1 - 361
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Budget Activity 03: Advanced Technology Development (ATD)
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75	04	0604122N	Remote Minehunting System (RMS)	Volume 2 - 615
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208	07	0303140N	Information Sys Security Program	Volume 5 - 659
209	07	0303150M	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	Volume 5 - 679
211	07	0305149N	Cobra Judy	Volume 5 - 683
212	07	0305160N	Navy Meteorological and Ocean Sensors-Space(METOC)	Volume 5 - 687
213	07	0305192N	JT Military Intel Programs	Volume 5 - 693
214	07	0305204N	Tactical Unmanned Aer Vehicles	Volume 5 - 695
215	07	0305207N	Manned Reconnaissance Sys	Volume 5 - 703
216	07	0305208M	(U)Distributed Common Ground/Surface Systems	Volume 5 - 707
217	07	0305208N	Distributed Common Ground Sys	Volume 5 - 715
218	07	0305220N	RQ-4 UAV	Volume 5 - 731
219	07	0305231N	MQ-8 UAV	Volume 5 - 743
220	07	0305232M	RQ-11 UAV	Volume 5 - 755
221	07	0305233N	RQ-7 UAV	Volume 5 - 759

Budget Activity 07: Operational Systems Development
Appropriation 1319: Research, Development, Test & Evaluation, Navy

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
222	07	0305234N	(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)	Volume 5 - 763
223	07	0305239M	(U)RQ-21A	Volume 5 - 769
224	07	0305241N	(U) MULTI-INTELLIGENCE SENSOR DEVELOPMENT	Volume 5 - 775
225	07	0305242M	Unmanned Aerial Systems (UAS) Payloads	Volume 5 - 777
226	07	0308601N	Modeling & Simulation Support	Volume 5 - 781
227	07	0702207N	Depot Maintenance (NON-IF)	Volume 5 - 791
228	07	0708011N	Industrial Preparedness	Volume 5 - 799
229	07	0708730N	Maritime Tech (MARITECH)	Volume 5 - 811

Program Element Table of Contents (Alphabetically by Program Element Title)

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
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(U)CARRIER ONBOARD DELIVERY (COD) FOLLOW ON	0605525N	170	07	Volume 5 - 19
(U)Distributed Common Ground/Surface Systems	0305208M	216	07	Volume 5 - 707
(U)Ground/Air Task Oriented Radar (G/ATOR)	0204460M	184	07	Volume 5 - 165
(U)MARINE CORPS DATA SYSTEMS	0604766M	169	07	Volume 5 - 15
(U)RQ-21A	0305239M	223	07	Volume 5 - 769
(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)	0305234N	222	07	Volume 5 - 763
(U)STRIKE WEAPONS DEVELOPMENT	0605555N	171	07	Volume 5 - 23
AMRAAM	0207163N	201	07	Volume 5 - 605
Amphibious Tactical Supt Units	0204413N	183	07	Volume 5 - 157
Aviation Improvements	0205633N	192	07	Volume 5 - 275
Cobra Judy	0305149N	211	07	Volume 5 - 683
Common Aviation Command and Control System (CAC2S)	0206335M	196	07	Volume 5 - 423
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Consolidated Trng Sys Dev	0204571N	185	07	Volume 5 - 173
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Elect Warfare Readiness Supt	0204575N	187	07	Volume 5 - 205
F/A-18 Squadrons	0204136N	177	07	Volume 5 - 89
Fleet Tactical Development	0204163N	179	07	Volume 5 - 121
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Harpoon Modifications	0604227N	167	07	Volume 5 - 1
Industrial Preparedness	0708011N	228	07	Volume 5 - 799
Information Sys Security Program	0303140N	208	07	Volume 5 - 659
Integrated Surveillance System	0204311N	182	07	Volume 5 - 147
JT Military Intel Programs	0305192N	213	07	Volume 5 - 693
Joint High Speed Vessel (JHSV)	0208058N	202	07	Volume 5 - 615
MC Ground Cmbt Spt Arms Sys	0206623M	197	07	Volume 5 - 433
MK-48 ADCAP	0205632N	191	07	Volume 5 - 269
MQ-8 UAV	0305231N	219	07	Volume 5 - 743
Manned Reconnaissance Sys	0305207N	215	07	Volume 5 - 703
Marine Corps Cmbt Services Supt	0206624M	198	07	Volume 5 - 509
Marine Corps Comms Systems	0206313M	195	07	Volume 5 - 317
Maritime Tech (MARITECH)	0708730N	229	07	Volume 5 - 811

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
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Navy Meteorological and Ocean Sensors-Space(METOC)	0305160N	212	07	Volume 5 - 687
Navy Science Assistance Progr	0205658N	193	07	Volume 5 - 307
Navy Strategic Comms	0101402N	175	07	Volume 5 - 65
Operational Nuclear Power Sys	0205675N	194	07	Volume 5 - 315
RQ-11 UAV	0305232M	220	07	Volume 5 - 755
RQ-4 UAV	0305220N	218	07	Volume 5 - 731
RQ-7 UAV	0305233N	221	07	Volume 5 - 759
Rapid Technology Transition (RTT)	0203761N	176	07	Volume 5 - 79
SSBN Security Tech Program	0101224N	173	07	Volume 5 - 57
Satellite Communications (Space)	0303109N	206	07	Volume 5 - 619
Strategic Sub & Wpns Sys Supt	0101221N	172	07	Volume 5 - 33
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Surface ASW Cmbt Sys Integr	0205620N	190	07	Volume 5 - 261
Surface Support	0204228N	180	07	Volume 5 - 131
Tactical Aim Missiles	0207161N	200	07	Volume 5 - 587
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Tomahawk Mssn Planning Ctr	0204229N	181	07	Volume 5 - 137

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
USMC Intelligence/Electronics Warfare Sys	0206625M	199	07	Volume 5 - 559
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Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev	0604402N	168	07	Volume 5 - 5
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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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0604227N *I Harpoon Modifications*

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	-	0.699	-	-	-	-	-	-	-	-	0.699
1843: *Harpoon Block III*	0.000	-	0.699	-	-	-	-	-	-	-	-	0.699

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

A. Mission Description and Budget Item Justification

The MK607 containers are used to transport and store two (2) AGM-84 Harpoon missiles. Designed in the mid 1970s, it has an internal aluminum saddle, a steel cradle frame and fiberglass shell. Current design allows for moisture intrusion and provides marginal Insensitive Munitions (IM) performance.

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	0.699	-	-	-
Current President's Budget	-	0.699	-	-	-
Total Adjustments	-	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0604227N / *Harpoon Modifications*	Project (Number/Name) 1843 / *Harpoon Block III*	

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
1843: *Harpoon Block III*	-	-	0.699	-	-	-	-	-	-	-	-	0.699
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 MK607 containers are used to transport and store two (2) AGM-84 Harpoon missiles. Designed in the mid 1970s, it has an internal aluminum saddle, a steel cradle frame and fiberglass shell. Current design allows for moisture intrusion and provides marginal Insensitive Munitions (IM) performance.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Air Harpoon Container	-	0.699	-
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: The Air Harpoon shipping container is being redesigned because the current container, MK-607, has experienced numerous instances of moisture intrusion which has damaged missiles beyond economical repair. FY14 funds are required to address cracking encountered during the original design testing. Funds are required to complete IM test of redesigned container, and post-test assessment of MIL-STD-901d Ship Shock compliance. Recent conventional ordnance deficiency report provides increased emphasis on the need to complete. The new design for the container will finish qualification testing in FY-14 at the field activities.			
FY 2015 Plans: N/A			
Accomplishments/Planned Programs Subtotals	-	0.699	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

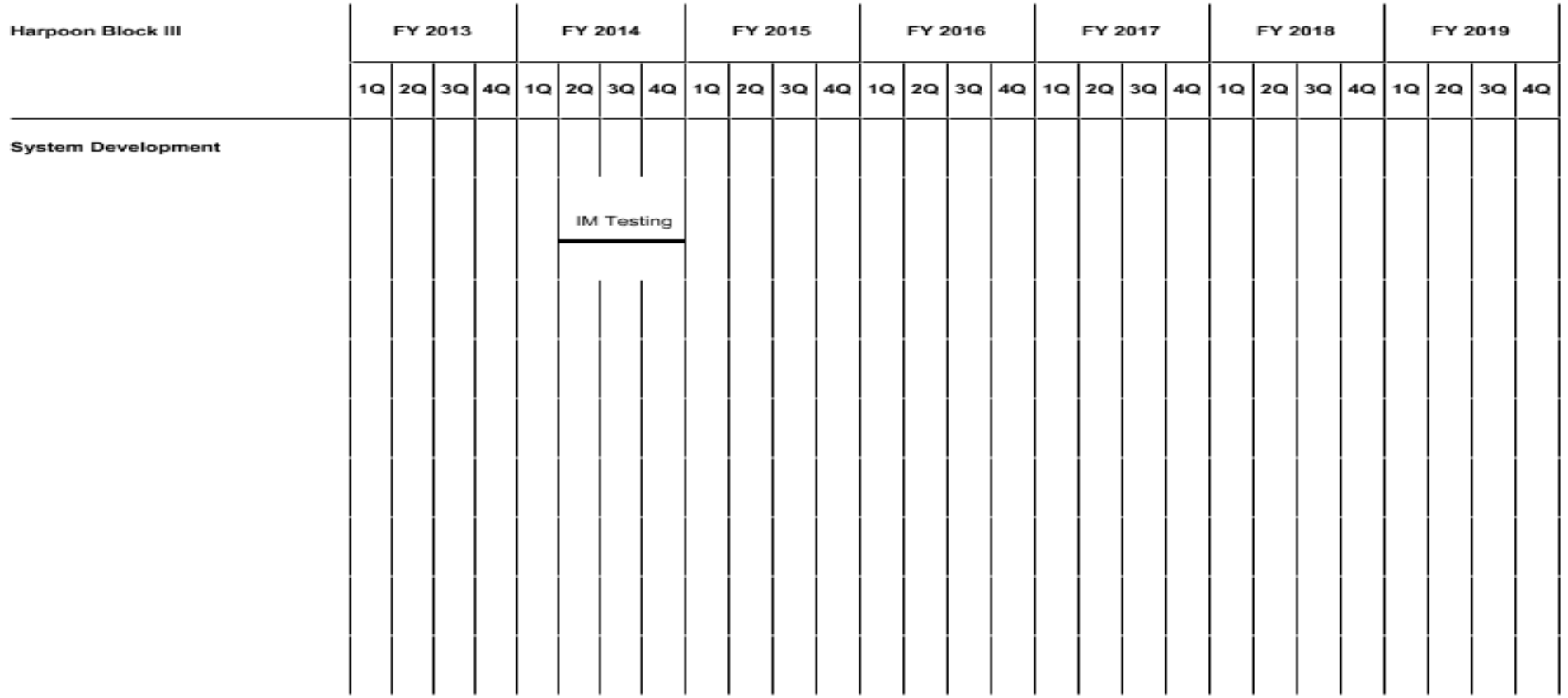
D. Acquisition Strategy

Following the completion of the qualification testing a Firm Fixed Price contract will be competed to procure 250 containers starting FY16.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0604227N / *Harpoon Modifications*	**Project (Number/Name)** 1843 / *Harpoon Block III*



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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0604402N *I Unmanned Combat Air Veh(UCAV) Adv Cp/Proto 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	1,237.637	128.135	20.961	35.949	-	35.949	-	-	-	-	-	1,422.682
3178: *Unmanned Combat Air System CV-Demo (UCAS-D)*	1,237.637	128.135	20.961	35.949	-	35.949	-	-	-	-	-	1,422.682
MDAP/MAIS Code: P388												

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

A. Mission Description and Budget Item Justification

The 2005 Quadrennial Defense Review published February 2006 and OSD Advanced Technology & Logistics Executive Committee Memorandum of February 2006 supported direction to restructure the Joint Unmanned Combat Air System (UCAS) program into a new Navy UCAS program. The Navy UCAS program will develop an unmanned, longer-range, carrier-based aircraft capable of being air-refueled to provide greater standoff capability, to expand payload and launch options, and to increase naval reach and persistence. The Navy was directed to demonstrate carrier operations, including Autonomous Aerial Refueling, of a Low Observable (LO) planform UCAS and to mature required technologies to a Technology Readiness Level-6; which, is required for a potential follow on acquisition program.

The Navy UCAS designed for autonomous launch and recovery as well as operations in the Carrier Control Area, is comprised of an Air Vehicle Segment, a Mission Control Segment (MCS) and a government led Aircraft Carrier Integration Segment. The scope of the Navy UCAS effort includes design, development, integration, and validation of an unmanned, LO planform Air Vehicle Segment and MCS in the land-based and shipboard environments. Evaluations will be conducted to investigate MCS interfaces with shipboard systems such as Primary Flight Control displays, Landing Safety Officer displays, and Carrier Air Traffic Control Center stations.

The Navy UCAS program will be structured to match program resources to United States Navy objectives and constraints with the goals of identifying and maturing critical technologies and reducing the risk of carrier integration of a UCAS. Candidate Technology Maturation efforts include transformational communications, advanced integrated propulsion, aircraft carrier suitable materials, LO sensors and apertures, sense and avoid functionality (in an LO environment), autonomous operations (software algorithms and interfaces), and computer resource data storage and access systems. Modeling, simulation, analysis, industrial capability assessments, system/component development, and analysis of architectures and concept designs are being developed as a result of the demonstration. Maturation of candidate technologies support the evaluation of alternatives needed for a future milestone decision.

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 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0604402N *I Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	142.282	20.961	-	-	-
Current President's Budget	128.135	20.961	35.949	-	35.949
Total Adjustments	-14.147	-	35.949	-	35.949
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.068	-			
• Rate/Misc Adjustments	-0.001	-	35.949	-	35.949
• Congressional General Reductions Adjustments	-11.078	-	-	-	-

Change Summary Explanation

Technical: FY14 program plan reflects Chief of Naval Operations and Secretary of Navy direction to continue the program to include additional test and at-sea periods. FY15 funding continues demonstration and integration efforts as directed by Chief of Naval Operations and Secretary of Navy.

Schedule:
Systems Development-
Ship Integration and Installations (Build 2) from 4th QTR 2013 to 3rd QTR 2015
Autonomous Aerial Refueling (AAR) System Integration Installation from 2nd QTR 2014 to 3rd QTR 2015
Surrogate/Air Vehicle Flight Test from 3rd QTR 2013 to 4th QTR 2015

Test & Evaluation-
Surrogate Testing from 4th QTR 2013 to 2nd QTR 2015
Land Based Carrier Control Area Testing from 4th QTR 2013 to 4th QTR 2015

Sea Trials-
From 1st QTR 2014 to 3rd QTR 2015
Added CV Demonstration 1st QTR 2014 , CVN Integration Ops 4th QTR 2014 and CVW Integration Ops 2nd QTR 2015

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0604402N / *Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev*	Project (Number/Name) 3178 / *Unmanned Combat Air System CV-Demo (UCAS-D)*	

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
3178: *Unmanned Combat Air System CV-Demo (UCAS-D)*	1,237.637	128.135	20.961	35.949	-	35.949	-	-	-	-	-	1,422.682
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

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

Note

FY14 program plan reflects Chief of Naval Operations and Secretary of Navy direction to continue the program to include additional test and at-sea periods. FY15 funding continues demonstration and integration efforts as directed by Chief of Naval Operations and Secretary of Navy.

A. Mission Description and Budget Item Justification

The Navy Unmanned Combat Air System (UCAS), designed for autonomous launch and recovery as well as operations in the Carrier Control Area, is comprised of an Air Vehicle Segment, a Mission Control Segment (MCS) and a government led Aircraft Carrier Integration Segment. The scope of the Navy UCAS effort includes design, development, integration, and validation of an unmanned, Low Observable (LO) planform Air Vehicle Segment and MCS in the land-based and shipboard environments. Evaluations will be conducted to investigate MCS interfaces with shipboard systems such as Primary Flight Control displays, Landing Safety Officer (LSO) displays, and Carrier Air Traffic Control Center (CATCC) stations.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Product Development	100.196	14.644	27.801
Articles:	-	-	-
Description: The primary effort in the Navy UCAS program is design, development, integration and validation of Air Vehicle Segment, MCS and government led Aircraft Carrier Segment leading to a Carrier demonstration of an unmanned, LO planform UCAS system, and development of internal/external interface documents. In addition, design and development of hardware/ software to support Autonomous Aerial Refueling (AAR) will be conducted. Shipboard evaluation of the Navy UCAS includes integration of the Navy UCAS with shipboard systems such as Primary Flight Control displays, LSO displays and CATCC stations.			
FY 2013 Accomplishments: Continued efforts in the Navy UCAS program designing, developing, integrating and validating the Navy UCAS Air Vehicle Segment, Mission Control Segment and government led Aircraft Carrier Integration Segment. Finalized temporary installations of UCAS-D shipboard components on Nimitz class aircraft carrier. Continued AAR integration efforts.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0604402N / *Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev*	**Project (Number/Name)** 3178 / *Unmanned Combat Air System CV-Demo (UCAS-D)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue AAR integration efforts. Continue Navy UCAS demonstration activities to include additional test and at-sea period. ***FY 2015 Plans:*** Continue demonstration and integration efforts as directed by Chief of Naval Operations and Secretary of the Navy.			
Title: Test and Evaluation Support	18.759	3.646	7.798
Articles:	-	-	-
FY 2013 Accomplishments: Continued shore-based carrier suitability testing with Air Vehicles 1 and 2 at NAWCAD Patuxent River, MD. Conducted Sea Trial testing, including ship landings, for Air Vehicles 1 and 2 aboard a Nimitz class aircraft carrier. ***FY 2014 Plans:*** Continue Navy UCAS demonstration activities to include additional test and at-sea period. ***FY 2015 Plans:*** Continue UCAS Demonstration objectives as directed by Chief of Naval Operations and Secretary of the Navy.			
Title: Management	9.180	2.671	0.350
Articles:	-	-	-
FY 2013 Accomplishments: Government management, engineering, and contract support. ***FY 2014 Plans:*** Government management, engineering, and logistics support. ***FY 2015 Plans:*** Government management, engineering, and logistics support.			
Accomplishments/Planned Programs Subtotals	128.135	20.961	35.949

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

In the 2005 Quadrennial Defense Review, the Navy was directed to restructure the Joint Unmanned Combat Air System (UCAS) program and develop an unmanned, longer-range carrier-based aircraft capable of being air-refueled to provide greater aircraft carrier standoff capability, to expand payload and launch options, and to increase naval reach and persistence. The primary goal is risk reduction for carrier integration while developing the critical data necessary to support a potential follow

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0604402N / *Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev*	**Project (Number/Name)** 3178 / *Unmanned Combat Air System CV-Demo (UCAS-D)*

on acquisition milestone decision. The Navy UCAS effort will focus on designing, developing, and evaluating the core capabilities which safely demonstrate carrier interoperability. Currently, primary hardware development for the Navy UCAS effort is being performed under a Federal Acquisition Regulation based, cost plus incentive fee-type contract competitively awarded to a single contractor.

E. Performance Metrics

Complete airworthiness and envelope expansion testing. Conduct shore-based carrier suitability testing. Conduct F/A-18D surrogate aircraft testing with Nimitz class aircraft carrier. Conduct at sea flight test of X-47B air vehicles. Demonstrate Autonomous Aerial Refueling via Surrogate Aircraft.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0604402N / *Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev*	Project (Number/Name) 3178 / *Unmanned Combat Air System CV-Demo (UCAS-D)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Aviation/ Ship Integration	C/CPFF	Rockwell/AFRL : Rome, NY	10.301	0.827	Nov 2012	0.820	Nov 2013	0.585	Nov 2014	-		0.585	-	12.533	12.533
Aviation/ Ship Integration	C/CPFF	L-3 Com Titan : MD	12.135	-		-		-		-		-	-	12.135	12.135
Aviation/Ship Integration	WR	NAWCAD : MD	67.544	32.880	Nov 2012	10.359	Nov 2013	6.720	Nov 2014	-		6.720	-	117.503	-
Aviation/Ship Integration	C/CPIF	Various : Various	5.142	0.843	Jan 2013	0.100	Jan 2014	-		-		-	-	6.085	6.085
Primary Hardware Development	C/CPIF	Northrop Grumman Corporation : CA	846.315	52.473	Dec 2012	-		-		-		-	-	898.788	898.788
Air Vehicle Integration	C/CPIF	Northrop Grumman Corporation : CA	0.000	-		1.000	Apr 2014	16.949	Dec 2014	-		16.949	-	17.949	17.949
Systems Engineering	WR	NAWCAD : MD	54.584	8.366	Nov 2012	1.841	Nov 2013	3.147	Nov 2014	-		3.147	-	67.938	-
Product Development	Various	Various : Various	112.096	4.807	Dec 2012	0.524	Dec 2013	0.400	Dec 2014	-		0.400	-	117.827	-
New Highly Integrated Photonics	Various	Various : Various	10.184	-		-		-		-		-	-	10.184	10.184
		Subtotal	1,118.301	100.196		14.644		27.801		-		27.801	-	1,260.942	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior year Support cost no longer funded in the FYDP	Various	Various : Various	20.861	-		-		-		-		-	-	20.861	-
		Subtotal	20.861	-		-		-		-		-	-	20.861	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	MIPR	Edwards AFB : CA	10.197	0.100	Nov 2012	-		-		-		-	-	10.297	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0604402N / *Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev*	**Project (Number/Name)** 3178 / *Unmanned Combat Air System CV-Demo (UCAS-D)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWCAD : MD	25.345	18.559	Nov 2012	3.546	Nov 2013	7.798	Nov 2014	-		7.798	-	55.248	-
Test & Evaluation	Various	Various : Various	1.374	0.100	Nov 2012	0.100	Nov 2013	-		-		-	-	1.574	-
		Subtotal	36.916	18.759		3.646		7.798		-		7.798	-	67.119	-

Management Services ($ in Millions)

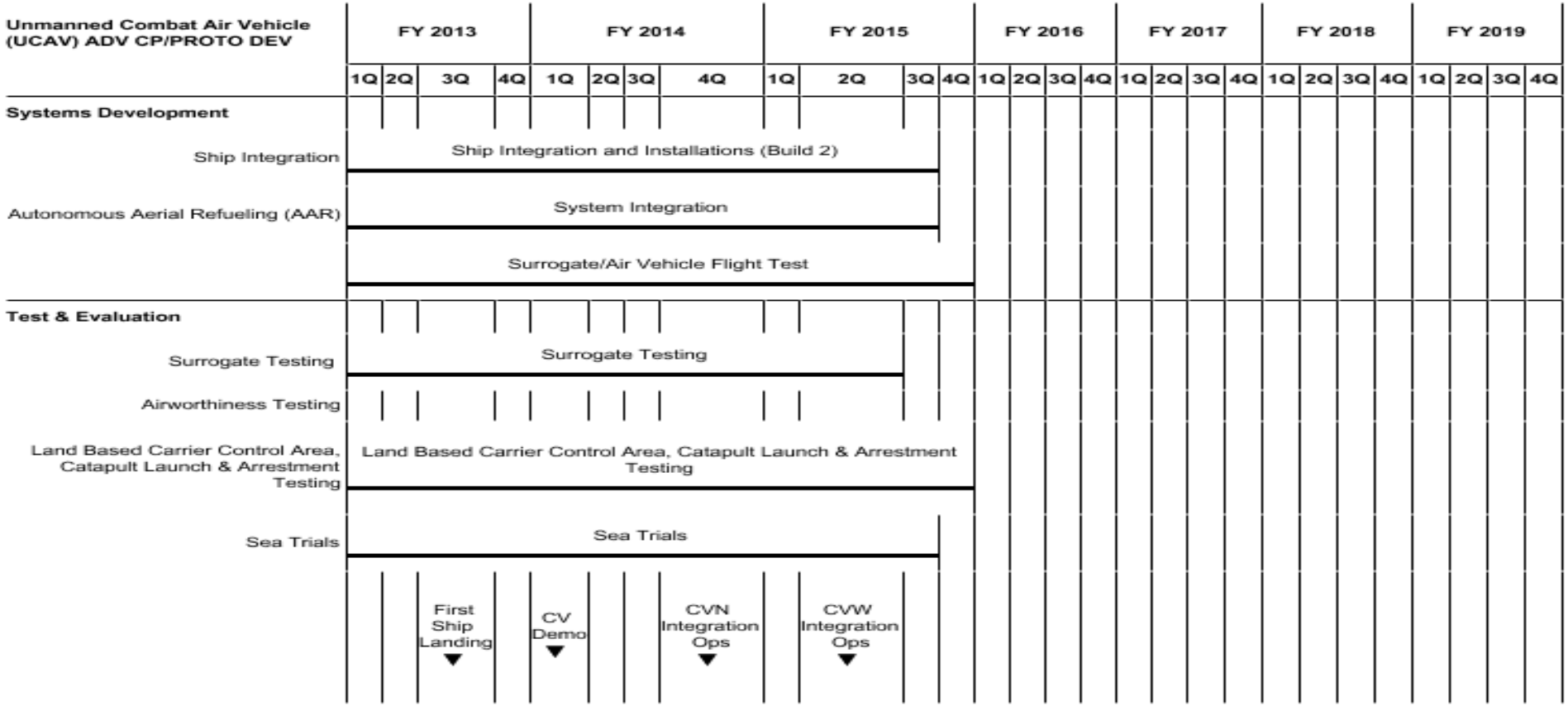
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor SEPM Support	C/CPIF	Various : Various	22.232	2.351	Dec 2012	1.000	Jan 2014	-		-		-	-	25.583	25.583
Government Engineering Support	WR	NAWCAD : MD	20.318	4.846	Nov 2012	1.120	Nov 2013	-		-		-	-	26.284	-
Program Management Support	WR	NAWCAD : MD	16.263	1.983	Nov 2012	0.551	Nov 2013	0.350	Nov 2014	-		0.350	-	19.147	-
Prior Year Mgmt cost no longer funded in the FYDP	Various	Various : Various	2.746	-		-		-		-		-	-	2.746	-
		Subtotal	61.559	9.180		2.671		0.350		-		0.350	-	73.760	-

	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,237.637	128.135		20.961		35.949		-		35.949	-	1,422.682	-

Remarks

FY14 program plan reflects Chief of Naval Operations and Secretary of Navy direction to continue the program to include additional test and at-sea periods. FY15 funding continues demonstration and integration efforts as directed by Chief of Naval Operations and Secretary of Navy.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0604402N / *Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev*	**Project (Number/Name)** 3178 / *Unmanned Combat Air System CV-Demo (UCAS-D)*



2015PB - 0604402N - 3178

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0604402N / *Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev*	**Project (Number/Name)** 3178 / *Unmanned Combat Air System CV-Demo (UCAS-D)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Unmanned Combat Air Vehicle (UCAV) ADV CP/PROTO DEV				
Systems Development: Ship Integration: Build 2	1	2013	3	2015
Systems Development: Autonomous Aerial Refueling (AAR): System Integration - AAR	1	2013	3	2015
Systems Development: Autonomous Aerial Refueling (AAR): Surrogate/Air Vehicle Flight Test - AAR	1	2013	4	2015
Test & Evaluation: Surrogate Testing: Surrogate Testing	1	2013	2	2015
Test & Evaluation: Land Based Carrier Control Area, Catapult Launch & Arrestment Testing: Land Based Carrier Control Area, Catapult Launch & Arrestment Testing	1	2013	4	2015
Test & Evaluation: Sea Trials: Sea Trials	1	2013	3	2015
Test & Evaluation: Sea Trials: First Ship Landing	3	2013	3	2013
Test & Evaluation: Sea Trials: CV Demonstration	1	2014	1	2014
Test & Evaluation: Sea Trials: CVN Integration Ops	4	2014	4	2014
Test & Evaluation: Sea Trials: CVW Integration Ops	2	2015	2	2015

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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0604766M *I (U)MARINE CORPS DATA 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	0.000	-	0.035	0.215	-	0.215	-	-	-	-	-	0.250
4043: *Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)*	0.000	-	0.035	0.215	-	0.215	-	-	-	-	-	0.250

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

A. Mission Description and Budget Item Justification

PE 0604766M reflects a portion of the Global Force Management-Data Initiative (GFM-DI) advocated by the Vice-Chairman, Joint Chiefs of Staff (VCJCS). Funding enhancements support GFM-DI implementation of the Force Management and Adaptive Planning Processes by FY13, and Financial, Health Records, and Information Assurance by FY16.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	0.035	0.215	-	0.215
Current President's Budget	-	0.035	0.215	-	0.215
Total Adjustments	-	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-	-	-
• Rate/Misc Adjustments	-	-	-	-	-

Change Summary Explanation

All GFM-DI funding support for Total Force Structure Management System (TFSMS) in PE 0604766M moves to project 4043 for FY2013 and beyond.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0604766M / *(U)MARINE CORPS DATA SYSTEMS*	Project (Number/Name) 4043 / *Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)*	

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
4043: *Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)*	-	-	0.035	0.215	-	0.215	-	-	-	-	-	0.250
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

Total Force Structure Management System (TFSMS) is the Marine Corps authoritative data source for force structure data and the provider of the Marine Corps Tables of Organization and Equipment. TFSMS defines present and future Marine Corps force structure, establishes the Marine Corps baseline for readiness reporting, justifies resource requirements and allocation, and enables Marine Corps compliance with the Joint Staff and Office of the Secretary Defense initiative to standardize force structure representation by providing the Marine Corps Global Force Management (GFM) Organizational Server.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Total Force Structure Management System (TFSMS)	-	0.035	0.215
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Funding to support Engineering Change Proposals (ECPs).			
FY 2015 Plans: Funding to support Engineering Change Proposals (ECPs).			
Accomplishments/Planned Programs Subtotals	-	0.035	0.215

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/4630: *TFSMS*	-	0.492	-	-	-	3.920	-	-	-	Continuing	Continuing
• PMC/4617: *TFSMS*	-	0.647	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0604766M / *(U)MARINE CORPS DATA SYSTEMS*	**Project (Number/Name)** 4043 / *Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)*

D. Acquisition Strategy

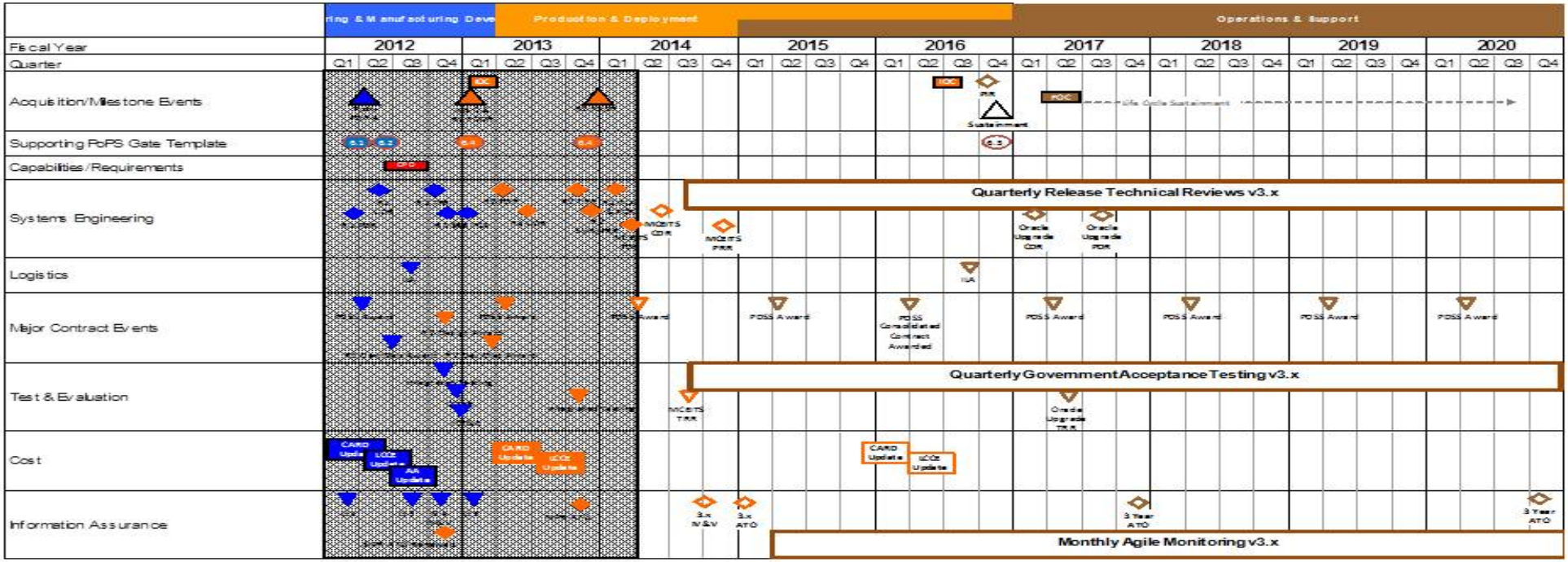
Total Force Structure Management System (TFSMS) is an evolutionary acquisition (EA) program currently comprised of two blocks/increments. TFSMS is a web-based application built upon an Oracle/Cognos infrastructure and currently residing on the G-6 Data Center in Marine Corps Base, Quantico. TFSMS currently has over 14,000 users. Block 1 is defined by a Capabilities Production Document (CPD) that was approved by the Marine Corps Requirements Oversight Council (MROC) 9 Apr 2008. TFSMS Block 1 Full Operational Capability (FOC) was met by completing development, testing and fielding of a transactional user web-based training capability to replace the current interim Instructor-led training which consists of a two-day Equipment Class and a two-day Structure Class taught locally twice each month. Increment II CDD was approved by the MROC 20 Nov 2009 (DM 07-2010). CPD was approved by MROC 3 Jul 2012 (DM 51-2012). Increment II capabilities include civilian billets, improved AAO calculations, and fielding plan capability; providing the Marine Corps with the ability to have a consolidated force structure picture.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0604766M / *(U)MARINE CORPS DATA SYSTEMS*	**Project (Number/Name)** 4043 / *Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)*

TFSMS Program Schedule



•TFSMS is operating at minimal sustainment

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0605525N *I (U)CARRIER ONBOARD DELIVERY (COD) FOLLOW ON*

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	-	1.230	8.873	-	8.873	19.274	73.712	100.085	135.478	Continuing	Continuing
3339: *Carrier Onboard Deliver Recapitalization*	0.000	-	1.230	8.873	-	8.873	19.274	73.712	100.085	135.478	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

Funding supports the risk reduction and programmatic activities to recapitalize the Carrier Onboard Delivery (COD) capability. This medium-lift/long-range logistics aircraft will provide critical air connector capability for time-critical logistics within the Navy Seabasing logistics enabling concept in support of the Carrier Strike Groups. This capability is currently provided by the C-2A Greyhounds, which are projected to begin retiring in large numbers as they reach their fatigue service life limits and the force falls below primary aircraft allocation in 2028.

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	2.460	1.474	-	1.474
Current President's Budget	-	1.230	8.873	-	8.873
Total Adjustments	-	-1.230	7.399	-	7.399
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.230			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	7.500	-	7.500
• Rate/Misc Adjustments	-	-	-0.101	-	-0.101

Change Summary Explanation

Technical: Not applicable.
Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0605525N / *(U)CARRIER ONBOARD DELIVERY (COD) FOLLOW ON*	Project (Number/Name) 3339 / *Carrier Onboard Deliver Recapitalization*	

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
3339: *Carrier Onboard Deliver Recapitalization*	-	-	1.230	8.873	-	8.873	19.274	73.712	100.085	135.478	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

Funding supports the risk reduction and programmatic activities to recapitalize the Carrier Onboard Delivery (COD) capability. This medium-lift/long-range logistics aircraft will provide critical air connector capability for time-critical logistics within the Navy Seabasing logistics enabling concept in support of the Carrier Strike Groups. This capability is currently provided by the C-2A Greyhounds, which are projected to begin retiring in large numbers as they reach their fatigue service life limits and the force falls below primary aircraft allocation in 2028.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Carrier Onboard Delivery Recapitalization	-	1.230	8.873
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Develop the Airborne Resupply/Logistics Sea Basing program documentation and schedules required to enter Milestone B in FY16. Produce and deliver analytic support to develop requirements in preparation of the Capability Development Document. Develop the planning efforts to support Industry Day and activities to support a draft Request For Proposal (RFP).			
FY 2015 Plans: Begin the process to approve the programmatic documentation required to enter Milestone B in FY16.			
Accomplishments/Planned Programs Subtotals	-	1.230	8.873

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

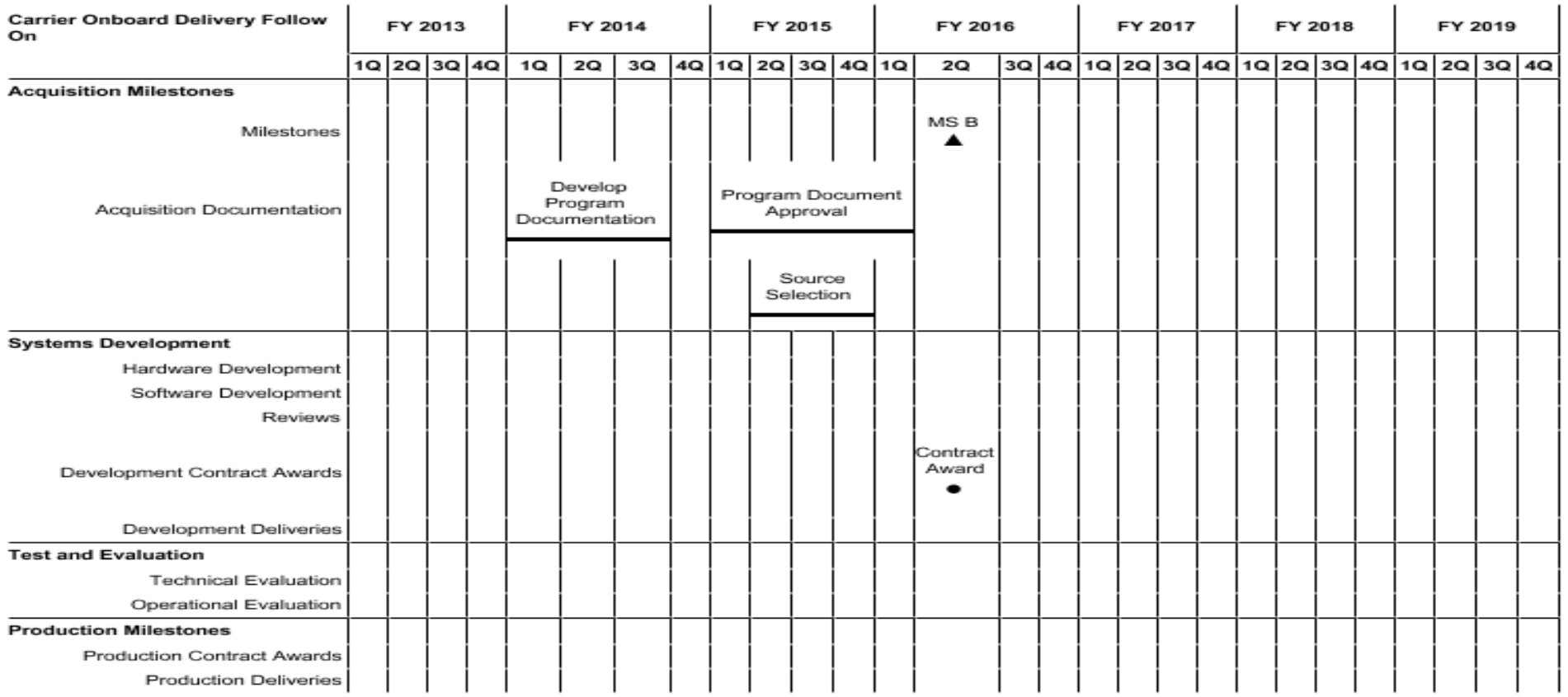
All acquisition strategies are being considered.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0605525N / *(U)CARRIER ONBOARD DELIVERY (COD) FOLLOW ON*	**Project (Number/Name)** 3339 / *Carrier Onboard Deliver Recapitalization*

E. Performance Metrics

The performance metrics are being developed in part with the Capability Development Document. They will include Operational Range, Payload at Operational Range, Carrier Suitability, World Wide Deployment, Operational Availability, Material Availability, Net Readiness, Survivability/Force Protection.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0605525N / *(U)CARRIER ONBOARD DELIVERY (COD) FOLLOW ON*	**Project (Number/Name)** 3339 / *Carrier Onboard Deliver Recapitalization*



2015PB - 0605525N - 3339

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0605555N *I (U)STRIKE WEAPONS 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	0.000	-	13.757	-	-	-	-	-	-	-	-	13.757
3212: *MEDUSA JCTD*	0.000	-	2.000	-	-	-	-	-	-	-	-	2.000
3412: *Hellfire-R Integration*	0.000	-	7.757	-	-	-	-	-	-	-	-	7.757
9999: *Congressional Adds*	0.000	-	4.000	-	-	-	-	-	-	-	-	4.000

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

Note

Beginning in FY 2014, 3212 MEDUSA Joint Capability Technology Demonstration (JCTD) was transferred from 0205601N/Harm Improvement.

A. Mission Description and Budget Item Justification

Research, Development, Test and Evaluation funding for Strike Weapons to be employed from a multitude of fixed and rotary wing aircraft in support of offensive and defensive land and sea based targets across multiple mission areas. Specific efforts include Advanced Precision Kill Weapons System (APKWS), MEDUSA JCTD, support the feasibility of a new air to ground missile for F-18 and Hellfire-R Integration. This will include HPRF and HEL as well as Rockets Improvement Program and future Program of Record forward firing weapons.

These projects are funded under Operational Systems Development because they include development efforts to upgrade systems that have been fielded or have received approval for Full-Rate Production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	9.757	6.590	-	6.590
Current President's Budget	-	13.757	-	-	-
Total Adjustments	-	4.000	-6.590	-	-6.590
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	4.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-6.590	-	-6.590

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0605555N *I (U)STRIKE WEAPONS DEVELOPMENT*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 9999: *Congressional Adds*		
Congressional Add: *F/A-18 Missile Flt Testing - Cong*	-	4.000
Congressional Add Subtotals for Project: 9999	-	4.000
Congressional Add Totals for all Projects	-	4.000

Change Summary Explanation

Technical: FY15 funding was decreased because Navy will no longer be investing in Hellfire-R as the focus shifts to the integration of Joint Air Ground Missile (JAGM).

Schedule: The late release of funding for project units 3412 Hellfire R Integration and 3212 Digital Rocket Launcher (DRL), considered new starts under the FY14 Continuing Resolution, caused the shift in the schedule.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0605555N / *(U)STRIKE WEAPONS DEVELOPMENT*	Project (Number/Name) 3212 / *MEDUSA JCTD*	

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
3212: *MEDUSA JCTD*	-	-	2.000	-	-	-	-	-	-	-	-	2.000
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 MEDUSA JCTD demonstrated the Low Cost Guided Imaging Rockets (LOGIR) technology developed at the Naval Air Warfare Center Weapons Division, China Lake on the MH-60S. LOGIR was to initially provide "fire and forget" capability to 2.75-inch rockets in support of Sea Shield Pillar. LOGIR provides increased platform lethality against Fast Attack Craft (FAC)/Fast Inshore Attack Craft (FIAC) threat, a low-cost imaging infraRed precision guidance section for the existing 2.75-inch unguided rockets and maximum precision kills per sortie with minimum collateral damage, increased efficiency and increased standoff distance. Initial program documentation (i.e. performance specifitations, Capabilities Development Document) was developed within the scope of the JCTD.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Digital Rocket Launcher	-	2.000	-
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: FY14 funding will be used to cover the operational testing and completion of Quick Reaction Assessment (QRA) for the Digital Rocket Launcher (DRL) which provides 2.75-inch rocket capability on MH-60R/S in support of Sea Shield Pillar, and increases lethality against FAC/FIAC threat.			
FY 2015 Plans: N/A			
Accomplishments/Planned Programs Subtotals	-	2.000	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

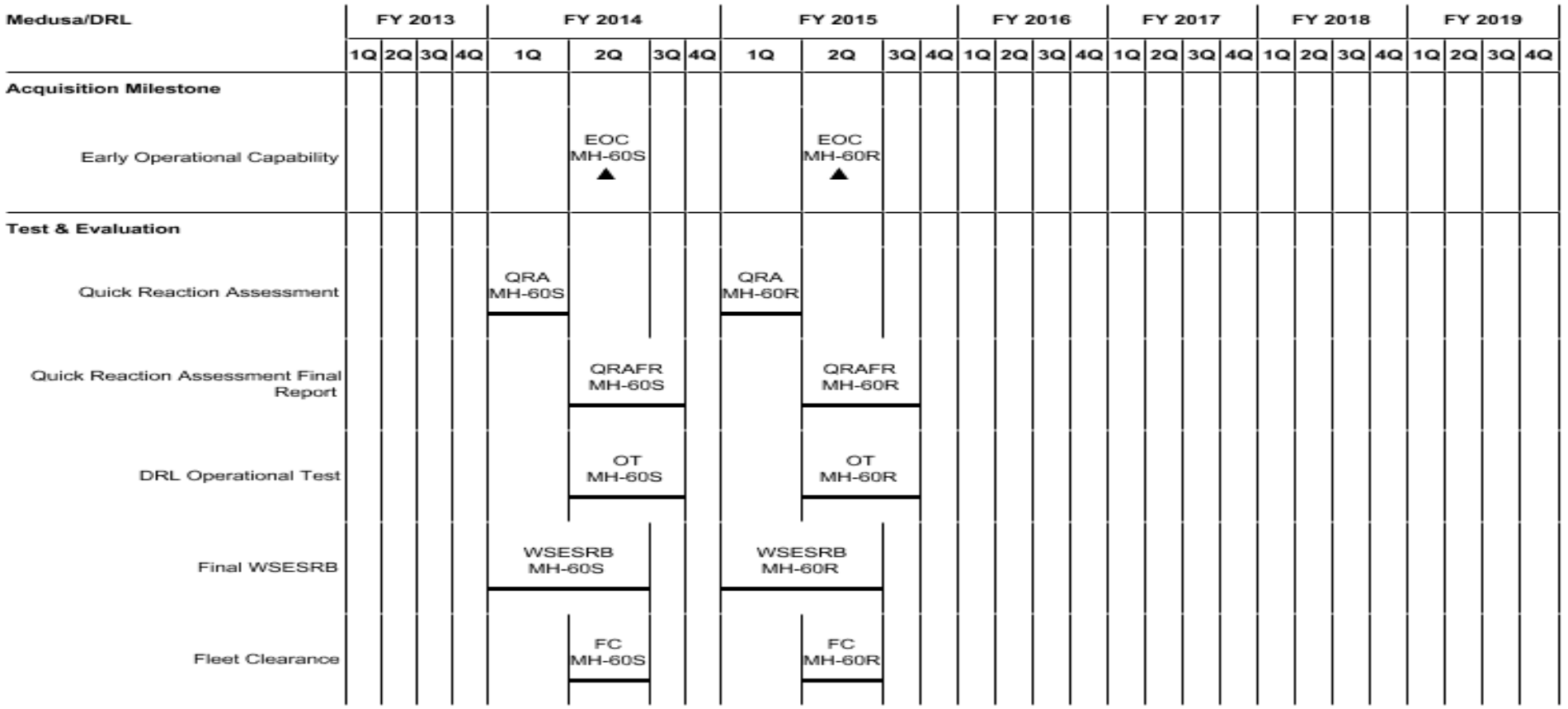
The MEDUSA JCTD was performed in FY09 through FY12. The Digital Rocket Launcher (DRL) is a Rapid Deployment Capability with Early Operational Capability in FY14, which will be a combination of procurement from government and contractor sources for the final product.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0605555N / *(U)STRIKE WEAPONS DEVELOPMENT*	**Project (Number/Name)** 3212 / *MEDUSA JCTD*

E. Performance Metrics

Successful development and test of all up round DRL system, including warhead, rocket motor and guidance system for Fast Attack Craft/Fast Inshore Attack Craft.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0605555N / *(U)STRIKE WEAPONS DEVELOPMENT*	**Project (Number/Name)** 3212 / *MEDUSA JCTD*



2015PB - 0605555N - 3212

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0605555N / *(U)STRIKE WEAPONS DEVELOPMENT*	Project (Number/Name) 3412 / *Hellfire-R 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
3412: *Hellfire-R Integration*	-	-	7.757	-	-	-	-	-	-	-	-	7.757
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-to-ground Missile (AGM)-114R is an Engineering Change Proposal to the fielded AGM-114K, K2, K2A, P, P2, P2A and AGM-114M missiles. It is intended to address safety, reliability and producibility issues while maintaining the current lethality of fielded versions of the Hellfire missile. The Department of the Navy (DoN) has participated in the development of the AGM-114R, which provides full Unmanned Air Vehicle (UAV), FW (Harvest Hawk) and Rotary Wing Capabilities. The AGM-114R also increases lethality (Trajectory Shaping), increases Engagement Envelope (360 deg) and roll-tip off safety issues. The AGM-114R will maximize the Warfighter's operational flexibility by allowing them to effectively engage a variety of stationary and mobile targets, including advanced armor, bunkers, buildings, command and control vehicles, transporter/erector launchers and patrol craft.

Research, Development Test and Evaluation (RDT&E) funding will support aircraft airworthiness certification through a combination of missile software verifications, Hazards of Electromagnetic Radiation to Ordinance (HERO) analysis and aircraft interface validations. In addition, Development Test/Operational Test (DT/OT) flight tests using all-up rounds will be performed during backwards compatibility System Qualification Testing (SQT).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Test and Evaluation	-	7.757	-
Articles:	-	24.000	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Procure AGM-114R test articles to support DT/OT events with primary platforms. Conduct aircraft Operational Flight Program analysis and integration of missile logic for identification and appropriate fire control commands for the KC-130J Harvest Hawk and AH-1Z. Conduct airworthiness analysis to support interim flight clearance and perform captive carriage flight test on KC-130J and AH-1Z.			
FY 2015 Plans: N/A			
Accomplishments/Planned Programs Subtotals	-	7.757	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0605555N / *(U)STRIKE WEAPONS DEVELOPMENT*	**Project (Number/Name)** 3412 / *Hellfire-R Integration*

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/2254: *HELLFIRE*	86.256	59.341	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

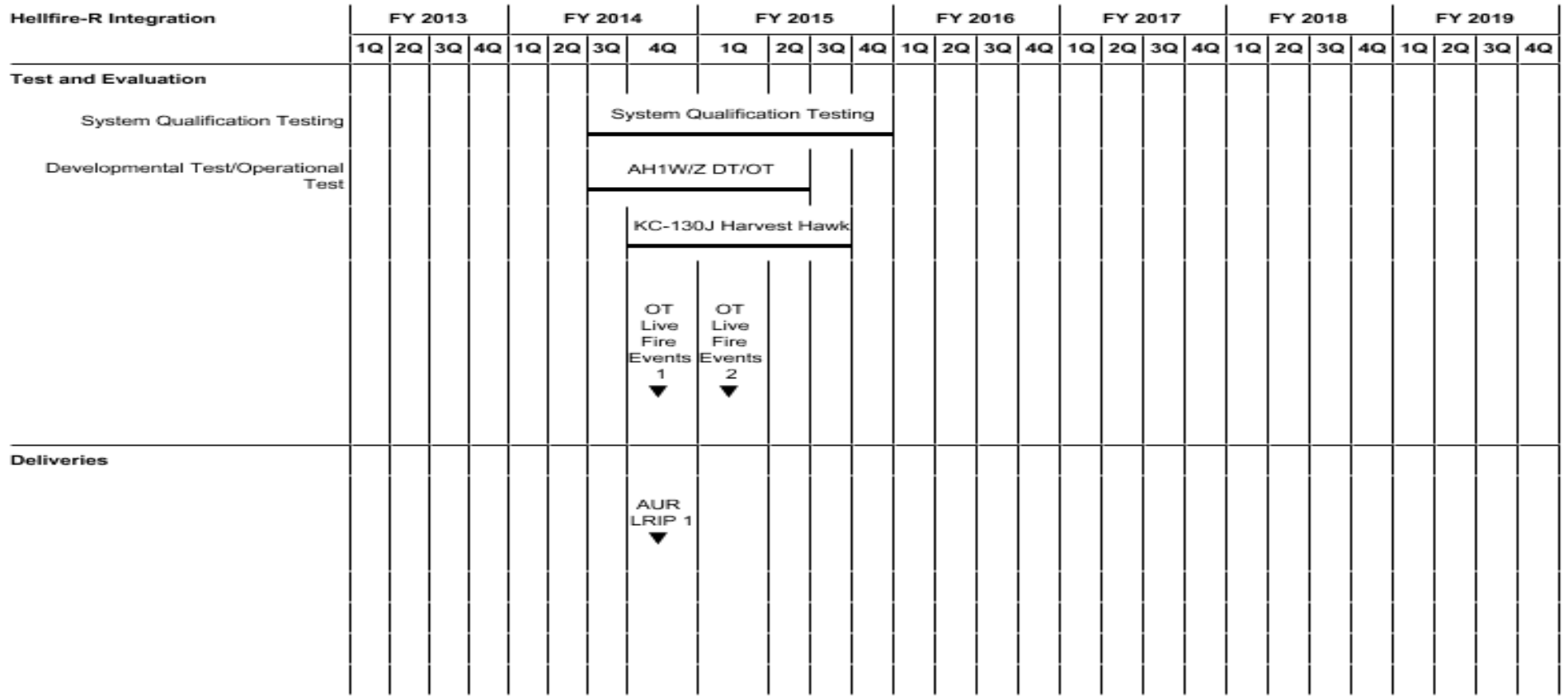
D. Acquisition Strategy

The United States Army is currently in the developmental test phase of the air-to-ground missile (AGM)-114R and qualifying both the Integrated Blast Fragmentation Warhead as well as the Production Pilot Line. Missiles from this first Low Rate Initial Production will support Army/Air Force Development Test/Operational Firings as well as Live Fire Test and Evaluation in FY13. FY14 Full-Rate Production will support Army and Air Force fielding and will be used to provide missiles to support United States Navy Platform Integration.

E. Performance Metrics

Successful completion of Army Live Fire Test and Evaluation in FY14.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0605555N / *(U)STRIKE WEAPONS DEVELOPMENT*	**Project (Number/Name)** 3412 / *Hellfire-R Integration*



2015PB - 0605555N - 3412

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0605555N / *(U)STRIKE WEAPONS 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*	-	-	4.000	-	-	-	-	-	-	-	-	4.000
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

Research, Development, Test and Evaluation (RDT&E) funding will support the feasibility of a new air-to-ground missile for F/A-18.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
Congressional Add: F/A-18 Missile Flt Testing - Cong	-	4.000
FY 2013 Accomplishments: N/A		
FY 2014 Plans: Conduct feasibility analysis and tests for new air-to-ground missile.		
Congressional Adds Subtotals	-	4.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

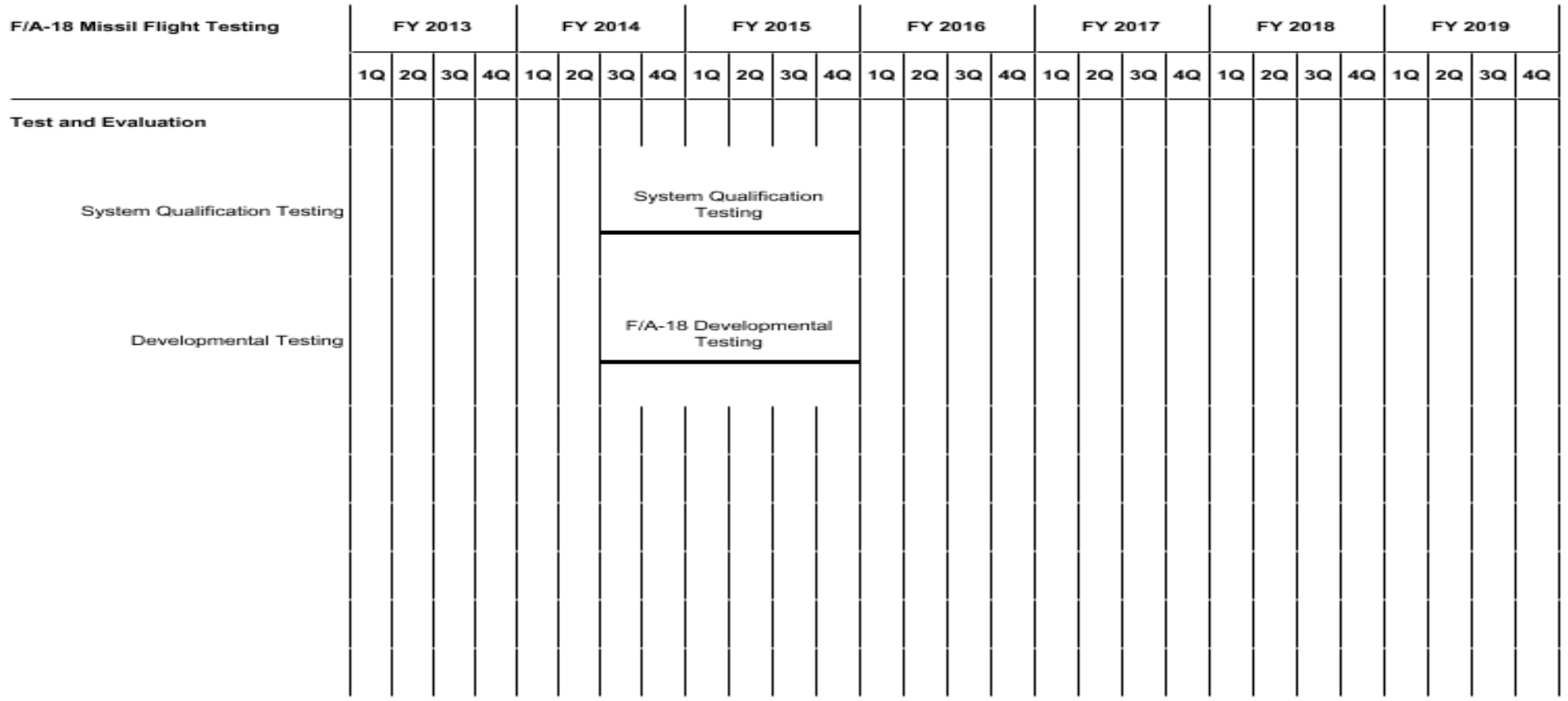
D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional add.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0605555N / *(U)STRIKE WEAPONS DEVELOPMENT*	**Project (Number/Name)** 9999 / *Congressional Adds*



2015PB - 0605555N - 9999

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0101221N *I Strategic Sub & Wpns Sys 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**
Total Program Element	702.346	83.771	98.057	96.943	-	96.943	107.800	122.448	117.124	68.396	Continuing	Continuing
0951: *Joint Warhead Fuze Sustainment Program*	77.190	56.180	81.456	87.380	-	87.380	96.149	114.715	111.280	65.494	Continuing	Continuing
2228: *Technical Applications Programs*	610.540	23.232	-	-	-	-	9.000	5.000	3.024	0.024	Continuing	Continuing
3097: *W78/88-1 Life Extension Program*	0.000	-	14.000	7.000	-	7.000	-	-	-	-	-	21.000
3158: *Integrated Nuclear Weapons Security Sys Dev*	14.616	4.359	2.601	2.563	-	2.563	2.651	2.733	2.820	2.878	Continuing	Continuing
MDAP/MAIS Code: 178												

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

A. Mission Description and Budget Item Justification

The Joint Warhead Fuze Sustainment Program (0951) is an effort to develop advanced components to improve the reliability, safety, and security of Arming, Fuzing and Firing (AF&F) systems for nuclear reentry systems. The current effort is focused on supporting the alteration of the AF&F system for the MK5/W88 system which will be five years beyond its design life at the scheduled deployment of the AF&F alteration. This effort also supports future utilization of the developed components by the US Air Force and United Kingdom.

The Technology Applications Program (2228) supports the TRIDENT II (D5) Submarine Launched Ballistic Missile (SLBM) that provides the U.S. a weapon system with greater accuracy and payload capability as compared to the TRIDENT I (C4) system. TRIDENT II enhances U.S. strategic deterrence providing a survivable, sea-based system capable of engaging the full spectrum of potential targets with fewer submarines. This Program Element supports investigations into new technologies which would help mitigate the program impact due to component obsolescence and a rapidly decreasing manufacturing support base. These efforts include Reentry System Applications and Guidance System Applications which will terminate in 2014. In FY16, Multi-Star Enhanced Prelaunch (MEP) will commence. This will demonstrate the ability to use two stellar sightings to formulate the in-flight correction (rather than one) which may in the future provide relief to the strict tolerance requirements of the strategic navigator on the current OHIO class submarines and the OHIO Class Replacement program.

The W78/88-1 Life Extension Program (3097) is an effort to conduct the Navy portion of a Department of Defense/Department of Energy (DOD/DOE) Nuclear Weapons Council initiated Phase 6.2/6.2A investigation of design options and associated feasibility and cost study for a life extension of the Air Force W78 Reentry Vehicle and Navy W88 Reentry Body. The study will evaluate options and select a preferred solution(s) for a common Nuclear Explosive Package (NEP), including improved safety capabilities, which could be integrated into both the W78 and W88 platforms. In addition, the study will conduct a cost study for a refurbishment life extension of the current W88 design.

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0101221N *I Strategic Sub & Wpns Sys Supt*

The Integrated Nuclear Weapons Security System (INWSS) (3158) efforts support the Nuclear Weapons Security program and SSBN Escort mission. The policies and requirements regarding the safeguard of nuclear weapons within the Department of Defense is established by DoD S5210.41M. Within the Department of the Navy, nuclear weapons are limited to TRIDENT Fleet Ballistic Missiles (FBM), either deployed aboard TRIDENT submarines or located landside at Naval Submarine Base, Kings Bay, or Naval Submarine Base, Bangor where missiles are first assembled as well as repaired. The Chief of Naval Operations (CNO) has assigned the Strategic Systems Programs (SSP), the FBM program manager, with mission responsibility for the safeguard of FBM nuclear technologies. This budget supports efforts directed at improving the current technological baseline through a series of studies. These efforts will improve countermeasure technologies to address detection, delay and denial.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	105.892	98.057	109.021	-	109.021
Current President's Budget	83.771	98.057	96.943	-	96.943
Total Adjustments	-22.121	-	-12.078	-	-12.078
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-3.000	-			
• SBIR/STTR Transfer	-1.274	-			
• Program Adjustments	-	-	-9.020	-	-9.020
• Rate/Misc Adjustments	-	-	-3.058	-	-3.058
• Congressional Recision Adjustments	-11.000	-	-	-	-
• Congressional General Reductions Adjustments	-6.847	-	-	-	-

Change Summary Explanation

FY 2013 funding does not include $11M in the Technology Applications Program (2228) that was transferred into the project to cover FY13 rescission as directed in the FY 2014 Consolidated Appropriations Act.

Funding reduced in FY 2015 to align with revised Joint Warhead Fuze Sustainment Program (0951) schedule, and inflation and working capital adjustments.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 0951 / *Joint Warhead Fuze Sustainment 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
0951: *Joint Warhead Fuze Sustainment Program*	77.190	56.180	81.456	87.380	-	87.380	96.149	114.715	111.280	65.494	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 Joint Warhead Fuze Sustainment Program is an effort to develop advanced components to improve the reliability, safety, and security of AF&F systems for nuclear reentry systems. The current effort is focused on supporting the alteration of the AF&F system for the MK5/W88 system which will be five years beyond its design life at the scheduled deployment of the AF&F alteration. This effort also supports future utilization of the developed components by the US Air Force and United Kingdom.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: TRIDENT II	56.180	81.456	87.380
Articles:	-	-	-
Description: Identify, prioritize, develop, proof, and demonstrate advanced technologies that will be leveraged and incorporated into future AF&Fs.			
FY 2013 Accomplishments: Continued development, proofing, demonstration, and technology maturation of identified advanced technologies for future AF&Fs Supported engineer working groups. Continued AF&F sub-assembly design demonstrations Continued development of advanced safety and surety architecture solutions. Continued detailed design Conducted performance assessment of tested designs Conducted production engineering			
FY 2014 Plans: Continue development, proofing, demonstration, and technology maturation of identified advanced technologies for future AF&Fs Support engineer working groups. Continue AF&F sub-assembly design demonstrations Continue development of advanced safety and surety architecture solutions. Continue detailed design Conduct performance assessment of tested designs Conduct production engineering			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 0951 / *Joint Warhead Fuze Sustainment Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Support Critical Radar Arming and Firing Test (CRAFT) Develop and implement software changes due to AF&F ***FY 2015 Plans:*** Continue development, proofing, demonstration, and technology maturation of identified advanced technologies for future AF&Fs Support engineer working groups. Continue AF&F sub-assembly design demonstrations Continue development of advanced safety and surety architecture solutions. Continue detailed design Continue to develop and implement software changes due to AF&F Conduct performance assessment of tested designs Conduct production engineering Initial pre-production line development and initial builds Procure material for qualification testing; Commercial-Off-The-Shelf (COTS) qualification testing			
Accomplishments/Planned Programs Subtotals	56.180	81.456	87.380

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Contracts will continue to be awarded to those sources who were engaged in the Mk4LE Reentry Body development program and are currently engaged in the production and/or operational support of the deployed Mk4LE Reentry Body on the basis of Other Than Full and Open Competition pursuant to the authority of 10 U.S.C. 2304 (c) (1) and (3) implemented by FAR 6.302.-1, 3, 4

E. Performance Metrics

Not applicable

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 0951 / *Joint Warhead Fuze Sustainment Program*	

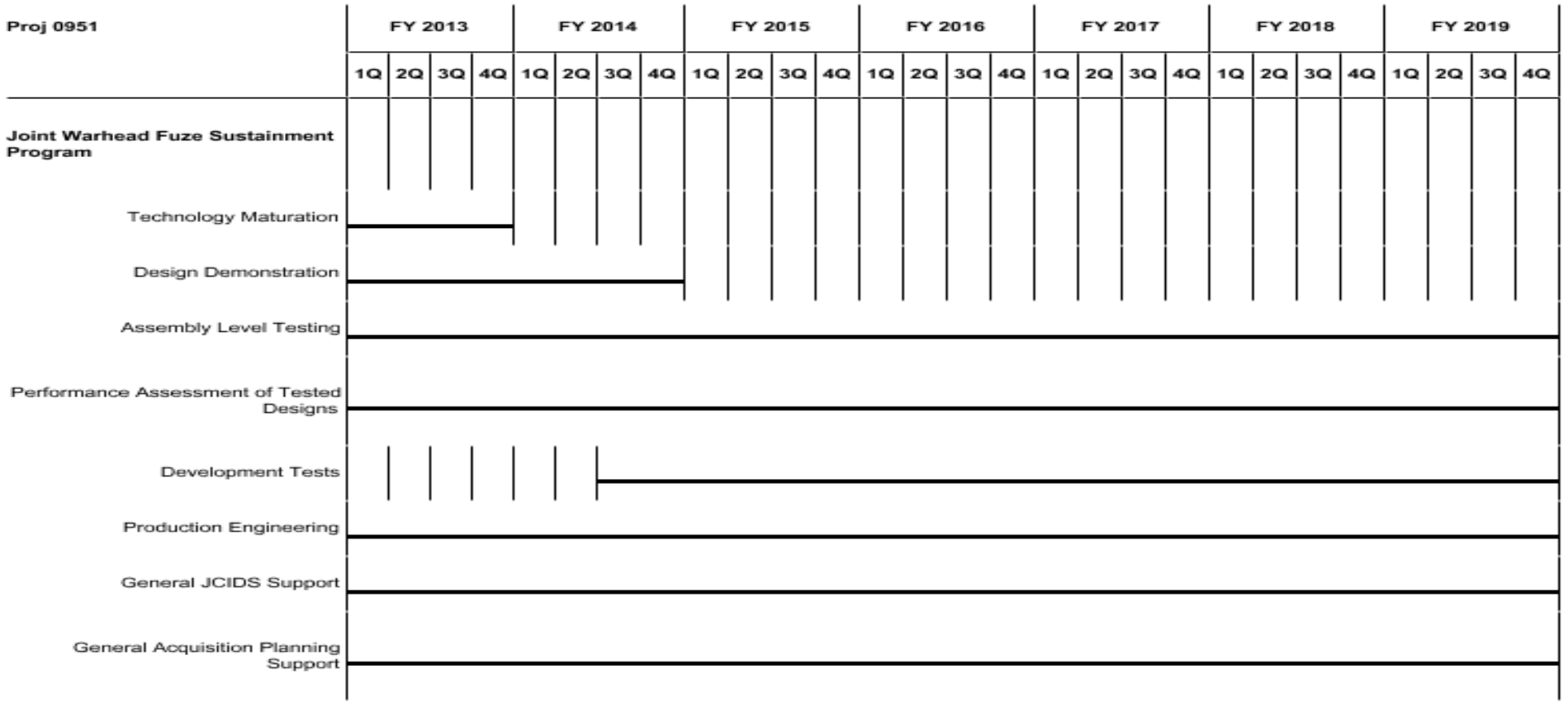
Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Warhead Fuze Sustainment DOE	MIPR	DOE : NM	71.003	49.547	Nov 2012	67.265	Nov 2013	72.829	Nov 2014	-		72.829	Continuing	Continuing	Continuing
Joint Warhead Fuze Sustainment ITT	SS/CPFF	ITT : VA	3.687	2.000	Dec 2012	2.000	Nov 2013	3.000	Nov 2014	-		3.000	Continuing	Continuing	Continuing
Joint Warhead Fuze Sustainment LMMS	SS/CPFF	LMMS : CA	2.500	4.000	Dec 2012	6.200	Nov 2013	6.600	Nov 2014	-		6.600	Continuing	Continuing	Continuing
Joint Warhead Fuze Sustainment	WR	NSWC Dahlgren : VA	0.000	0.633	Mar 2013	5.991	Oct 2013	4.951	Oct 2014	-		4.951	Continuing	Continuing	Continuing
		Subtotal	77.190	56.180		81.456		87.380		-		87.380	-	-	-

	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	77.190	56.180		81.456		87.380		-		87.380	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 0951 / *Joint Warhead Fuze Sustainment Program*



2015DON - 0101221N - 0951

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 0951 / *Joint Warhead Fuze Sustainment Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0951				
Joint Warhead Fuze Sustainment Program: Technology Maturation:	1	2013	4	2013
Joint Warhead Fuze Sustainment Program: Design Demonstration:	1	2013	4	2014
Joint Warhead Fuze Sustainment Program: Assembly Level Testing:	1	2013	4	2019
Joint Warhead Fuze Sustainment Program: Performance Assessment of Tested Designs:	1	2013	4	2019
Joint Warhead Fuze Sustainment Program: Development Tests:	3	2014	4	2019
Joint Warhead Fuze Sustainment Program: Production Engineering:	1	2013	4	2019
Joint Warhead Fuze Sustainment Program: General JCIDS Support:	1	2013	4	2019
Joint Warhead Fuze Sustainment Program: General Acquisition Planning Support:	1	2013	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 2228 / *Technical Applications Programs*	

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
2228: *Technical Applications Programs*	610.540	23.232	-	-	-	-	9.000	5.000	3.024	0.024	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 supports implementation of a coordinated Navy/Air Force Reentry System Applications Program (RSAP), and a coordinated Navy/Air Force Strategic Guidance Applications Program (GAP). RSAP and GAP funding are critical to respond to future requirements. The December 2001 DOD Nuclear Posture Review determined that infrastructure is a critical part of the new triad and these efforts form part of the infrastructure that supports the nuclear force structure.

The RSAP program, through sustainment of the reentry vehicle technology base, will maintain confidence in the dependability and reliability of strategic SLBM and ICBM weapon systems over the long term when no new systems will be in development. Critical and unique attributes necessary for the design, development and in-service support of current and modernized SLBM reentry systems have been defined and will be maintained to ensure a functioning readiness application technical capability in reentry is preserved. Working closely with the Air Force, Navy and Air Force requirements have been integrated into a comprehensive program. The program maintains close coordination with the DOD Science and Technology (S&T) community in order to: leverage S&T programs, ensure system driven technology base requirements are considered in contract awards, eliminate duplication of effort and provide an opportunity to demonstrate appropriate emerging technologies through a reentry flight test evaluation process.

The GAP program provides a minimum strategic guidance core technology development capability consistent with the Strategic Advisory Group (SAG) recommendations to COMSTRATCOM. The SAG recommended that SSP establish a program which preserves this critical design and development core. It is a basic bridge program which develops critical guidance technology applicable to any of the existing Air Force/Navy strategic missiles. The objective is to transition from current capability to a long term readiness status required to support deployed systems. Efforts are focused on alternatives to technologies identified as system "weak links." Currently, system accuracy and functionality depends upon key technologies which provide radiation hardened velocity, attitude and stellar sensing capabilities. As the underlying technologies that currently provide these capabilities age and are no longer technically supportable, modern alternatives must be made available in order to allow for orderly replacement. There is no commercial market for these technologies and their viability depends on the strategic community.

Both RSAP and GAP programs end by FY14. In FY16, Multi-Star Enhanced Prelaunch (MEP) will commence. This will demonstrate the ability to use two stellar sightings to formulate the in-flight correction (rather than one) which may in the future provide relief to the strict tolerance requirements of the strategic navigator on the current OHIO class submarines and the OHIO Class Replacement program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Technical Applications Program	23.232	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 2228 / *Technical Applications Programs*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 Accomplishments: Reentry System Applications Program (RSAP): Maintained the current capability and support the planned service life extension of Navy reentry systems. Continued development and ground testing of reentry vehicle candidate heat shield and nose tip materials including those available from S&T Continued testing of alternative low-cost heat shield and replacement nose tip material. Analyzed advanced aging material to determine its effectiveness. Continued testing of operationally aged heat shields to support aging trends and replacement materials assessments. Maintained RSAP technical program plan, conduct system assessments and continue vulnerability & hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities. Continued reentry body material development and advanced flight test instrumentation activities. Ground test advanced reentry material systems and advanced instrumentation components. Continued design development evaluation of avionics batteries and avionics computers. Program ends in FY 2014. Strategic Guidance Applications Programs (GAP): Continued to evaluate emergent alternate sensor technologies, (accelerometer, gyro, and stellar) with an emphasis on providing existing performance in a significantly reduced form factor. Assessed feasibility of advanced stellar sensor technologies for use in strategic applications; specifically, active pixel and camera-on-a-chip architectures will be evaluated. Utilized the capabilities of the Virtual System Simulation (VSSim) to conduct system trade studies that support precision guidance application for boost phase and boost-thru-reentry scenarios. Investigated concepts for enhanced system test and analysis Completed to the maxium extent possible all GAP development effort. Commenced the orderly phase out and termination of the GAP program. Program ends in FY 2014.			
FY 2014 Plans: N/A			
FY 2015 Plans: N/A			
Accomplishments/Planned Programs Subtotals	23.232	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 2228 / *Technical Applications Programs*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Contracts will continue to be awarded to those sources who were engaged in program and are currently engaged in the production and/or operational support on the basis of Other Than Full and Open Competition pursuant to the authority of 10 U.S.C. 2304 (c) (1) and (3) implemented by FAR 6.302.-1, 3, 4

E. Performance Metrics

Not applicable

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 2228 / *Technical Applications Programs*

Product Development ($ in Millions)

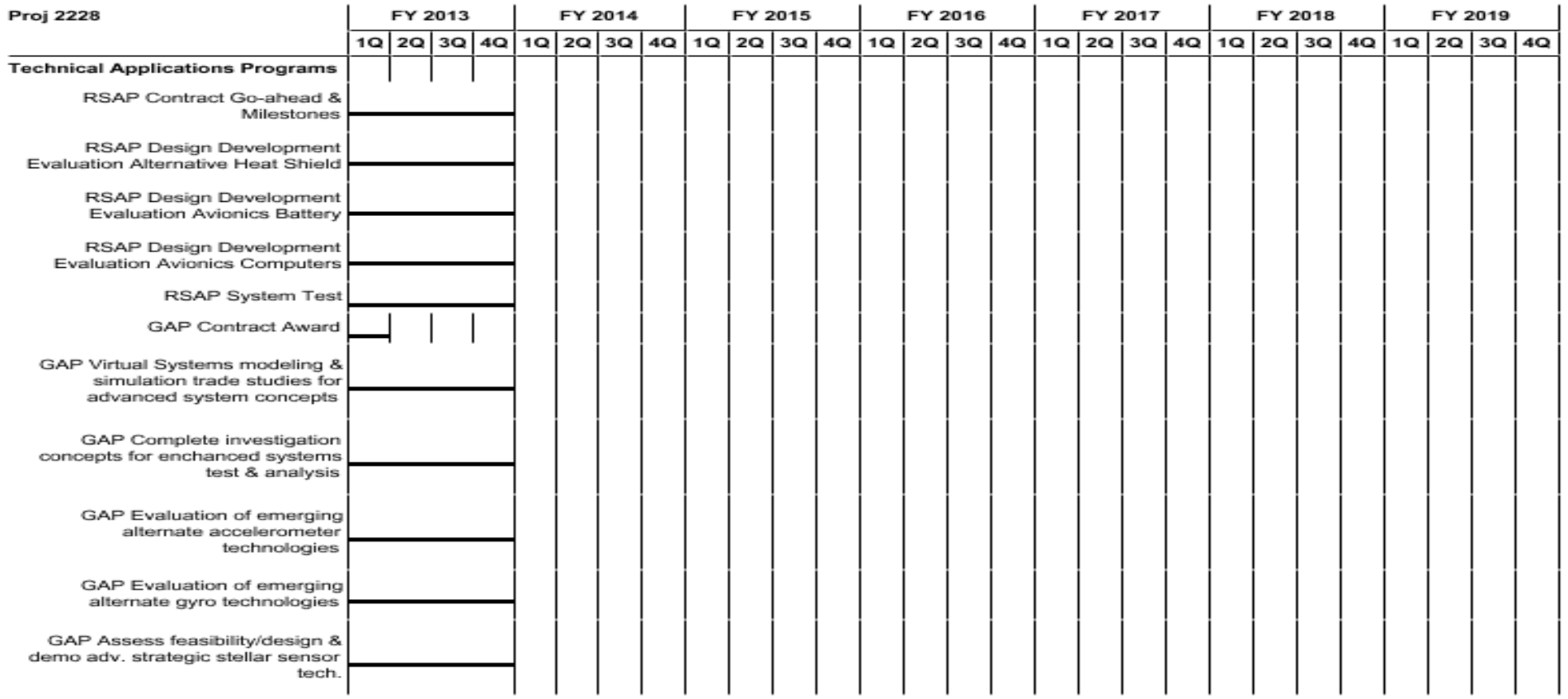
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Applications LMSS	SS/CPFF	LMSS : CA	154.161	6.289	Dec 2012	-		-		-		-	Continuing	Continuing	Continuing
Technology Applications NSWC	WR	NSWC : VA	90.535	1.969	Jan 2013	-		-		-		-	-	92.504	-
Technology Applications DOE	MIPR	DOE : NM	31.964	1.753	Jan 2013	-		-		-		-	-	33.717	-
Technology Applications ITT	SS/CPFF	ITT : CO	10.799	1.395	Dec 2012	-		-		-		-	-	12.194	-
Technology Applications CSDL	SS/CPFF	CSDL : MA	302.493	11.029	Dec 2012	-		-		-		-	-	313.522	-
Technology Applications AERO	SS/CPFF	AERO : CA	2.271	0.797	Mar 2013	-		-		-		-	-	3.068	-
Technology Applications VAR	Various	Various : Various	18.317	-		-		-		-		-	-	18.317	-
		Subtotal	610.540	23.232		-		-		-		-	-	-	-

	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	610.540	23.232		-		-		-		-	-	-	-

Remarks

FY 2013 funding does not include $11M in the Technology Applications Program (2228) that was transferred into the project to cover FY13 rescission as directed in the FY 2014 Consolidated Appropriations Act.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 2228 / *Technical Applications Programs*



2015DON - 0101221N - 2228

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 2228 / *Technical Applications Programs*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2228				
Technical Applications Programs: RSAP Contract Go-ahead & Milestones:	1	2013	4	2013
Technical Applications Programs: RSAP Design Development Evaluation Alternative Heat Shield:	1	2013	4	2013
Technical Applications Programs: RSAP Design Development Evaluation Avionics Battery:	1	2013	4	2013
Technical Applications Programs: RSAP Design Development Evaluation Avionics Computers:	1	2013	4	2013
Technical Applications Programs: RSAP System Test:	1	2013	4	2013
Technical Applications Programs: GAP Contract Award:	1	2013	1	2013
Technical Applications Programs: GAP Virtual Systems modeling & simulation trade studies for advanced system concepts:	1	2013	4	2013
Technical Applications Programs: GAP Complete investigation concepts for enchanced systems test & analysis:	1	2013	4	2013
Technical Applications Programs: GAP Evaluation of emerging alternate accelerometer technologies:	1	2013	4	2013
Technical Applications Programs: GAP Evaluation of emerging alternate gyro technologies:	1	2013	4	2013
Technical Applications Programs: GAP Assess feasibility/design & demo adv. strategic stellar sensor tech.:	1	2013	4	2013

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 3097 / *W78/88-1 Life Extension 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
3097: *W78/88-1 Life Extension Program*	-	-	14.000	7.000	-	7.000	-	-	-	-	-	21.000
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 W78/88-1 Life Extension Program (3097) is an effort to conduct the Navy portion of a DoD/DOE Nuclear Weapons Council initiated Phase 6.2/6.2A investigation of design options and associated feasibility and cost study for a life extension of the Air Force W78 Reentry Vehicle and Navy W88 Reentry Body. The study will evaluate options and select a preferred solution(s) for a common NEP, including improved safety capabilities, which could be integrated into both the W78 and W88 platforms. In addition the study will conduct a cost study for a refurbishment life extension of the current W88 design.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: W78/88-1 Life Extension Program	-	14.000	7.000
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Review and update the Military Characteristics (MCs), Stockpile to Target Sequence (STS) and Interface Control Documents (ICDs) including analysis of each of the NEP options operational impacts and benefits. Develop and approve system level design requirements. Develop new or modified environments. Conduct initial loads and dynamics assessments. Identify critical performance parameters. Continue development of advanced safety and surety architecture solutions. Conduct detailed analysis of each design option and integration impacts working towards selection of a single point design solution. Evaluate system performance impacts. Update structural designs and analytical models. Develop and document production strategy, procurement strategy, and handling and support equipment acquisition strategy.			
FY 2015 Plans: Continue study from FY14:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3097 / *W78/88-1 Life Extension Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Review and update the MCs, STS and ICDs including analysis of each of the NEP options operational impacts and benefits. Develop and approve system level design requirements. Develop new or modified environments. Conduct initial loads and dynamics assessments. Identify critical performance parameters. Continue development of advanced safety and surety architecture solutions. Conduct detailed analysis of each design option and integration impacts working towards selection of a single point design solution. Evaluate system performance impacts. Update structural designs and analytical models. Develop and document production strategy, procurement strategy, and handling and support equipment acquisition strategy.			
Accomplishments/Planned Programs Subtotals	-	14.000	7.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Contracts will be awarded to those sources who were engaged in the W78/88-1 Life Extension Program and are currently engaged in the production and/or operational support of the deployed W78/88-1 Systems on the basis of Other Than Full and Open Competition pursuant to the authority of 10 U.S.C. 2304 (c) (1) and (3) implemented by FAR 6.302.-1, 3, 4

E. Performance Metrics

Not applicable

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 3097 / *W78/88-1 Life Extension Program*	

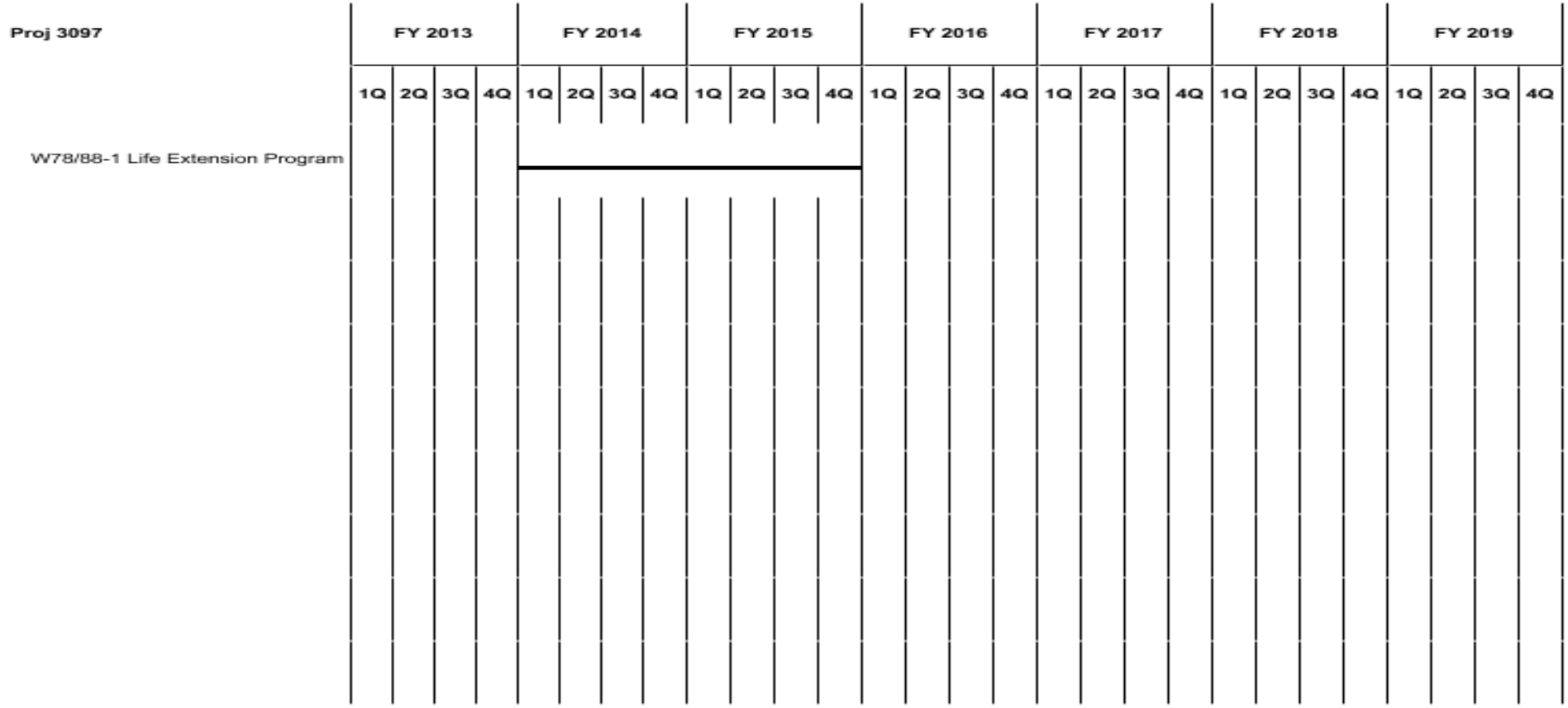
Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
W78/88-1 Life Extension Program	MIPR	DOE : NM	0.000	-		4.200	Nov 2013	0.700	Nov 2014	-		0.700	-	4.900	-
W78/88-1 Life Extension Program	C/CPFF	ITT : VA	0.000	-		1.500	Nov 2013	1.100	Oct 2014	-		1.100	-	2.600	-
W78/88-1 Life Extension Program	C/CPFF	LMMS : CA	0.000	-		7.500	Nov 2013	4.700	Oct 2014	-		4.700	-	12.200	-
W78/88-1 Life Extension Program	WR	NSWC Dahlgren : VA	0.000	-		0.800	Nov 2013	0.500	Nov 2014	-		0.500	-	1.300	-
		Subtotal	0.000	-		14.000		7.000		-		7.000	-	21.000	-

	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		14.000		7.000		-		7.000	-	21.000	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3097 / *W78/88-1 Life Extension Program*



2015DON - 0101221N - 3097

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3097 / *W78/88-1 Life Extension Program*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3097				
W78/88-1 Life Extension Program: W78/88-1 Study	1	2014	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 3158 / *Integrated Nuclear Weapons Security Sys 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
3158: *Integrated Nuclear Weapons Security Sys Dev*	14.616	4.359	2.601	2.563	-	2.563	2.651	2.733	2.820	2.878	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 Enhanced Special Weapons effort supports the Nuclear Weapons Security program and SSBN Escort mission. The policies and requirements regarding the safeguard of nuclear weapons within the Department of Defense is established by DoD S5210.41M. Within the Department of the Navy, nuclear weapons are limited to TRIDENT Fleet Ballistic Missiles (FBM), either deployed aboard TRIDENT submarines or located landside at Naval Submarine Base, Kings Bay or Naval Submarine Base, Bangor where missiles are first assembled as well as repaired. The CNO has assigned SSP, the FBM program manager, with mission responsibility for the safeguard of FBM nuclear assets. More specifically, the mission includes landside and pier operations as well as transits to and from the dive point, each of which present challenges to personnel as well as existing technologies. This budget supports efforts directed at improving the current technological baseline through a series of studies focusing on land and in transit requirements. Collectively, these efforts will improve countermeasure technologies addressing detection, delay and denial.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Integrated Nuclear Weapons Security Sys Dev	4.359	2.601	2.563
Articles:	-	-	-

FY 2013 Accomplishments:

Continued efforts focused on developing an advanced underwater vehicle and diver detection and deterrence system, and enhanced underwater and surface barriers.

Continued development of advanced technologies for Site-Wide Nuclear Weapons Security Systems including a secure wireless command network and enhanced automated security systems.

Continued development of advanced technologies for Limited Area/Convoy Route Nuclear Weapons Security Systems including extended perimeter detection, vehicle barrier systems at entry control points, and enhanced tracking capabilities.

FY 2014 Plans:

Continue development of advanced technologies for Site-Wide Nuclear Weapons Security Systems including a secure wireless command network and enhanced automated security systems.

Continue development of advanced technologies for Limited Area/Convoy Route Nuclear Weapons Security Systems including extended perimeter detection, vehicle barrier systems at entry control points, and enhanced tracking capabilities.

FY 2015 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3158 / *Integrated Nuclear Weapons Security Sys Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Sensor development for: Land Water Interface project (LWI), underwater Sonar Track Association Research (STAR), Waterside Detection System (WDS) Development of technologies: for refresh of electronic systems in the Waterfront Restricted Area (WRA), increase detection and tracking capabilities, and to reduce manpower by automating processed and enhancing security technologies. Enhance the Marine Mammal System (MMS)			
Accomplishments/Planned Programs Subtotals	4.359	2.601	2.563

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/Various-2: *OPN (Nuclear Weapons Security)*	48.722	45.630	126.429	-	126.429	50.344	51.695	36.423	56.061	Continuing	Continuing
• OMN/11D2D-3: *Fleet Ballistic Missile (Nuclear Weapons Security)*	76.295	85.249	83.319	-	83.319	85.261	81.327	83.972	86.107	Continuing	Continuing
• OMN/11D2D-5: *Fleet Ballistic Missile (Transit/Escort)*	113.059	120.510	82.199	-	82.199	90.443	84.413	86.802	96.034	Continuing	Continuing
• MCN/Various-1: *MILCON (CNI) (Nuclear Weapons Security)*	-	-	20.638	-	20.638	28.921	-	-	-	-	93.401

Remarks

D. Acquisition Strategy

Procurements are being executed through a combination of private contractors (large and small business), government Centers of Excellence (COEs), other government agencies and the Naval Submarine Bases, Kitsap and Kings Bay. Contract awards are based upon "best value" determinations, and where practical will be performance based or include incentive provisions.

E. Performance Metrics

Not applicable

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101221N / *Strategic Sub & Wpns Sys Supt*	Project (Number/Name) 3158 / *Integrated Nuclear Weapons Security Sys Dev*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Nuclear Weapons Security Sys Dev	WR	NFESC : CA	1.741	0.606	Mar 2013	0.300	Oct 2013	0.353	Nov 2014	-		0.353	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	CNWS : CA	0.404	-		-		-		-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	JHU APL : MD	2.862	0.300	Mar 2013	0.202	Oct 2013	0.183	Nov 2014	-		0.183	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	SNWS : CA	3.652	0.600	Mar 2013	0.400	Oct 2013	0.306	Oct 2014	-		0.306	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NSWC : VA	2.517	0.360	Mar 2013	0.300	Oct 2013	0.191	Oct 2014	-		0.191	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	JRC : VA	0.751	0.861	Mar 2013	0.225	Oct 2013	0.502	Oct 2014	-		0.502	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NUWC : RI	0.795	0.075	Feb 2013	0.040	Oct 2013	0.049	Dec 2014	-		0.049	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NEDU : FL	0.383	-		-		-		-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	LMSS : CA	0.706	0.295	Mar 2013	0.175	Oct 2013	0.180	Oct 2014	-		0.180	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	MIPR	DOEI : ID	0.180	-		-		-		-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	MIPR	DOE : NM	0.425	-		-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3158 / *Integrated Nuclear Weapons Security Sys Dev*

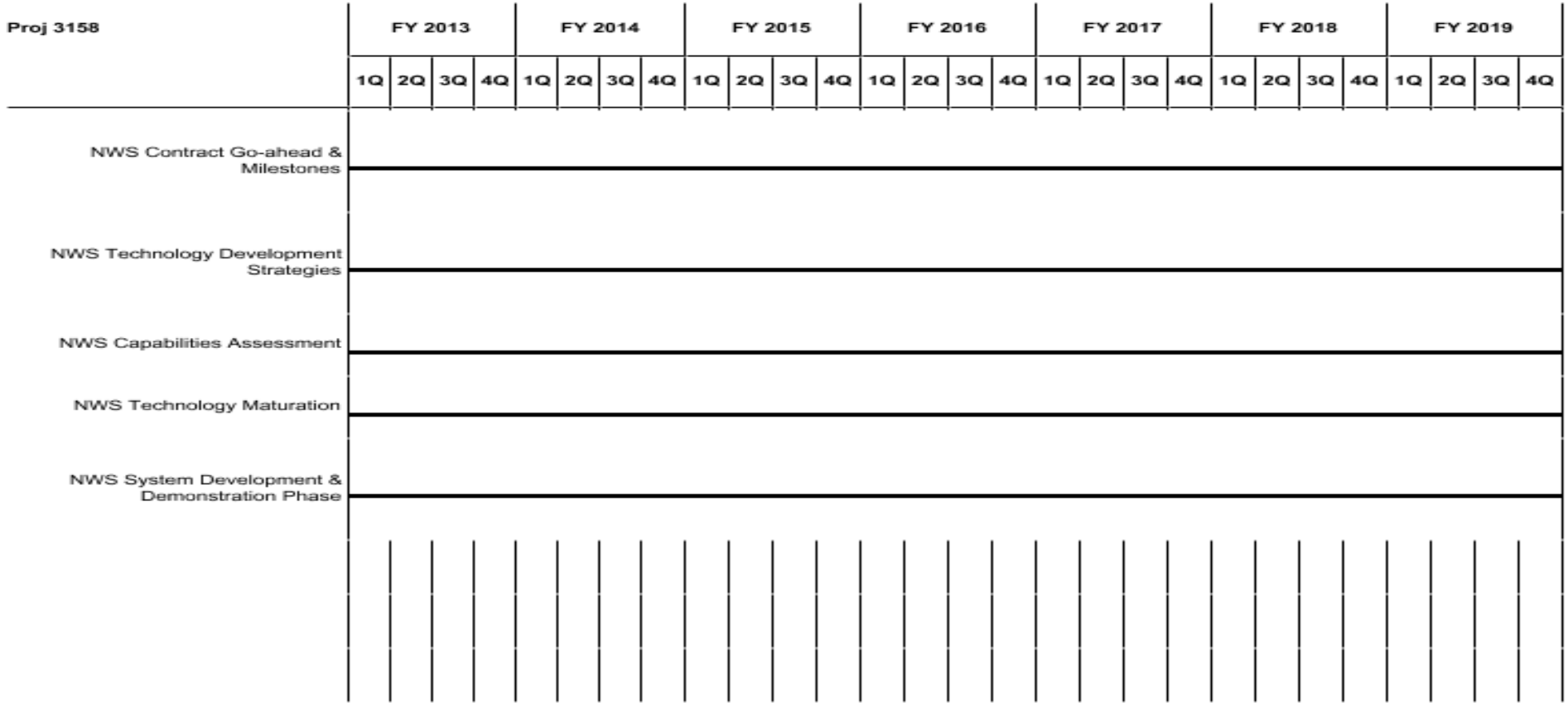
Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	ARL : TX	0.200	0.732	Mar 2013	0.709	Oct 2013	0.448	Oct 2014	-		0.448	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NUWD : WA	0.000	0.530	Feb 2013	0.250	Oct 2013	0.351	Dec 2014	-		0.351	Continuing	Continuing	Continuing
		Subtotal	14.616	4.359		2.601		2.563		-		2.563	-	-	-

	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	14.616	4.359		2.601		2.563		-		2.563	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3158 / *Integrated Nuclear Weapons Security Sys Dev*



2015DON - 0101221N - 3158

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101221N / *Strategic Sub & Wpns Sys Supt*	**Project (Number/Name)** 3158 / *Integrated Nuclear Weapons Security Sys Dev*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3158				
NWS Contract Go-ahead & Milestones:	1	2013	4	2019
NWS Technology Development Strategies:	1	2013	4	2019
NWS Capabilities Assessment:	1	2013	4	2019
NWS Technology Maturation:	1	2013	4	2019
NWS System Development & Demonstration Phase:	1	2013	4	2019

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0101224N *I SSBN Security Tech 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	30.861	31.755	30.057	-	30.057	29.180	30.387	30.973	31.672	Continuing	Continuing
0092: *SSBN Security*	0.000	30.861	31.755	30.057	-	30.057	29.180	30.387	30.973	31.672	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The details of this program element are classified SECRET and are submitted annually to Congress in the classified budget justification books.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	34.729	31.768	32.131	-	32.131
Current President's Budget	30.861	31.755	30.057	-	30.057
Total Adjustments	-3.868	-0.013	-2.074	-	-2.074
• Congressional General Reductions	-	-0.013			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.969	-			
• Program Adjustments	-	-	3.474	-	3.474
• Rate/Misc Adjustments	0.001	-	-5.548	-	-5.548
• Congressional General Reductions Adjustments	-2.900	-	-	-	-

Change Summary Explanation

Technical: Not applicable.
Schedule: 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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0101226N *I Submarine Acoustic War 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	30.976	1.299	1.464	4.509	-	4.509	3.925	5.997	6.029	2.927	Continuing	Continuing
1265: *Sub Defensive Warfare*	30.976	1.299	1.464	4.509	-	4.509	3.925	5.997	6.029	2.927	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

This project supports the Submarine Acoustic Warfare System (SAWS) Program to maintain and improve the survivability of all U.S. Submarine classes. This program funds:

1. The Next Generation Countermeasure (NGCM), an ACAT III program, currently in Engineering and Manufacturing Development (E&MD). The key new capabilities for NGCM are adaptive countermeasure (ACM) technology with full duplex capability and mobility packaged in a three inch diameter body, bringing a superior capability to the fleet.

2. The Torpedo Defense Working Group (TDWG). A working group comprised of fleet, resource sponsor, and acquisition community representatives to assess countermeasure effectiveness against fleet threats, both known and projected, with associated studies, models, and simulations.

3. The Technical Direction Agent and In-Service Engineering Agent hardware and software development support for Acoustic Devices Countermeasure (ADC) (ADC MK 2, 3 & 4, NAE Beacon) as well as Countermeasures Set, Acoustic (CSA) MK 2, MK 3, MK 4 systems and Acoustic Augmentation Support Systems (AASS) in the Acoustic Augmentation Support Program (AASP), including obsolete unit-level technical insertion.

4. Research and development of new technologies and capabilities developed under the Future Naval Capabilities (FNC), Small Business and Innovative Research (SBIR), and other Research, Development, Test & Evaluation (RDT&E) initiatives. New and emerging hardware and software are evaluated in representative acoustic environments, against projected threats through both digital and hardware-in-the-loop simulations, to determine their effectiveness and how that improves submarine survivability. The technology is then incorporated into the appropriate countermeasure.

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 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0101226N *I Submarine Acoustic War Dev*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	1.434	1.464	3.308	-	3.308
Current President's Budget	1.299	1.464	4.509	-	4.509
Total Adjustments	-0.135	-	1.201	-	1.201
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.028	-			
• Program Adjustments	-	-	1.264	-	1.264
• Rate/Misc Adjustments	-	-	-0.063	-	-0.063
• Congressional General Reductions Adjustments	-0.107	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Financial: Sequestration reduced FY13 funding. Reduced FY15 funding with the Department's 2012 decision to defer NGCM outside the (then) FYDP. In PB15 the department increased funds to accommodate NGCM to support NGCM program stabilization, modifications to the CSA MK4, and miscellaneous rate adjustments. The TDWG and WAF efforts were also stabilized to ensure ongoing assessment efforts remained a part of the submarine survivability assessment.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0101226N / *Submarine Acoustic War Dev*	Project (Number/Name) 1265 / *Sub Defensive Warfare*	

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
1265: *Sub Defensive Warfare*	30.976	1.299	1.464	4.509	-	4.509	3.925	5.997	6.029	2.927	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 supports the Submarine Acoustic Warfare System (SAWS) Program to maintain and improve the survivability of all U.S. Submarine classes. This program funds:

1. The Next Generation Countermeasure (NGCM). An ACAT III program, currently in Engineering and Manufacturing Development (E&MD). The key new capabilities for NGCM are adaptive countermeasure (ACM) technology with full duplex capability and mobility packaged in a three inch diameter body, bringing a superior capability to the fleet.

2. The Torpedo Defense Working Group (TDWG). A working group comprised of fleet, Resource sponsor and Acquisition Community to assesse countermeasure effectiveness against fleet threats both known and projected, and associated studies and models to assess effectiveness.

3. The Technical Direction Agent and In-Service Engineering Agent hardware and software development support for Acoustic Devices Countermeasure (ADC) (ADC MK 2, 3 & 4, NAE Beacon) as well as Countermeasures Set, Acoustic (CSA) MK 2, MK 3, MK 4 systems and Acoustic Augmentation Support Systems (AASS) in the Acoustic Augmentation Support Program (AASP), including obsolete unit-level technical insertion.

4. Research and development of new technologies and capabilities developed under the Future Naval Capabilities (FNC), Small Business and Innovative Research (SBIR), and other Research, Development, Test & Evaluation (RDT&E) initiatives. New and emerging hardware and software are evaluated in representative acoustic environments, against projected threats through both digital and hardware-in-the-loop simulations, to determine their effectiveness and how that improves submarine survivability. The technology is then incorporated into the appropriate countermeasure.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Sub Acoustic Warfare	1.299	1.464	4.509
Articles:	-	-	-
FY 2013 Accomplishments: - Continued NGCM integration of technology by 2 development contractors. - Began NGCM low level subsystems testing. - Held TDWG review and considered Threat Assessment for FY14 work. - NGCM Critical Design Reviews (CDR) delayed due to funding restriction, awaiting contracting modification.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101226N / *Submarine Acoustic War Dev*	**Project (Number/Name)** 1265 / *Sub Defensive Warfare*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- NGCM program restructure effort started. ***FY 2014 Plans:*** - Continue integration of technology by contractors and development towards NGCM milestones. - Continue contractor testing of NGCM subsystems. - Complete NGCM restructure. - Conduct TDWG review. ***FY 2015 Plans:*** - Commence NGCM CDRs. - Conduct assessment of threat by TDWG and WAF.			
Accomplishments/Planned Programs Subtotals	1.299	1.464	4.509

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/221000/221005: *Submarine Acoustic Warfare*	14.312	20.937	24.221	-	24.221	25.129	25.981	26.325	30.098	Continuing	Continuing

Remarks

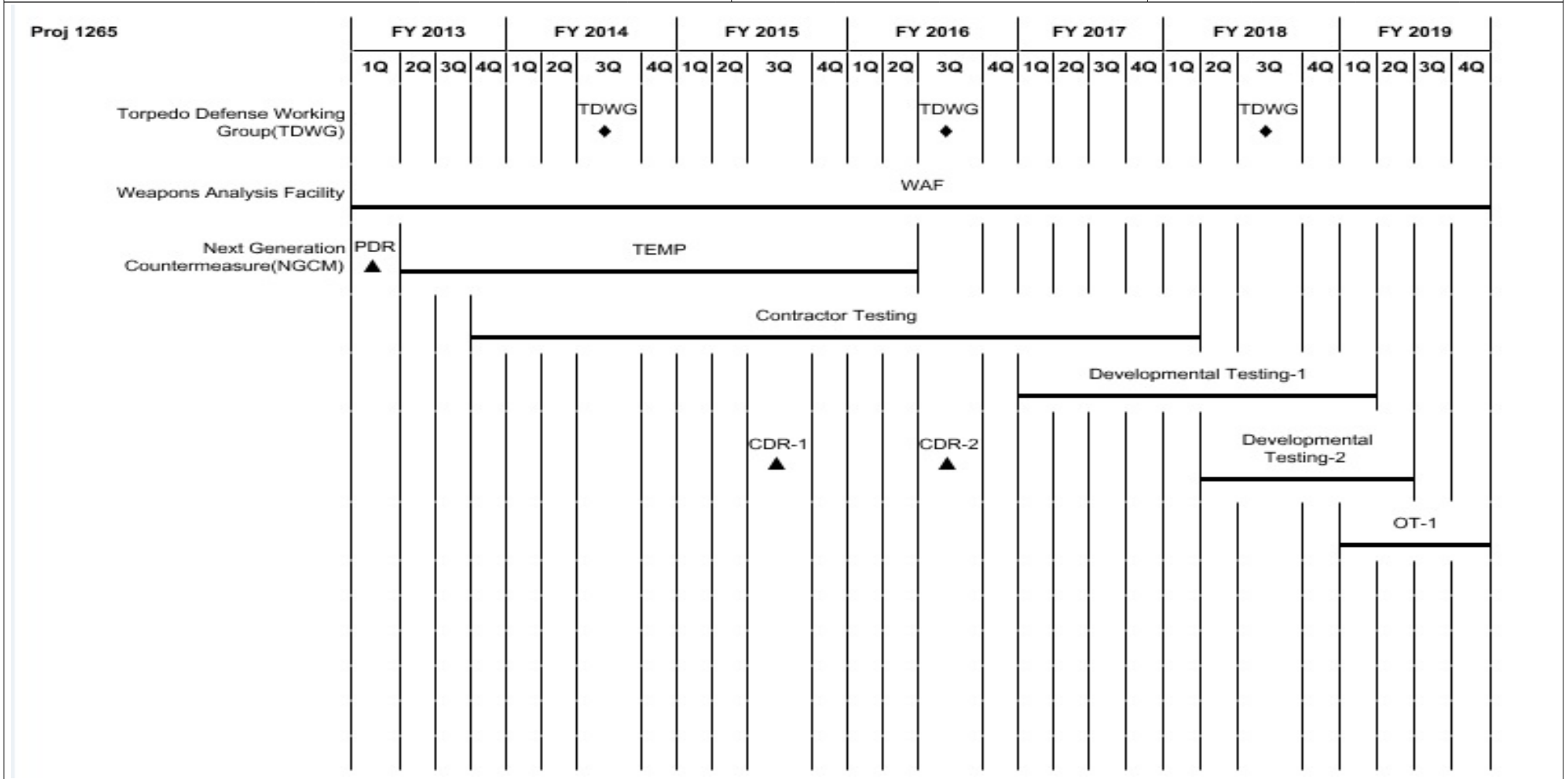
D. Acquisition Strategy

Submarine Acoustic Warfare System (SAWS) develops Undersea Defensive Warfare technologies to improve the survivability of all U.S. Submarine classes. The integration of technology into the Next Generation Countermeasure (NGCM) and the NGCM-Capable CSA MK 3/4 system will continue through FY19. The development is through a full and open competition for two cost-plus-fixed-fee (CPFF) contracts to deliver NGCM Engineering Development Models (EDMs) to the Navy. The NGCM development contracts were awarded in 1Q-FY11. NGCM contractor's subsystem testing will occur starting in FY14 through FY18 and Navy DT will be in FY17-19, with OT in FY19. Low Rate Initial Production (LRIP) Full Rate contracts are expected in FY23/24 time frame.

E. Performance Metrics

Progress Reviews
Execution Reporting and Reviews
Milestone Reviews

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101226N / *Submarine Acoustic War Dev*	**Project (Number/Name)** 1265 / *Sub Defensive Warfare*



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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0101402N *I Navy Strategic Comms*							
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	402.959	17.461	21.723	13.676	-	13.676	13.174	12.889	12.779	16.051	Continuing	Continuing
1083: *Shore To Ship Com System*	133.562	16.348	21.723	13.180	-	13.180	12.670	12.376	12.257	15.519	Continuing	Continuing
3002: *Navy Strategic Comm Project*	269.397	1.113	-	0.496	-	0.496	0.504	0.513	0.522	0.532	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The Shore to Ship Communications System develops communication system elements which provide Nuclear Command, Control and Communications (NC3) from originator to execution platforms. The Shore to Ship Communications System provides continuous assessment of the command and control links between the National Command Authority and missile platforms and which is conducted to ensure compliance with Nuclear Command and Control System Technical Performance Criteria (NTPC).

The Shore to Ship Communications System addresses joint system design issues for Emergency Action Message (EAM) distribution to all nuclear platforms and provides evaluation of joint interoperability of EAM delivery systems. Tools are developed to provide strategic command and control planning within the submarine shore infrastructure to support deployed ballistic missile submarines.

The Navy Strategic Communications Project responds to emerging E-6B Command, Control and Communications capability requirements by performing technical evaluations, modeling and simulation, investigative ground and flight testing, enhanced software modifications and development of configuration modifications. The E-6B is a manned airborne platform that provides survivable, endurable and reliable Command, Control and Communications capability in support of the President, Secretary of Defense and United States strategic and non-strategic forces. These efforts support follow-on aircraft modification procurements necessary to ensure interoperability in information-assured network-centric strategic environments.

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 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0101402N *I Navy Strategic Comms*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	19.208	21.729	14.285	-	14.285
Current President's Budget	17.461	21.723	13.676	-	13.676
Total Adjustments	-1.747	-0.006	-0.609	-	-0.609
• Congressional General Reductions	-	-0.006			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.187	-			
• SBIR/STTR Transfer	-0.325	-			
• Program Adjustments	-	-	1.471	-	1.471
• Rate/Misc Adjustments	-0.001	-	-2.080	-	-2.080
• Congressional General Reductions Adjustments	-1.608	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0101402N / *Navy Strategic Comms*				Project (Number/Name) 1083 / *Shore To Ship Com 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**
1083: *Shore To Ship Com System*	133.562	16.348	21.723	13.180	-	13.180	12.670	12.376	12.257	15.519	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 Shore to Ship Communication System develops communication elements which provide Nuclear Command, Control and Communications (NC3) from originator to execution platforms. This portfolio of programs provides design and developments for shore-to-ship transmit and receive communications systems.

The Low Band Universal Communications System (LBUCS) is a modernization program that will upgrade the transmit and receive subsystems of the Fixed Submarine Broadcast System (FSBS) which are approaching their operational end of life. LBUCS will ensure operational capability through the Very Low Frequency (VLF) architecture by providing system life extension and flexibility of submarine broadcast traffic to submarines operating in a stealth posture. The flexibility includes enhanced throughput and anti-jam capability, ensuring more operational products are delivered to a submarine without risking mast exposure. The flexibility further includes a simplified shore architecture to maintain capability while maximizing use of shore nodes (Broadcast Keying Sites). LBUCS also provides an upgrade to the VLF receive system, with all interoperable waveforms, to ensure continued compliance with Nuclear Command and Control System Technical Performance Criteria (NTPC).

The Strategic Communications Assessment Program/Continued Evaluation Program provides constant assessment of the effectiveness of the end-to-end NC3 network and analysis of system performance in various mission locations.

Technologies to improve high voltage insulators, helix house bushings and antenna components used in the fixed VLF transmit systems are evaluated and tested through the High Voltage Improvement Program (HVIP). Development of information assurance solutions for the Broadcast Control Authority (BCA) and Submarine Operating Authority (SUBOPAUTH) Wide Area Network (SWAN) are part of this program to mitigate vulnerability concerns.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2013**	**FY 2014**	**FY 2015**
Title: Low Band Universal Communication System (LBUCS)	11.812	16.775	8.227
Articles:	-	-	-
FY 2013 Accomplishments: -Commenced Submarine Operating Authority (SUBOPAUTH) Wide Area Network (SWAN) Information Assurance (IA) upgrade development. -Continued statutory and regulatory acquisition documentation in preparation for Low Band Universal Communications System (LBUCS) Transmit Milestone C including the Capability Production Document (CPD). -Commenced LBUCS Transmit Engineering Design Model (EDM) Developmental Testing (DT) and Operational Assessment (OA). -Commenced LBUCS Receive development.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101402N / *Navy Strategic Comms*	**Project (Number/Name)** 1083 / *Shore To Ship Com System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
-Commenced development of a new Very Low Frequency (VLF) mode, which will be incorporated into the Low Band Universal Communication System (LBUCS) Receive development effort. ***FY 2014 Plans:*** -Continue Submarine Operating Authority (SUBOPAUTH) Wide Area Network (SWAN) Information Assurance (IA) upgrade development. -Complete statutory and regulatory acquisition documentation in preparation for LBUCS Transmit Milestone C including the Capability Production Document (CPD). -Complete LBUCS Transmit Engineering Design Model (EDM) Developmental Test (DT) and Operational Assessment (OA). -Complete LBUCS Transmit Milestone C. -Commence Low Band Universal Communication System (LBUCS) Transmit Low Rate Initial Production (LRIP) procurement. -Continue LBUCS Receive development. -Continue development of a new Very Low Frequency (VLF) Mode which, will be incorporated into the LBUCS Receive development effort. -Commence and complete LBUCS Receive Preliminary Design Review (PDR) and Critical Design Review (CDR). ***FY 2015 Plans:*** -Continue SWAN IA upgrade development. -Complete LBUCS Transmit LRIP procurement. -Commence LBUCS Transmit LRIP Developmental Testing (DT-C1)/Integration Testing (DT-C2)/Operational Testing (OT). -Commence and complete LBUCS Transmit LRIP installation. -Complete LBUCS Receive development. -Commence LBUCS Receive DT/OA. -Complete development of new VLF mode.			
Title: Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP)	3.084	3.811	3.439
Articles:	-	-	-
FY 2013 Accomplishments: -Continued mission analysis of Ship Submersible Ballistic Nuclear (SSBN) Emergency Action Message (EAM) reception for SSBN patrols. -Continued development of automated data collection and analysis tools to reduce latency time between missions and results availability. -Commenced and completed reports on performance, adherence to delivery time requirements and shortfalls. ***FY 2014 Plans:*** -Continue mission analysis of Ship Submersible Ballistic Nuclear (SSBN) Emergency Action Message (EAM) reception for SSBN patrols.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101402N / *Navy Strategic Comms*	**Project (Number/Name)** 1083 / *Shore To Ship Com System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
-Continue development of automated data collection and analysis tools to reduce latency time between missions and results availability. -Commence and complete reports on performance, adherence to delivery time requirements and shortfalls. ***FY 2015 Plans:*** -Continue mission analysis of SSBN EAM reception for SSBN patrols. -Complete development of automated data collection and analysis tools to reduce latency time between missions and results availability. -Commence and complete reports on performance, adherence to delivery time requirements and shortfalls.			
Title: Concept Development/Systems Planning ***Articles:*** ***FY 2013 Accomplishments:*** -Completed integration of Joint/Allied Network Enabled Operation (NEO) with Command, Control, Communications, Computers, and Intelligence (C4I) applications -Completed United States / United Kingdom NEO demonstrations. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.450 -	- -	- -
Title: High Voltage Improvement Program (HVIP) ***Articles:*** ***FY 2013 Accomplishments:*** -Completed examination of aging laminated wood used in Very Low Frequency (VLF)/Low Frequency (LF) Helix Houses. -Completed examination of aging multi-conductor High Q inductor cable used in Very Low Frequency (VLF)/Low Frequency (LF) Helix Houses. ***FY 2014 Plans:*** -Commence examination of innovative lighting methods for high voltage Very Low Frequency (VLF)/Low Frequency (LF) towers. -Commence analysis of sulfur hexaflouride (SF6) breakdown in high voltage fields. ***FY 2015 Plans:*** -Complete examination of innovative lighting methods for high voltage VLF/LF towers. -Complete analysis of sulfur hexaflouride (SF6) breakdown in high voltage fields.	0.737 -	0.835 -	1.136 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101402N / *Navy Strategic Comms*	**Project (Number/Name)** 1083 / *Shore To Ship Com System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
-Commence examination of methods for reducing risk of fire or damage by detection of partial discharge in Helix Houses.			
Title: Broadcast Control Authority (BCA)	0.265	0.302	0.378
Articles:	-	-	-
FY 2013 Accomplishments: -Continued development of the Submarine Operating Authority (SUBOPAUTH) communications tools to include: file repository, Operation Schedule (OpSked) Editor, Submarine Notes (SubNotes) Editor, and Web Off The Air Monitor (WebOTAM). -Commenced systems engineering support for Information Assurance (IA) improvements.			
FY 2014 Plans: -Complete development of SUBOPAUTH communications tools including: file repository, OpSked Editor, SubNotes Editor, and WebOTAM. -Continue systems engineering support for Information Assurance (IA) improvements.			
FY 2015 Plans: -Commence development of Submarine Operating Authority (SUBOPAUTH) Wide Area Network (SWAN) hardening prototype system (lab) -Continue systems engineering support for Information Assurance (IA) improvements.			
Accomplishments/Planned Programs Subtotals	16.348	21.723	13.180

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/3107: *Submarine Broadcast*	3.650	7.856	11.057	-	11.057	18.479	15.844	17.974	18.340	Continuing	Continuing

Remarks

D. Acquisition Strategy

Low Band Universal Communications System (LBUCS): LBUCS is the modernization program that will upgrade the Transmit and Receive subsystems of the Fixed Submarine Broadcast System (FSBS) which are approaching their operational end of life. The development of LBUCS Receive continues in FY15.

E. Performance Metrics

LBUCS FY15: LBUCS Transmit complete Low Rate Initial Procurement (LRIP) procurement and installation.

Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP) FY15: Delivery of Submersible Ballistic Nuclear Submarine (SSBN) patrol reports.

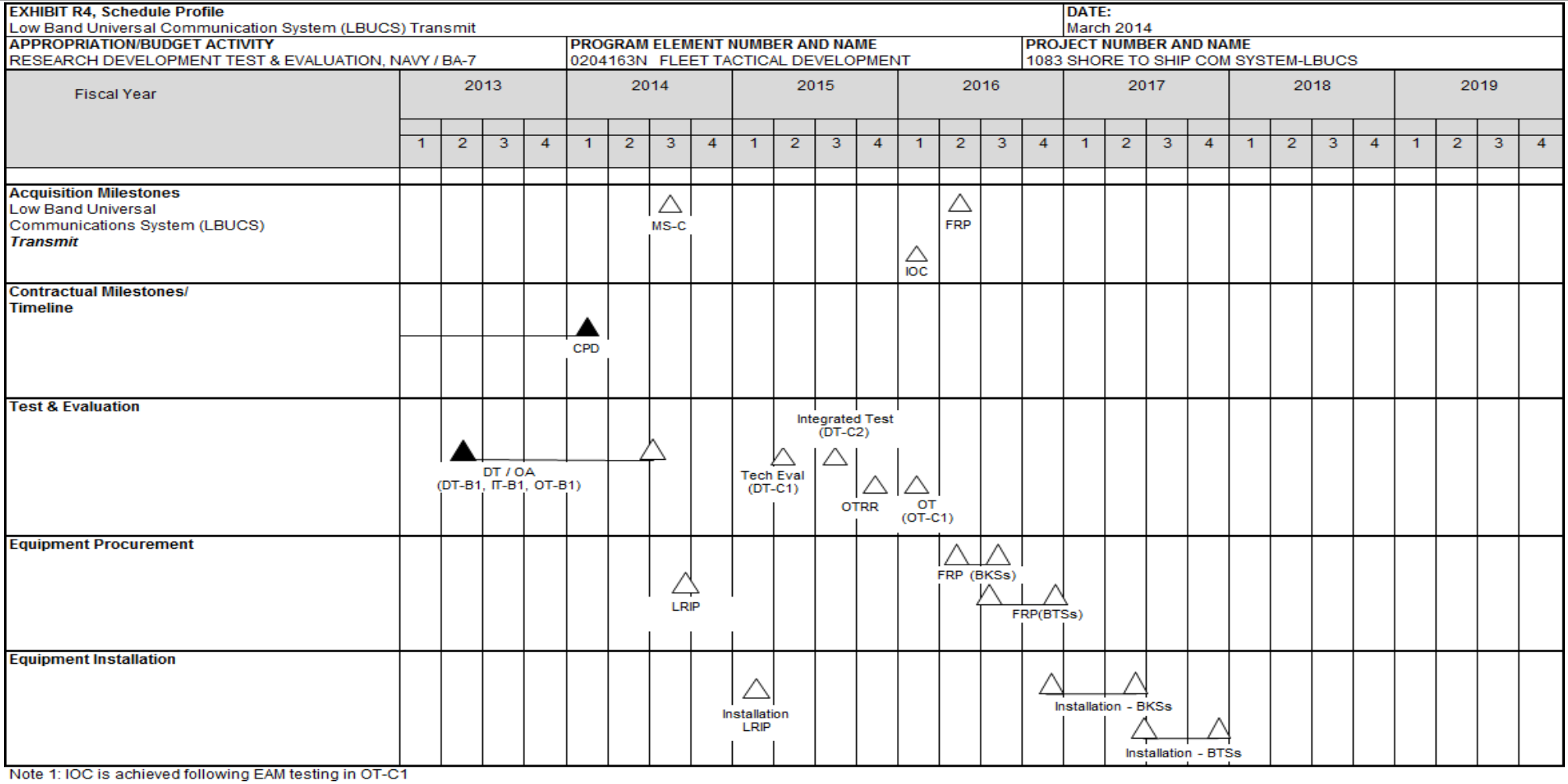
Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101402N / *Navy Strategic Comms*	**Project (Number/Name)** 1083 / *Shore To Ship Com System*

High Voltage Improvement Program (HVIP) FY15: Complete examination of innovative lighting methods for high voltage Very Low Frequency (VLF)/Low Frequency (LF) towers.

Broadcast Control Authority (BCA) FY15: Complete Information Assurance (IA) assessment reports.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		**Date:** March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101402N / *Navy Strategic Comms*	**Project (Number/Name)** 1083 / *Shore To Ship Com System*

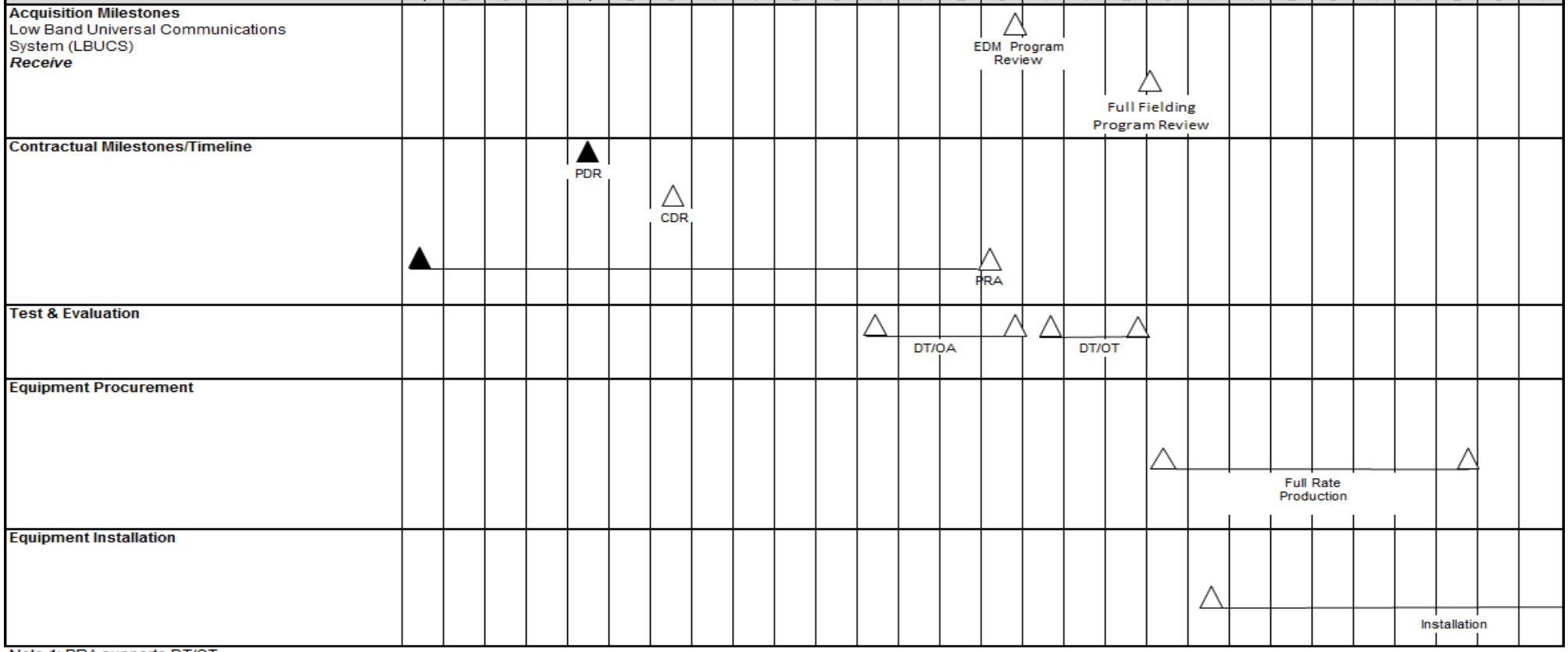
EXHIBIT R4, Schedule Profile Low Band Universal Communication System (LBUCS) Transmit			**DATE:** March 2014
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	**PROGRAM ELEMENT NUMBER AND NAME** 0204163N FLEET TACTICAL DEVELOPMENT	**PROJECT NUMBER AND NAME** 1083 SHORE TO SHIP COM SYSTEM-LBUCS	



Note 1: IOC is achieved following EAM testing in OT-C1

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		**Date:** March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101402N / *Navy Strategic Comms*	**Project (Number/Name)** 1083 / *Shore To Ship Com System*

EXHIBIT R4, Schedule Profile Low Band Universal Communication System (LBUCS) Receive			**DATE:** March 2014
APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	**PROGRAM ELEMENT NUMBER AND NAME** 0204163N FLEET TACTICAL DEVELOPMENT	**PROJECT NUMBER AND NAME** 1083 SHORE TO SHIP COM SYSTEM-LBUCS	



Note 1: PRA supports DT/OT

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		**Date:** March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101402N / *Navy Strategic Comms*	**Project (Number/Name)** 1083 / *Shore To Ship Com System*

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Navy
Strategic Communications Assessment Program (SCAP) Continuing Evaluation Program (CEP)

DATE: March 2014

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	0101402N NAVY STRATEGIC COMMS	1083 SCAP/CEP

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
Studies and Analysis Strategic Communications Assessment Program (SCAP) Continuing Evaluation Program (CEP)	◇ Ongoing ◇																											
Milestones and Deliverables											△ Analysis Automation																	
Contractual Milestones/Timelines			▲ Task Order																									

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0101402N / *Navy Strategic Comms*				Project (Number/Name) 3002 / *Navy Strategic Comm Project*			
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**
3002: *Navy Strategic Comm Project*	269.397	1.113	-	0.496	-	0.496	0.504	0.513	0.522	0.532	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 E-6 is a manned airborne platform that provides survivable, endurable and reliable Command, Control and Communications capability in support of the President, Secretary of Defense and United States strategic and non-strategic forces. In order to respond effectively to emerging capability requirements, continued effort is needed to perform technical evaluations, modeling and simulation, investigative ground and flight testing, enhanced software modifications and development of configuration modifications. Funding has been added starting in FY15 for advanced development engineering and analysis of hardware/software required to optimize E-6 systems for interoperability in a network-centric strategic environment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Conduct Developmental Test (DT) Governmental Training	0.077	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Complete Block IA ECP DT Governmental Training efforts.			
FY 2014 Plans: N/A			
FY 2015 Plans: N/A			
Title: Studies & Analysis	-	-	0.496
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: N/A			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101402N / *Navy Strategic Comms*	**Project (Number/Name)** 3002 / *Navy Strategic Comm Project*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Perform and conduct advanced simulations, integrations and demonstrations using E-6B Systems Integration Laboratory and contractor assets of newly developed commercial technology to address system obsolescence and potential upgrades to ensure survivability and reliability of the E-6B platform.			
Title: Prototype Aircraft Installation	1.036	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Complete Block IA ECP Prototype Aircraft Installation efforts.			
FY 2014 Plans: N/A			
FY 2015 Plans: N/A			
Accomplishments/Planned Programs Subtotals	1.113	-	0.496

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 056400: *E-6 A/B Series*	140.159	157.549	212.876	-	212.876	196.629	200.303	203.856	178.089	489.546	2,409.771

Remarks

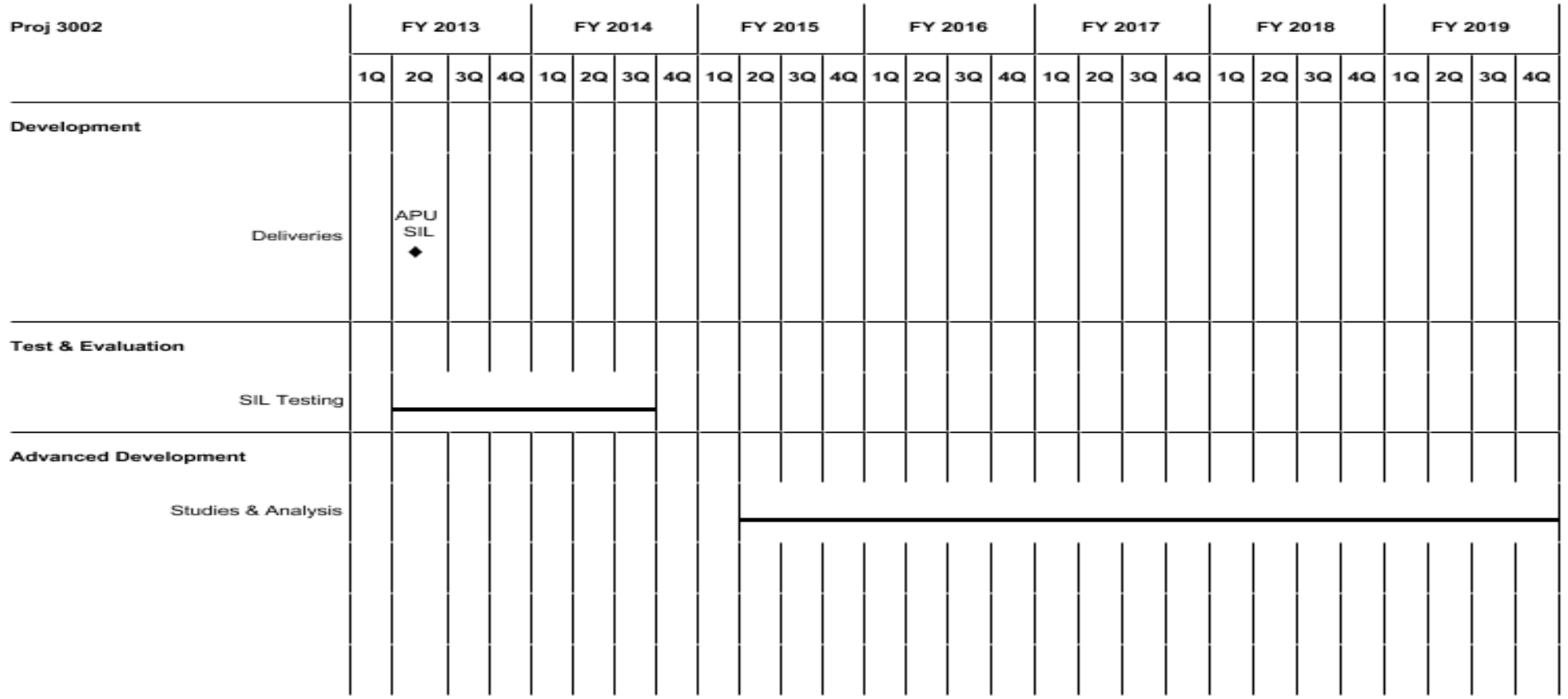
D. Acquisition Strategy

Advanced development engineering and analysis of hardware/software required to optimize E-6 systems for interoperability in a network-centric strategic environment.

E. Performance Metrics

Mission Systems Evaluation; Technical Analysis 1st Qtr FY15, Design Analysis 2nd Qtr FY15, SIL Test and Reporting 4th Qtr FY15.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0101402N / *Navy Strategic Comms*	**Project (Number/Name)** 3002 / *Navy Strategic Comm Project*



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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0203761N *I Rapid Technology Transition (RTT)*							
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	68.227	21.906	8.561	12.480	-	12.480	26.096	25.821	26.292	26.828	Continuing	Continuing
3126: *Rapid Technology Transition (RTT)*	40.807	10.374	-	-	-	-	-	-	-	-	-	51.181
3173: *Technology Insertion Program for Savings (TIPS)*	16.745	11.318	8.436	12.480	-	12.480	26.096	25.821	26.292	26.828	Continuing	Continuing
3174: *Rapid Development and Deployment (RDD)*	10.675	0.214	0.125	-	-	-	-	-	-	-	-	11.014

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

A. Mission Description and Budget Item Justification

NOTE TO FMB: The R2 Titled should be changed to Technology Insertion Program for Savings (TIPS) prior to Pres Bud submission to reflect the remaining R&D project within the PE that is funded.

MISSION:
RTT programs transition technology from any source, including those not traditionally associated with defense technology. An effective and robust integration of commercial and military technologies can reduce costs and improve naval capabilities by keeping pace with the fast moving changes in technologies and operational needs. The RTT program is comprised of three elements: The Rapid Technology Transition (RTT) program, the Technology Insertion Program for Savings (TIPS), and the Rapid Development and Deployment (RDD) program. The RTT and TIPS programs are structured to bring transition deals to closure quickly, and to provide execution year funding for a rapid start, bridging the gap until the program of record can fund the completion of the technology insertion. The RDD program is structured to quickly develop a prototype solution that will be deployed in theater for Naval forces engaged in Overseas Contingency Operations (OCO).

The mission of the RTT program is to increase the rate that new, innovative, and potentially disruptive technologies are inserted into Department of Navy (DON) acquisition programs and the hands of the warfighter.

The mission of the TIPS program is to increase the rate that new cutting edge technologies are inserted into DON acquisition programs in order to significantly reduce operations and maintenance support costs.

The RDD program provides for the rapid development and fielding of prototype solutions to meet urgent operational needs. The RDD process applies when existing DON processes cannot meet urgent operational needs. Overseas Contingency Operations (OCO) have generated rapidly evolving military needs that require responsive materiel solutions.

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0203761N *I Rapid Technology Transition (RTT)*

Rapid transition opportunities occur when a sufficiently mature technology is identified that can meet a particular need on a timetable which matches that of an acquisition program, and is supported by a business case which justifies the associated cost and schedule risk. The combination of circumstances which create such opportunities can appear, and disappear, well inside the Program Objectives Memorandum (POM) cycle. These programs are designed to be proactive in identifying opportunities and to work with resource sponsors, fleet and force users, and Program Managers (PMs) in constructing viable technology transition deals one at a time.

To ensure the widest possible awareness of emergent commercial technology opportunities, these programs interact with the industry and coordinate closely with Program Executive Offices (PEOs) and Program Managers (PMs) to maintain awareness of insertion opportunities. Utilizing existing authorities, RTT applies execution year funds where necessary to "jump-start" transitions so they can be inserted and validated by Sea Trial experiments leading directly to deployment and/or demonstrations of high risk/high payoff technologies. This Program Element is the only Navy program that addresses current, urgent requirements that are required by the fleet within a 18-24 month period. As such, planning and execution are accomplished within the same fiscal year, which causes a non-traditional financial execution profile for the program. The program therefore does not meet traditional execution benchmarks.

Higher Navy priorities result in the termination of the RTT program in 2014.

The Technology Insertion Program for Savings (TIPS) transitions technology from any source, including those not traditionally associated with defense technology. An effective and robust integration of commercial and military technologies can reduce costs by keeping pace with the fast moving changes in technologies and operational needs. The TIPS program is structured to bring transition deals to closure quickly, and to provide execution year funding for a quick start, bridging the gap until the program of record can fund the completion of the technology insertion.

The mission of the TIPS program is to increase the rate that new cutting edge technologies are inserted into DON acquisition programs in order to significantly reduce operations and maintenance support costs. Opportunities occur when a sufficiently mature technology is identified that can meet a particular need on a timetable which matches that of an acquisition program, and is supported by a business case which justifies the associated cost and schedule risk. The combination of circumstances which create such opportunities can appear, and disappear, well inside the Program Objectives Memorandum (POM) cycle. This program is designed to be proactive in identifying opportunities and to work with resource sponsors, fleet and force users, and Program Managers (PMs) in constructing viable technology transition deals, one at a time. To ensure the widest possible awareness of emergent commercial technology opportunities, this program interacts with the industry and coordinate closely with Program Executive Offices (PEOs) and Program Managers (PMs) to maintain awareness of insertion opportunities. Utilizing existing authorities, TIPS applies execution year funds where necessary to "jump-start" transitions so they can be inserted and validated leading directly to deployment and/or demonstrations of high risk/high payoff technologies. This Program Element is the only Navy program that addresses current opportunities to reduce operations and support (O&S) cost drivers within a 18-24 month period. As such, planning and initiation are accomplished within the same fiscal year, which causes a non-traditional financial execution profile for the program. The program therefore does not meet traditional execution benchmarks.

Funding increase to the TIPS reflects emphasis on increasing the number of projects that reduce operations and support costs.

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 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0203761N *I Rapid Technology Transition (RTT)*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	25.566	13.561	17.165	-	17.165
Current President's Budget	21.906	8.561	12.480	-	12.480
Total Adjustments	-3.660	-5.000	-4.685	-	-4.685
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.963	-			
• SBIR/STTR Transfer	-0.469	-			
• Rate/Misc Adjustments	-	-	-4.685	-	-4.685
• Congressional General Reductions Adjustments	-2.228	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0203761N / *Rapid Technology Transition (RTT)*	Project (Number/Name) 3126 / *Rapid Technology Transition (RTT)*	

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
3126: *Rapid Technology Transition (RTT)*	40.807	10.374	-	-	-	-	-	-	-	-	-	51.181
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 mission of the RTT project is to increase the rate that new, innovative, and potentially disruptive technologies are inserted into DON acquisition programs and the hands of the warfighter. A key aspect of the RTT project is its charter to transition technology from any source, including those not traditionally associated with defense technology. An effective and robust integration of commercial and military technologies can reduce costs and improve naval capabilities by keeping pace with the fast moving changes in technologies and operational needs. The RTT project is structured to bring transition deals to closure quickly, and to provide execution year funding for a rapid start, bridging the gap until the program of record can fund the completion of the technology insertion.

The RTT program has been terminated at the end of FY 2013 and funding religned to higher naval priorities.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: RAPID TECHNOLOGY TRANSITION (RTT)	10.374	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued the following RTT projects: - T64 Prognosis/Diagnosis Based Management (PDBM) - Integrated Laser Designator/Rangefinder for the M1A1 Tank - Integrated Variable Message Format (VMF) in the E-2 Hawkeye. - Secure Communications Controller - VVoSIP and Call Management for Afloat Networks - Unit-Level ISR&T for DCGS-N - Tactical Transfer Cross-Domain Solution Device - Calibration and Certification of MAC Sensors for Intelligence Data Collection - High Gain Broadband (Graywing) Shipboard IO Antenna - Image Based Navigation for Tomahawk Block IV Cruise Missile (ImageNav) - Disruptive Tolerant Networking - Seal Delivery Vehicle (SDV) Umbilical management System (UMS) - Maritime Radar Processor (MRP) RTT			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0203761N / *Rapid Technology Transition (RTT)*	**Project (Number/Name)** 3126 / *Rapid Technology Transition (RTT)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Graywing and SSEE Mods Broadband Amplifier - Fire Resistant Nanocomposite Coating - Advanced Special Communications Waveform In MARCOR Radios (ASWIMR) - CBSP VIPERSAT - Automated Transparency Refurbishment (ATR) - Naval Superstructure Cracking Due to Aluminum Sensitization Initiated 2 RTT projects to improve Naval Warfighting capability. Initiated program shut down. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	10.374	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Utilize existing authorities on a case-specific basis to exploit rapid technology transition opportunities.

E. Performance Metrics

The RTT program will initiate new project each year that provide for new, innovative, and potentially disruptive technology being inserted into DON acquisition programs. The RTT deals will have a greater than 80% success rate of insertion and fielding of technology into DON warfighting systems.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0203761N / *Rapid Technology Transition (RTT)*	Project (Number/Name) 3173 / *Technology Insertion Program for Savings (TIPS)*	

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
3173: *Technology Insertion Program for Savings (TIPS)*	16.745	11.318	8.436	12.480	-	12.480	26.096	25.821	26.292	26.828	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

The mission of the Technology Insertion Program for Savings (TIPS) is to increase the rate that new cutting edge technologies are inserted into DON acquisition programs in order to significantly reduce operations and maintenance support costs. The program is structured to quickly transition applicable commercial off-the-shelf solutions and late-stage development technologies from any source to meet an emerging opportunity. TIPS provides execution year funding for a rapid start, bridging the gap until the program of record can fund the completion of the technology insertion.

Funding decrease from FY13 to FY14 resulting from CNO higher priority or requirements
Funding increase from FY14 through FY15 reflects emphasis on increasing the number of projects that reduce operations and support costs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: TECHNOLOGY INSERTION PROGRAM FOR SAVINGS (TIPS)	11.318	8.436	12.480
Articles:	-	-	-
FY 2013 Accomplishments: Continued the following TIPS projects: - Composite Patch Technology - Global Ammunition Strategic Positioning Model (GASPM) - Backscatter X-ray for F-18 Depot Level Structural Inspection - Revolutionary Low FOD Drogue - Initiate 6-8 new TIPS projects to improve naval warfighter capabilities			
FY 2014 Plans: Continue efforts from FY 2013 unless otherwise noted as complete. Initiate 6-8 new TIPS projects to improve naval warfighter capabilities.			
FY 2015 Plans: Continue efforts from FY 2014 unless otherwise noted as complete. Initiate 6-8 new TIPS projects to improve naval warfighter capabilities.			
Accomplishments/Planned Programs Subtotals	11.318	8.436	12.480

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0203761N / *Rapid Technology Transition (RTT)*	**Project (Number/Name)** 3173 / *Technology Insertion Program for Savings (TIPS)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Utilize existing authorities on a case-specific basis to exploit rapid technology transition opportunities.

E. Performance Metrics

The TIPS program will initiate new projects each year that provide for new, innovative, and potentially disruptive technology being inserted into DON acquisition programs. The TIPS projects will have a greater than 80% success rate of insertion and fielding of technology into DON warfighting systems and/or operations and support cost efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0203761N / *Rapid Technology Transition (RTT)*				Project (Number/Name) 3174 / *Rapid Development and Deployment (RDD)*			
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**
3174: *Rapid Development and Deployment (RDD)*	10.675	0.214	0.125	-	-	-	-	-	-	-	-	11.014
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

Rapid Development and Deployment (RDD) provides an environment and process for rapid development and fielding of prototype solutions to meet urgent operational needs. The RDD process applies when existing DON processes cannot meet urgent operational needs. Overseas Contingency Operations (OCO) have generated rapidly evolving military needs that require responsive materiel solutions. RDD is a fast track process for application, by exception, to Navy and USMC capability needs and materiel solutions that meet the following criteria: (1) Need identified during active or incipient combat or contingency operation, or (2) Need derived from combat survivability of the warfighter or impacts the success of the mission. RDD initiates projects to deliver prototype solutions that are not readily available off-the-shelf and that can be developed, integrated with other components and systems (as necessary), tested, and fielded within 270 days of need approval. RDD provides startup funds to initiate projects that meet the above criteria while other funding is made available within the year of execution. Rapid Development and Deployment (RDD) provides an environment and process for rapid development and fielding of prototype solutions to meet urgent operational needs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2013**	**FY 2014**	**FY 2015**
Title: RAPID DEVELOPMENT AND DEPLOYMENT (RDD)	0.214	0.125	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued MV-22 Traffic Collision Avoidance System (TCAS) efforts. Complete the V-22 Windscreen Durability Improvements. Initiate shutdown of the RDD program office and integrate functions into ONR Technology Transition Office.			
FY 2014 Plans: Complete shutdown of the RDD program office and integrate functions into ONR Technology Transition Office.			
FY 2015 Plans: N/A			
Accomplishments/Planned Programs Subtotals	0.214	0.125	-

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0203761N / *Rapid Technology Transition (RTT)*	**Project (Number/Name)** 3174 / *Rapid Development and Deployment (RDD)*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

For RDD requirements that meet the selection criteria, the virtual Rapid Development and Deployment Office (RDDO) is used to initiate projects. The RDDO is a virtual organization operating across Naval Laboratories and Warfare Centers, with interfaces and/or contractual agreements with other Military Services, Industry, Academia and the National Laboratory community. The RDDO will bring together, on demand, multi-disciplinary teams to develop and deliver rapid, innovative solutions. The RDDO will maintain visibility of available and emerging technologies from all sources that may serve as enablers to the success of RDD initiatives. The RDDO will review Urgent Combat Needs, identify and evaluate alternative solutions and provide recommendations. The RDDO will include a rapid acquisition channel, consistent with all applicable procurement regulations, for access to industry products and services as needed. For approved projects, the RDDO will select appropriate technologies, and develop, integrate, test, and deliver fieldable prototypes with the essential logistics for use by the warfighter. End users will be involved throughout the process as part of the virtual team.

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 - 360 days.

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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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204136N *I F/A-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	4,556.862	150.479	112.618	76.216	-	76.216	56.193	39.183	50.618	72.712	Continuing	Continuing
1662: *F/A-18 Improvement*	3,889.377	112.030	109.532	73.152	-	73.152	53.171	39.183	50.618	72.712	Continuing	Continuing
2065: *F/A-18 Radar Upgrade*	667.485	38.449	3.086	3.064	-	3.064	3.022	-	-	-	-	715.106

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

A. Mission Description and Budget Item Justification

The F/A-18 is required to perform multiple missions. Capabilities of the F/A-18 weapon system and ancillary equipment can be upgraded to accommodate and incorporate new or enhanced weapons as well as advances in technology to respond effectively to emerging future threats. Continued F/A-18 E/F and EA-18G "Flight Plan" spiral capability development is critical to the baseline of the Super Hornet next generation mission system capability and maintaining tactical relevance in support of Navy Aviation Plan 2030. Development continues for a platform solution to threat Advanced Electronic Attack and Counter-Electronic Attack (CEA). F/A-18 solutions to CEA include upgrades to existing sensors such as F/A-18 Radar Upgrade, Infrared Search and Track Block I, and development of a fused picture between these sensors, such as Multi-Sensor Integration Phase III (the phases of Multi-Sensor Integration are being rolled up under the title of Multi-System Integration in FY15, programmatic name change only). Additionally, 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.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	188.299	131.118	116.542	-	116.542
Current President's Budget	150.479	112.618	76.216	-	76.216
Total Adjustments	-37.820	-18.500	-40.326	-	-40.326
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-18.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-7.043	-			
• SBIR/STTR Transfer	-2.506	-			
• Program Adjustments	-	-	-0.200	-	-0.200
• Rate/Misc Adjustments	0.001	-	-40.126	-	-40.126

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 7: *Operational Systems Development*		R-1 Program Element (Number/Name) PE 0204136N *I F/A-18 Squadrons*		

• Congressional General Reductions Adjustments	-9.272	-	-	-	-
• Congressional Directed Reductions Adjustments	-19.000	-	-	-	-

Change Summary Explanation

Technical:
1662: Programmatic name change from Multi-Sensor Integration to Multi-System Integration beginning in FY15.

2065: Not Applicable

Schedule:
1662: The System Configuration Set (SCS) schedule has had multiple changes due to issues discovered during developmental and operational test requiring additional development time. Schedule changes affect the software development efforts for the Infra-Red Search and Track (IRST), Sensor Integration, Multi-Sensor Integration (MSI) Phase II, MSI Phase III and Automatic Ground Collision Avoidance System program schedules.

Specific changes include earlier start for 29C development from 3Q15 to 2Q14; earlier start for 31C development from 3Q17 to 1Q16; 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; H12 Fleet Release moves from 4Q16 to 4Q17. 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.

Delays in the schedule for IRST are due to technical challenges with the Fuel Tank which led to additional flight test requirements.

Multi-Sensor Integration Phase II and Phase III testing efforts have been truncated to end in 4Q14, efforts continue in 1Q15 under Multi-System Integration.

Small Diameter Bomb Increment II / Joint Miniature Munitions Bomb Rack Unit software development refined to incorporate refined H12 schedules.

2065: The System Configuration Set (SCS) schedule has had multiple changes due to issues discovered during developmental and operational test requiring additional development time. Schedule changes affect the software efforts for RADAR. Specific changes include H12 Fleet Release delay from 4Q16 to 4Q17.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 1662 / *F/A-18 Improvement*	

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
1662: *F/A-18 Improvement*	3,889.377	112.030	109.532	73.152	-	73.152	53.171	39.183	50.618	72.712	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

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

Note

Multi-Sensor Integration Phases II and III efforts are continued but renamed Multi-System Integration beginning in FY15.

A. Mission Description and Budget Item Justification

F/A-18 Improvement (1662): The F/A-18 is a multi-mission strike fighter aircraft that is used in Air-to-Air, strike, surveillance, reconnaissance and tanking roles through selected use of external equipment (fuel tanks, tactical and reconnaissance pods, and various ordnance launching racks). Additional capabilities are required for interoperability in a network-centric tactical environment. In order to respond effectively to emerging future threats, F/A-18 aircraft capabilities are being expanded and upgraded to incorporate new/enhanced weapons systems and avionics including Dual Mode Weapons, a Counter-Electronic Attack, Infra-red Search and Track integrated with the Active Electronically Scanned Array Radar to provide Narrow Band High Gain Electronic Attack, Distributed Targeting precision strike capability through a Distributed Targeting System, and Sensor Integration through Multi-Sensor Integration Phase I/II/III capability which is renamed beginning in FY15 as Multi-System Integration. Continued advanced development engineering and analysis of hardware/software is required to successfully optimize fleet F/A-18 weapon systems for interoperability in a network centric tactical environment (such as Naval Integrated Fire Control-Counter Air), to include: enhanced software capabilities, potential new hardware development, enhanced existing hardware, and enhanced network centric capabilities. Additionally, continued effort is needed to perform technical evaluations, modeling and simulations, investigative flight testing, enhanced software modifications based on reported fleet deficiencies and beginning in FY14 the development and testing of design modifications to address obsolescence issues with the F/A-18 weapon system and ancillary equipment. Funding has been added starting in FY 2012 for the Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System which will integrate currently implemented manual methodologies to provide not only aural and visual cues/advisories but also automatic initiation of aircraft recovery and subsequent return of control to the pilot following recovery. This funding line continues F/A-18E/F "Flight Plan" spiral capability development, to include Multi-Sensor Integration Phase II and Phase III capability (programmatic name change beginning in FY15 to Multi-System Integration) and further Flight Plan Engineering and System Configuration Set development and integration. This budget continues funding for F/A-18A-F Test Wing Maintenance support, funds development efforts needed for integration of air launched laser guided rockets on F/A-18 A+/C/D and beginning in FY14 the development and testing required for the integration of the Small Diameter Bomb II and Joint Miniature Munitions-Bomb Rack Unit on the F/A-18E/F Super Hornet.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Distributed Targeting System	1.640	-	-
Articles:	-	-	-
Description: Funds are supporting development of a distributed targeting precision strike capability through a hardware and software solution. Hardware - Distributed Targeting Processor (DTP), Mass Storage Unit (MSU), and Mission Planning Transit Case. Software - DTP/MSU Operational Flight Program (OFP), Mission Computer OFP, and Mission Planning OFP.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Completed Initial Operational Test and Evaluation (IOT&E) and award Full Rate Production (FRP) contract. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Electro-Optical Infra-Red Search and Track (IRST) Phase I	84.262	59.744	40.157
Articles:	-	-	-
Description: Technology development and engineering and manufacturing development of an IRST sensor for the F/A-18 E/F. ***FY 2013 Accomplishments:*** Continued Engineering and Development Phase and start Integration Testing-B1 Flight Test. ***FY 2014 Plans:*** Continue Engineering and Development Phase and Integration Testing-C Flight Test. Complete Milestone C Review. ***FY 2015 Plans:*** Complete Engineering and Development Phase (hardware and software) to include Engineering Development Model conversion. Conduct Integrated Baseline Review 2 and Operational Testing Readiness Review. Complete Integration Testing and start production on LRIP-2 (APN funded).			
Title: Sensor Integration - Single Ship Geolocation (SSG) and Specific Emitter Identification (SEI), High Gain Electronic Attack/ High Gain Electronic Support Measures, Integrated Defensive Countermeasures	2.629	-	-
Articles:	-	-	-
Description: In order to respond effectively to emerging future threats, F/A-18 aircraft capabilities are being upgraded to incorporate new/enhanced weapons systems and avionics. This funding line includes F/A-18E/F "Flight Plan" spiral capability development, SSG and SEI. ***FY 2013 Accomplishments:*** Continued software algorithm development to enhance target identification and location (SSG/SEI) as relates to Wingman Compatibility interoperability resolution. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A			
Title: Sensor Integration - Air to Air, Air to Ground and Maritime Multi-Sensor Integration Phase II	3.031	10.195	-
Articles:	-	-	-
Description: Funding will be used to expand track and correlation support from emitting targets and tracks to improve lethality against stationary or moving targets. The H10E effort is currently in the requirements definition/allocation phase, with expected fleet introduction in FY 2014. ***FY 2013 Accomplishments:*** Integration and testing will be conducted. ***FY 2014 Plans:*** Complete Multi-Sensor Integration Phase II development with Fleet Release of System Configuration Set H10E. Effort includes software development and testing inclusive of Wingman Compatibility improvements such as Unique Identification, Enhanced Interference Blanking Unit and other software updates affecting the Integrated Defensive Counter Measures suite of electronic warfare hardware. ***FY 2015 Plans:*** N/A			
Title: Sensor Integration - Counter Electronic Attack / Multi-Sensor Integration Phase III	10.500	14.470	-
Articles:	-	-	-
Description: Multi-Sensor Integration Phase III utilizes previous Multi-Sensor Integration upgrades and combines them in H12 System Configuration Set with display improvements to enhance Air to Air & Counter Electronic Attack sensor integration. Multi-Sensor Integration Phase III capability focuses are: Display firmware upgrade (allows existing processors to be fully utilized) coupled with display symbology/Crew Vehicle Interface improvements, and Air to Air Mission Tactical Picture improvements. MSI Phase III capability is common to the F/A-18E/F and EA-18G. ***FY 2013 Accomplishments:*** Requirements decomposition, functional allocation of subsystem requirements. System Functional Review/Critical Design Review to be held. ***FY 2014 Plans:*** Continue Multi-Sensor Integration system software design and development, main focus of funded effort is in the H12 System Configuration Set for display improvements and other updates affecting air to air and Counter Electronic Attack sensor integration; development and testing inclusive of Wingman Compatibility improvements such as Unique Identification, Enhanced Interference			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Blanking Unit and other software updates affecting the Integrated Defensive Counter Measures suite of electronic warfare hardware. Begin integration and testing efforts. ***FY 2015 Plans:*** Multi-Sensor Integration has been programmatically renamed as Multi-System Integration beginning in FY15, prior year efforts are continued in FY15 under the Multi-System Integration project.			
Title: Multi-System Integration	-	-	14.486
Articles:	-	-	-
Description: Multi-System Integration is a programmatic name change in FY15 which replaces the previously funded Multi-Sensor Integration Phase III. Multi-System Integration migrates from the previous Multi-Sensor Integration Phased approach and allows for insertion of new technologies and requirements to keep pace with rapidly evolving warfighter demands. 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. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Multi-System Integration will continue efforts begun with Multi-Sensor Integration Phase III including system software design and development. Primary efforts will be software driven through the development, integration and testing of System Configuration Sets H12 and H14. Decision Superiority gaps in Air Warfare will be addressed through the ongoing integration of weapons and sensors combined with display improvements to enhance air-to-surface, air-to-air and Counter Electronic Attack sensor integration. Upgrades to display firmware, display symbology, Crew Vehicle Interface (CVI) improvements and air-to-air Mission Tactical Picture (MTP) improvements. Development and Integration of Precision Approach Landing Capability with Civilian Interoperability functionality implemented through a combined hardware and software solution utilizing a Civilian Instrument Landing System and Space Based Augmentation System (SBAS) including a Multi-Mode Receiver and SBAS enabled GPS receiver. Continued updates to Wingman Compatability improvements such as Unique Identification and Enhanced Interference Blanking Unit and continued updates to Integrated Defensive Counter Measures suite of electronic warfare hardware.			
Title: Flight Plan Engineering / System Configuration Set Development and Integration	-	4.000	10.409
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: Continued F/A-18 E/F and EA-18G "Flight Plan" spiral capability development is critical to the baseline of the Super Hornet next generation mission system capability. Funding will support the development, test and integration efforts required to maintain tactical relevance in support of Navy Aviation Plan 2030. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Flight Plan Engineering efforts to include F/A-18E/F improvements necessary for Super Hornet 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 F/A-18 Cooperative Engagement Capability. Funding will also continue System Configuration Set H10/H12 test and development tasking. ***FY 2015 Plans:*** Continue Flight Plan Engineering efforts to include F/A-18E/F improvements necessary for Super Hornet 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 F/A-18 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 Precision Approach and Landing Capability (PALC). Includes future tactical aviation studies (F/A-XX); follow-on studies as well as Analysis of Alternatives (AOA) and Cost Benefits Analysis (CBA) development.			
Title: Test Wing Maintenance Conversion	7.339	6.500	8.000
Articles:	-	-	-
Description: Funding supports maintenance of aircraft at NAVAIR Test Wing used to support Program Office objectives. ***FY 2013 Accomplishments:*** Performed aircraft maintenance on Test Wing Aircraft. Increase in planned flight testing over FY12 requirements. ***FY 2014 Plans:*** Perform aircraft maintenance on Test Wing Aircraft. Decrease in planned flight testing over FY13 as a result of reduced budget authority and planned efforts. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Perform aircraft maintenance on Test Wing aircraft. FY15 restores Test Wing funding to previously planned levels.			
Title: Automatic Ground Collision Avoidance System /Automated Terrain Avoidance and Warning System	2.629	5.223	-
Articles:	-	-	-
Description: Automatic Ground Collision Avoidance System /Automated Terrain Avoidance and Warning System will preserve force structure by reducing attrition of pilots and aircraft that result from Controlled Flight into Terrain (CFIT). CFIT occurs at greater rates on fighter attack aircraft and is a leading cause of loss of life and loss of combat capability within the DoD aviation community. At full implementation, Automatic Ground Collision Avoidance System /Automated Terrain Avoidance and Warning System will integrate currently implemented manual methodologies to provide not only aural and visual cues/advisories, but also automatic initiation of aircraft recovery and subsequent return of control to the pilot following recovery. Funding supports Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System studies, analysis and functional requirements; communication, navigation and identification related development and integration efforts.			
FY 2013 Accomplishments: Continued Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System development, begin software development. Continue communications and identification development and integration, continue developmental test and evaluation.			
FY 2014 Plans: Continue Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System software development and design. Continue communications, navigation and identification equipment (hardware and software) development, integration, test and evaluation. Reduced budget authority causing suspension of planned flight test events.			
FY 2015 Plans: N/A			
Title: Small Diameter Bomb II Integration	-	9.300	-
Articles:	-	-	-
Description: 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, early development, integration and testing required to successfully integrate SDB II/JMM BRU on the F/A-18E/F. SDB II is being developed by the USAF. Beginning FY15 funding will be in PE 0604329N PU 1663 to continue efforts.			
FY 2013 Accomplishments: N/A			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
System Specification and design efforts, Joint Miniature Munitions Bomb Rack Unit (JMM BRU) technical development and integration efforts. System Configuration Set software development and integration. Ground and Flight testing, procurement of JMM BRU prototypes and test assets. An option to procure Small Diameter Bomb II test assets as part of the USAF LRIP Lot 1 is included with FY14 funds. ***FY 2015 Plans:*** Funding moved to PE 0604329N Small Diameter Bomb (SDB)			
Title: F/A-18 Obsolescence Redesign	-	0.100	0.100
Articles:	-	-	-
Description: Develop and test modifications to address obsolescence issues. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Develop and test design modifications to hardware components and software systems in response to F/A-18 weapon system and ancillary equipment obsolescence issues. ***FY 2015 Plans:*** Develop and test design modifications to hardware components and software systems in response to F/A-18 weapon system and ancillary equipment obsolescence issues.			
Accomplishments/Planned Programs Subtotals	112.030	109.532	73.152

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/0145: *F/A-18E/F*	2,551.158	174.551	-	-	-	-	-	-	-	-	41,769.113
• APN/0145C: *F/A-18EF AP*	23.677	75.000	-	-	-	-	-	-	-	-	1,541.118
• APN/0143: *EA-18G*	939.723	1,870.424	43.547	-	43.547	-	-	-	-	-	13,223.494
• APN/0143C: *EA-18G AP*	44.941	-	-	-	-	-	-	-	-	-	293.587
• APN/05250: *F-18 SERIES MOD*	629.205	761.412	679.177	-	679.177	1,358.703	1,366.329	1,497.163	1,600.083	5,718.451	18,978.192
• RDTEN/3063: *EA-18G DEVELOPMENT*	11.769	11.138	18.730	-	18.730	33.968	47.527	80.148	56.757	57.892	2,111.110

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*

D. Acquisition Strategy

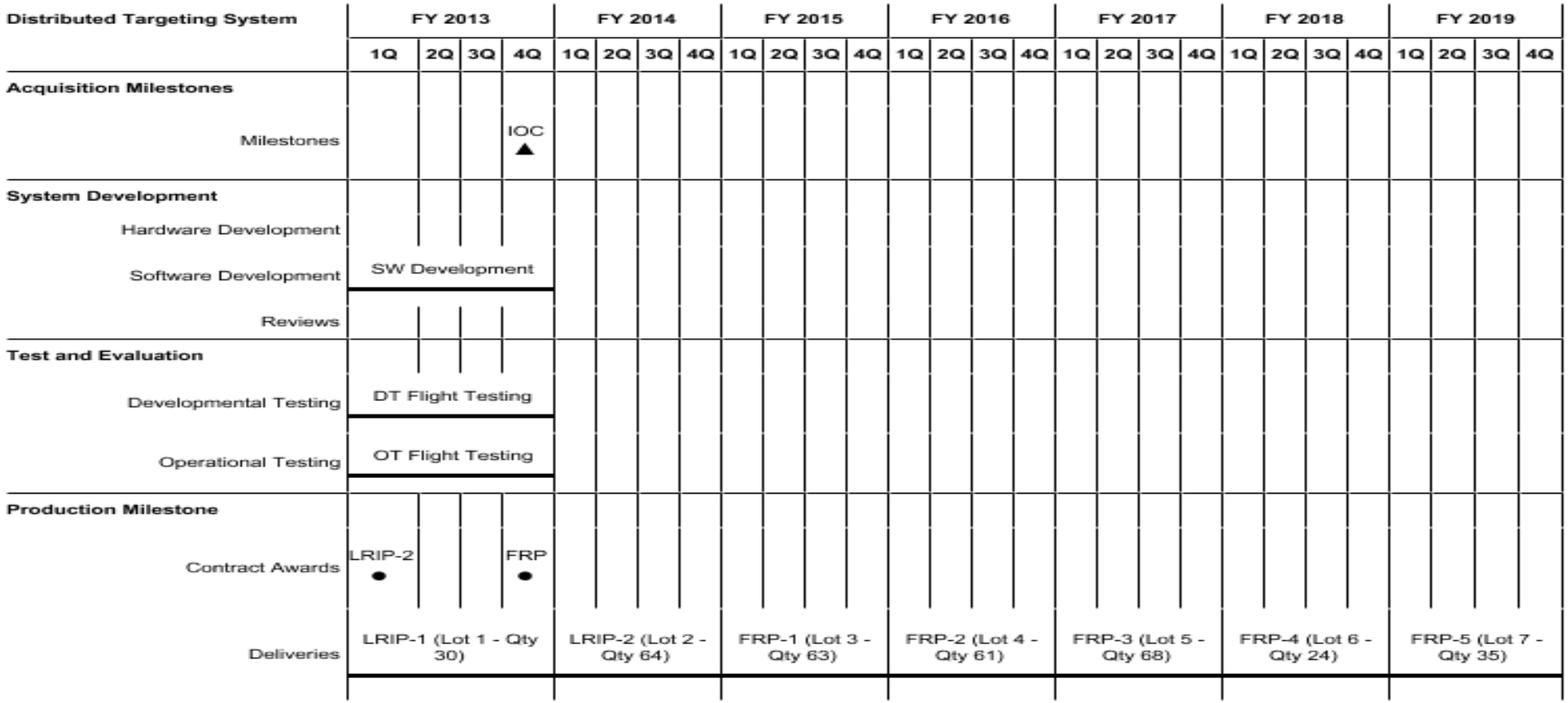
The F/A-18 Improvement program consists of extensive spiral development efforts mapped out in the capability-based approach F/A-18 E/F "Flight Plan." These efforts are critical to the baseline of the Super Hornet next generation mission system capability and maintaining tactical relevance in support of Navy Aviation Plan 2030. The major programs within the F/A-18 Improvement project are based on six Weapon System Capabilities: Distributed Targeting Air to Ground and Maritime, Distributed Targeting Air to Air, Net Centric Operations/Battle Space Management, Sensor Integration, Air to Ground and Maritime Attack, and Air to Air Attack. The major efforts included in this project are: Dual Mode Weapons integration; an Infra-Red Search and Track; Distributed Targeting capability through a Distributed Targeting System; Multi-Sensor Integration Phase I, Phase II and Phase III capability (programmatic name change to Multi-System Integration beginning in FY15); continued advanced development and F/A-18E/F Flight Plan engineering and analysis; continued enhanced software capabilities development; and engineering support to perform technical evaluations, modeling and simulations, and investigative flight testing.

- Infra-Red Search and Track (IRST). The IRST Block I program is a Navy program in the Engineering Manufacturing and Development (EMD) phase. A Block I system will be developed by the Navy that will meet requirements for a Counter-Electronic Attack capability. This capability will reach Initial Operational Capability (IOC) in FY 2017.
- Distributed Targeting System (DTS). DTS development is provided on a sole source cost plus incentive fee contract for EMD activities to Boeing. The program was a new start ACAT III FY 2009 effort, with a post MS B entry and an IOC in FY 2013. The program is leveraging previous Engineering Change Proposal efforts and is designated for Lot 26 and up domestic Super Hornets. Updated acquisition plan is in accordance with Dr. Carter memorandum.
- Sensor Integration. Sensor Integration development is provided on a sole source cost plus fixed fee contract on a Research and Development Basic Ordering Agreement to Raytheon and Boeing.
- Integration of Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System is envisioned to only require changes to the software System Configuration Set. Studies and analyses are needed to identify the appropriate implementation method.
- Integration of Small Diamter Bomb Increment II and the Joint Miniature Munitions Bomb Rack Unit is software driven with ground and flight test requirements.

E. Performance Metrics

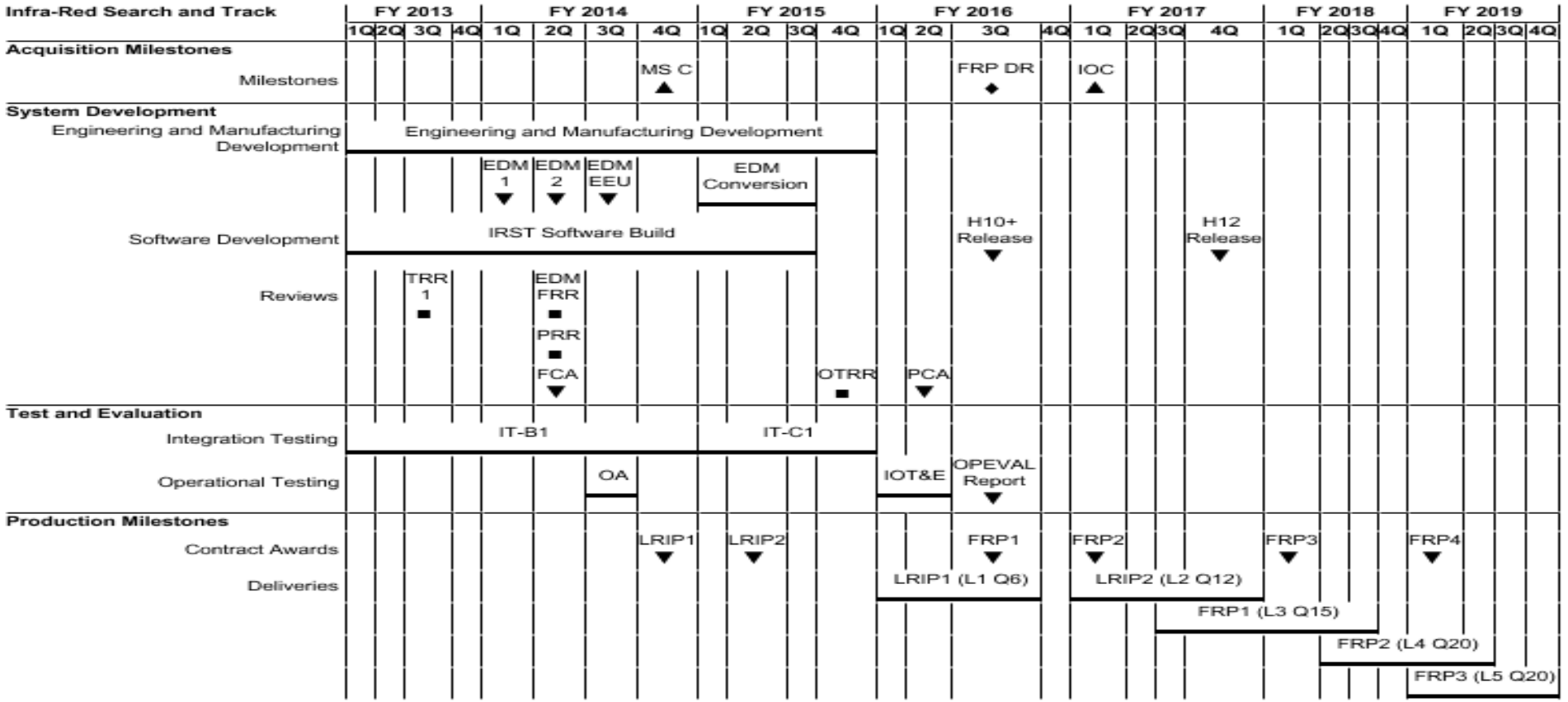
The DTS Program achieved IOC in 4th Quarter of FY2013. IRST Program achieved MS B on 17 June 2011, scheduled for MS C in 4th Quarter of FY2014, and IOC in 1st Quarter of FY2017.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*



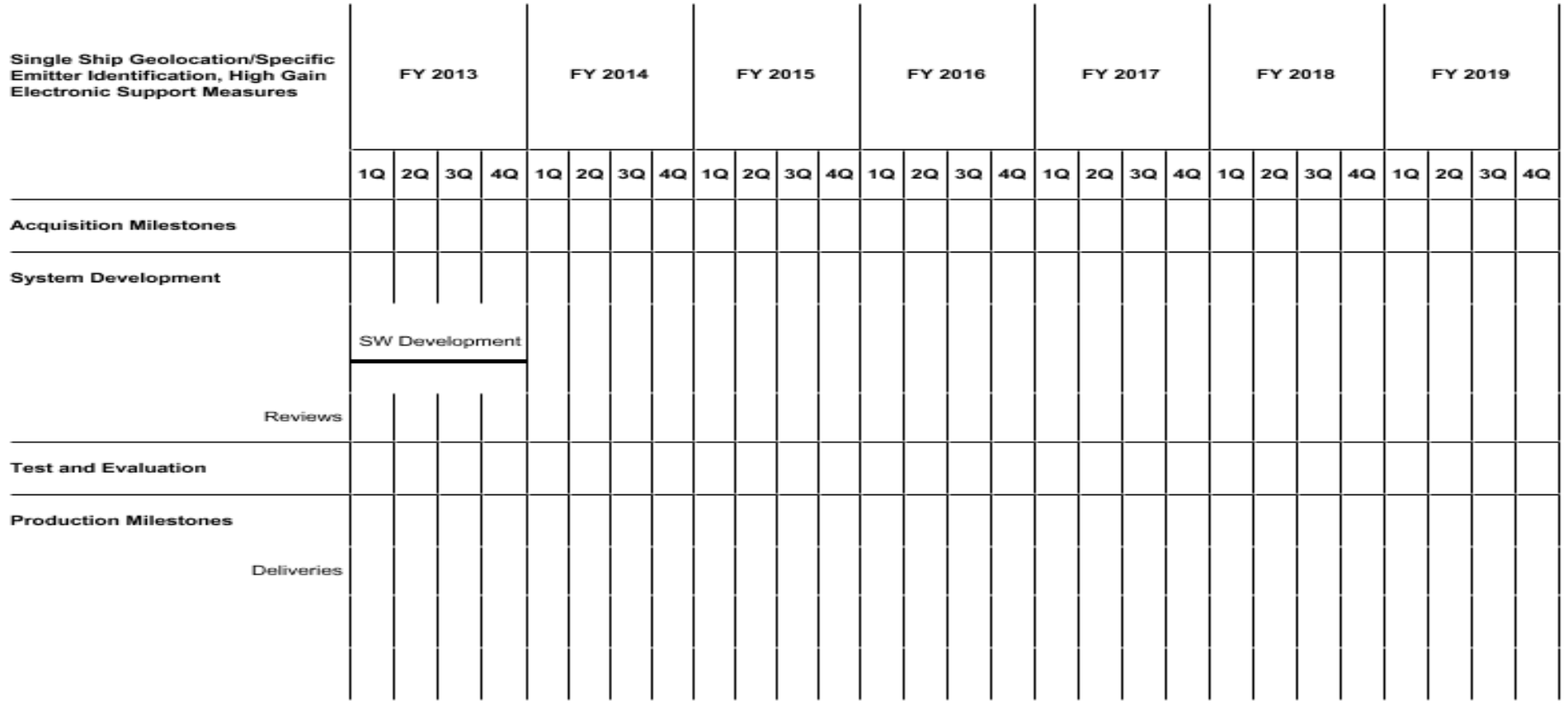
2015PB - 0204136N - 1662

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*



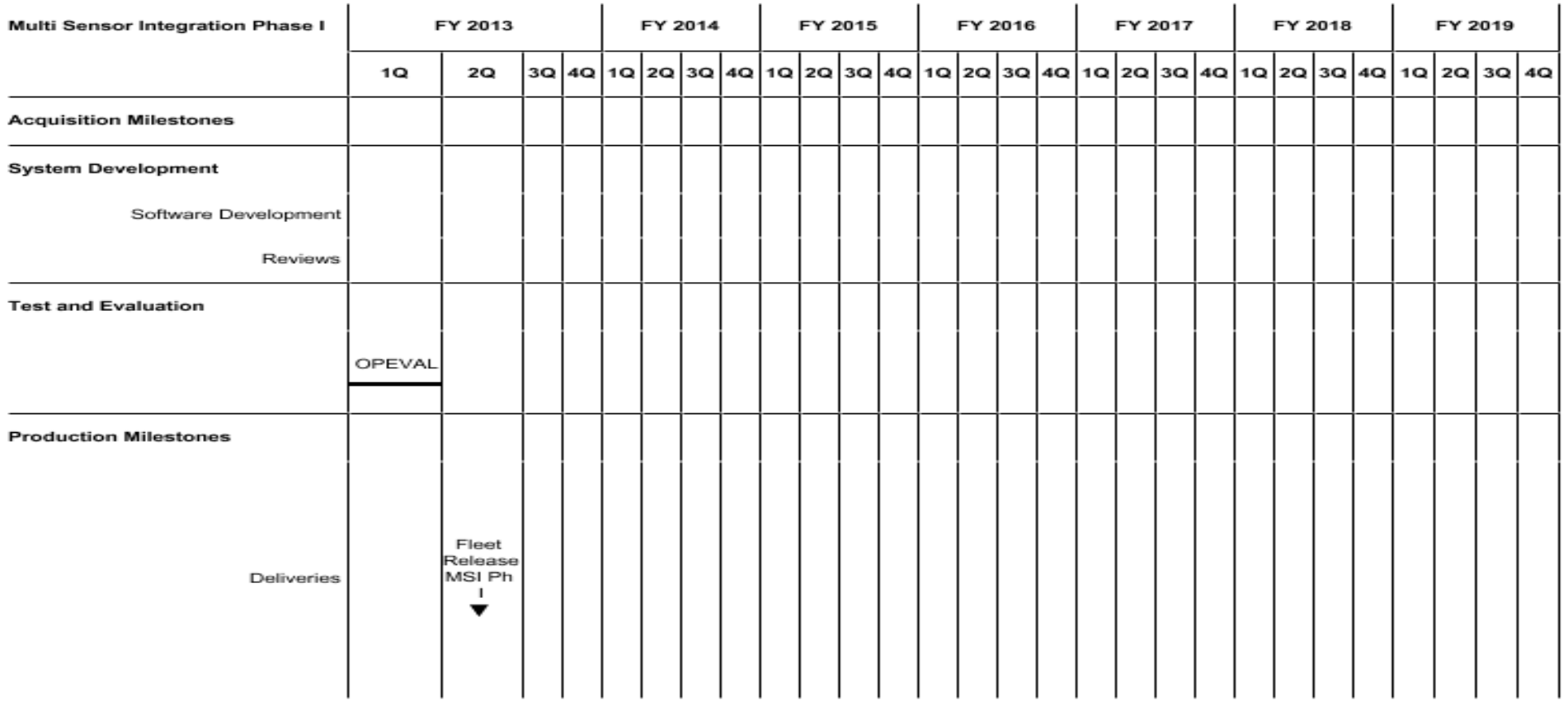
2015PB - 0204136N - 1662

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*



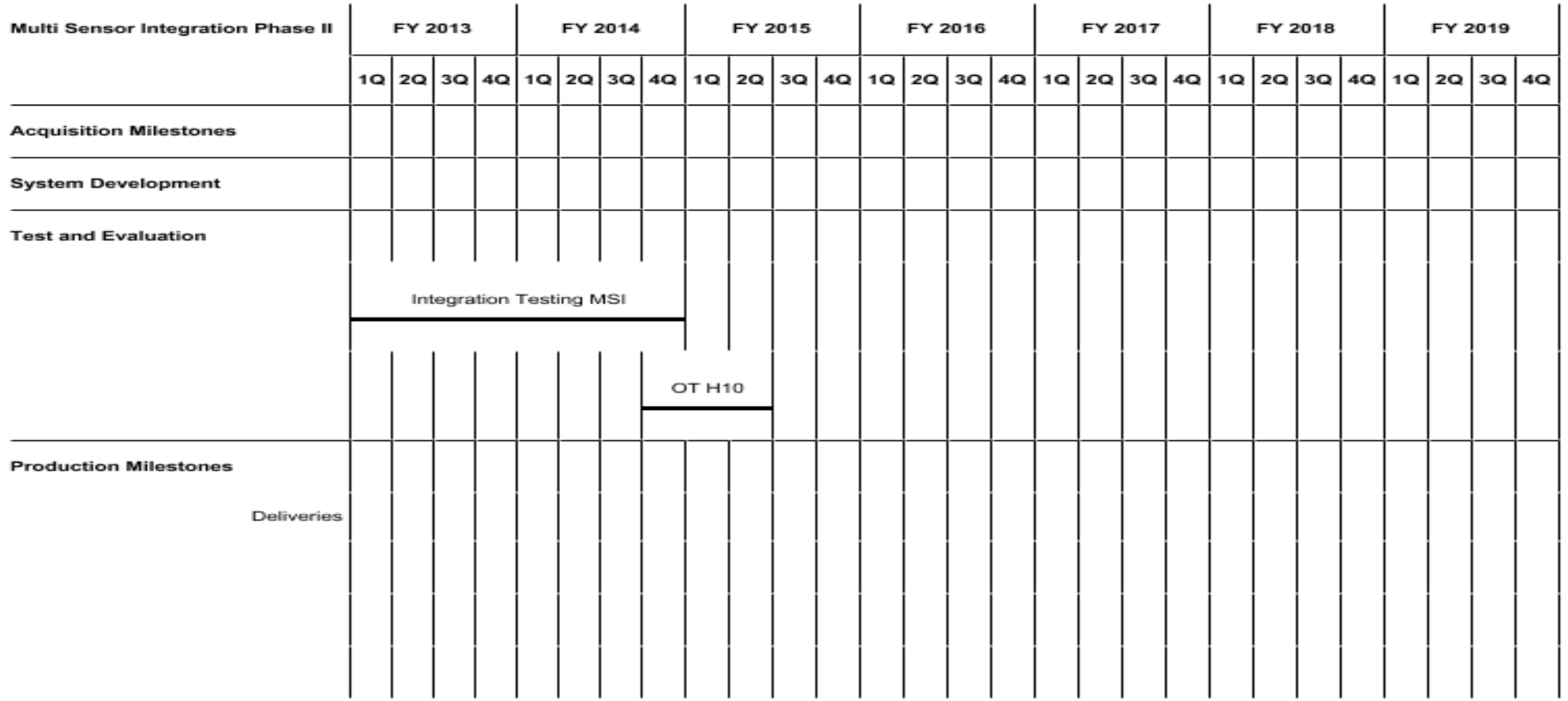
2015PB - 0204136N - 1662

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*



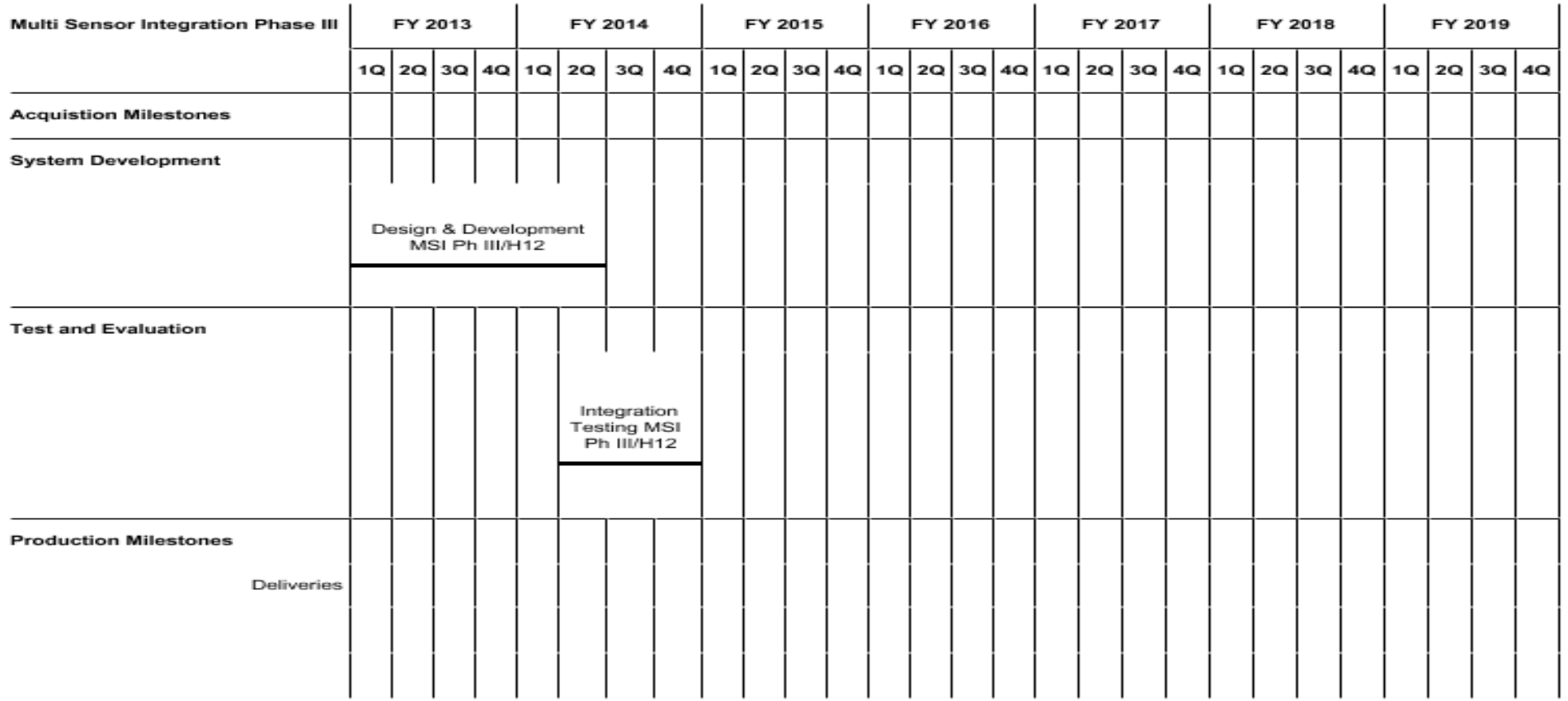
2015PB - 0204136N - 1662

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*



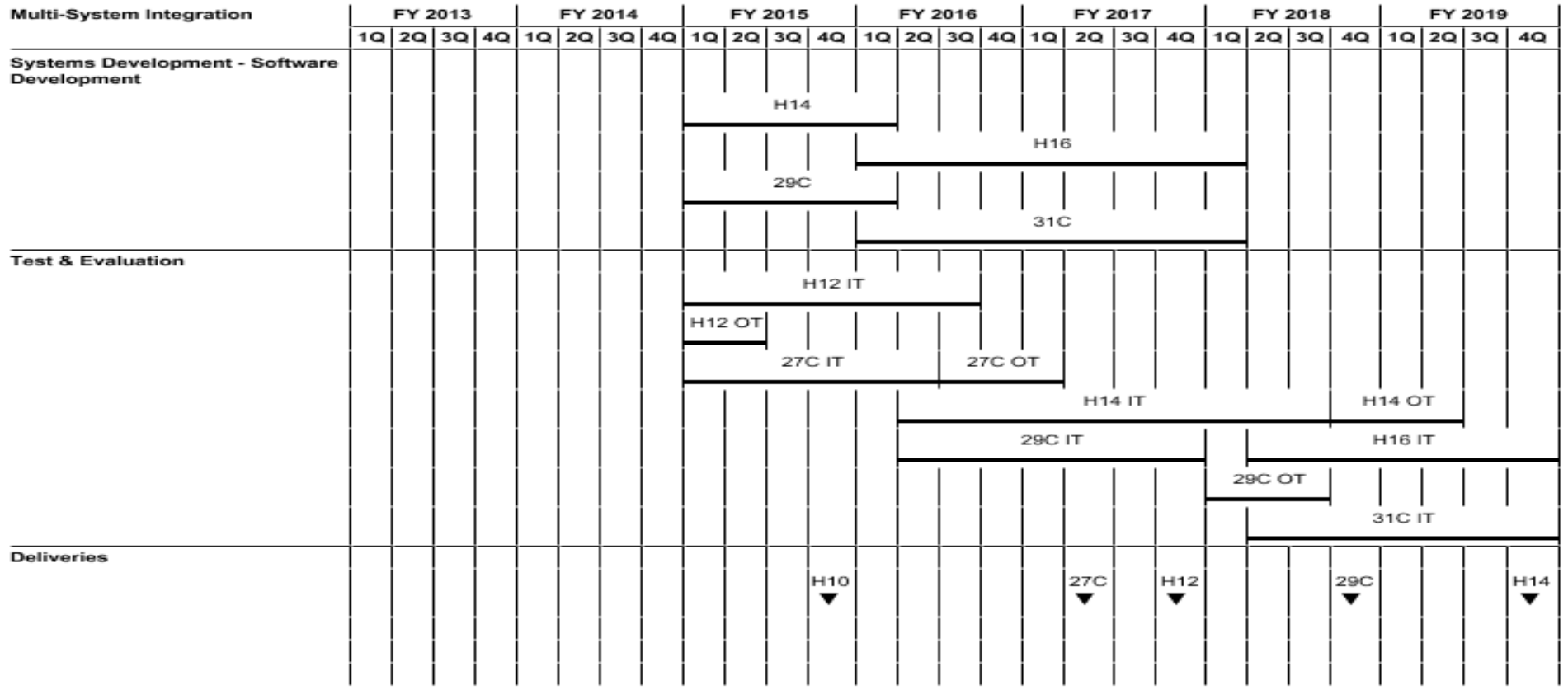
2015PB - 0204136N - 1662

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*



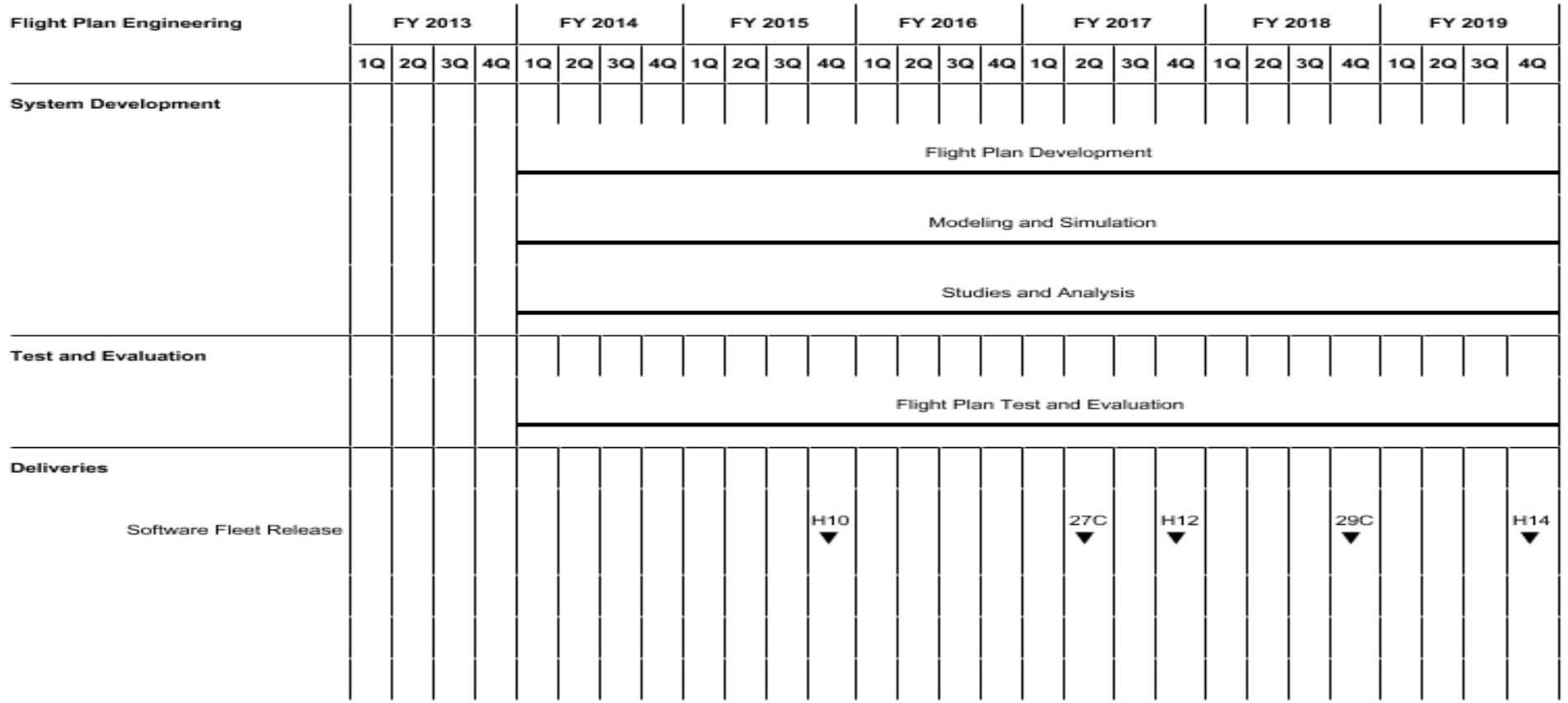
2015PB - 0204136N - 1662 Multi Sensor Integration Phase III has been programmatically renamed as Multi-System Integration beginning in FY 2015.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*



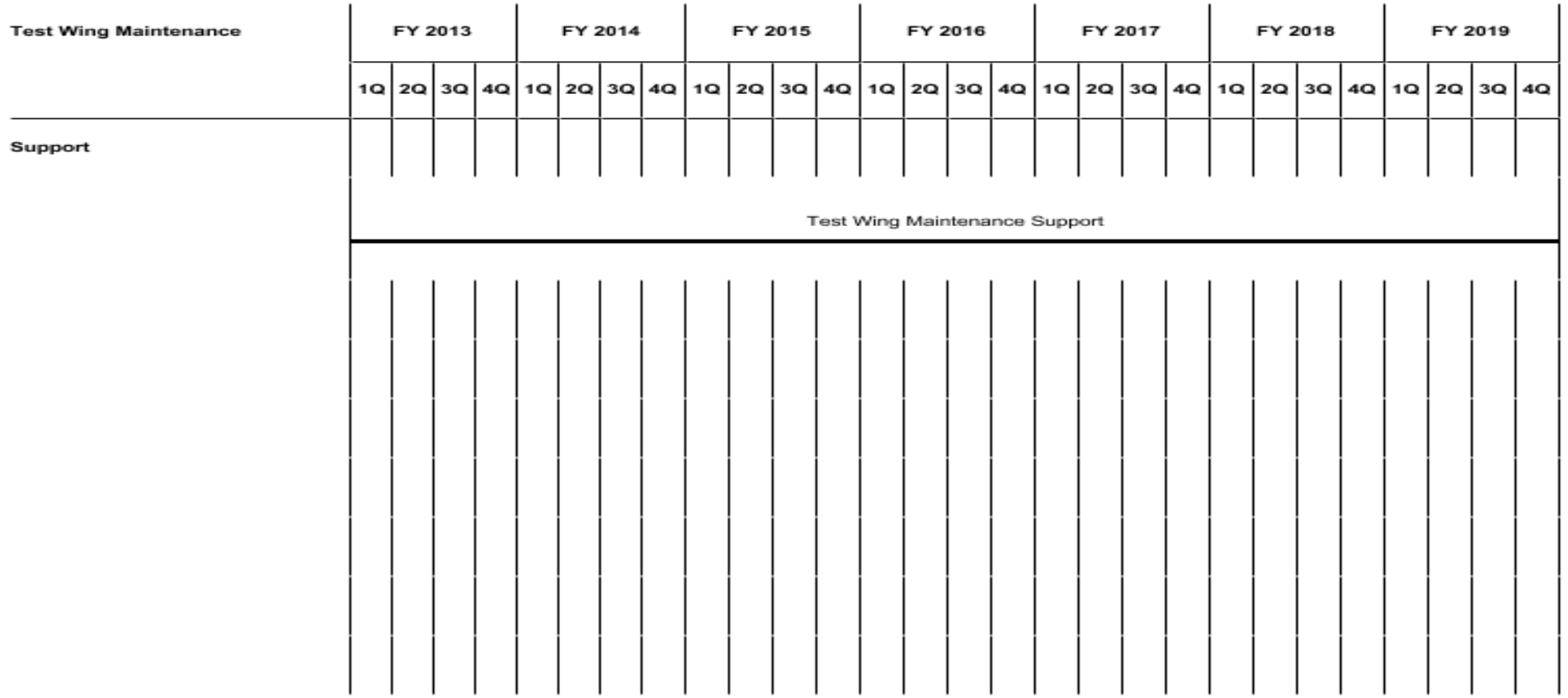
2015PB - 0204136N - 1662 Multi Sensor Integration Phase III has been programmatically renamed as Multi-System Integration beginning in FY 2015.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*



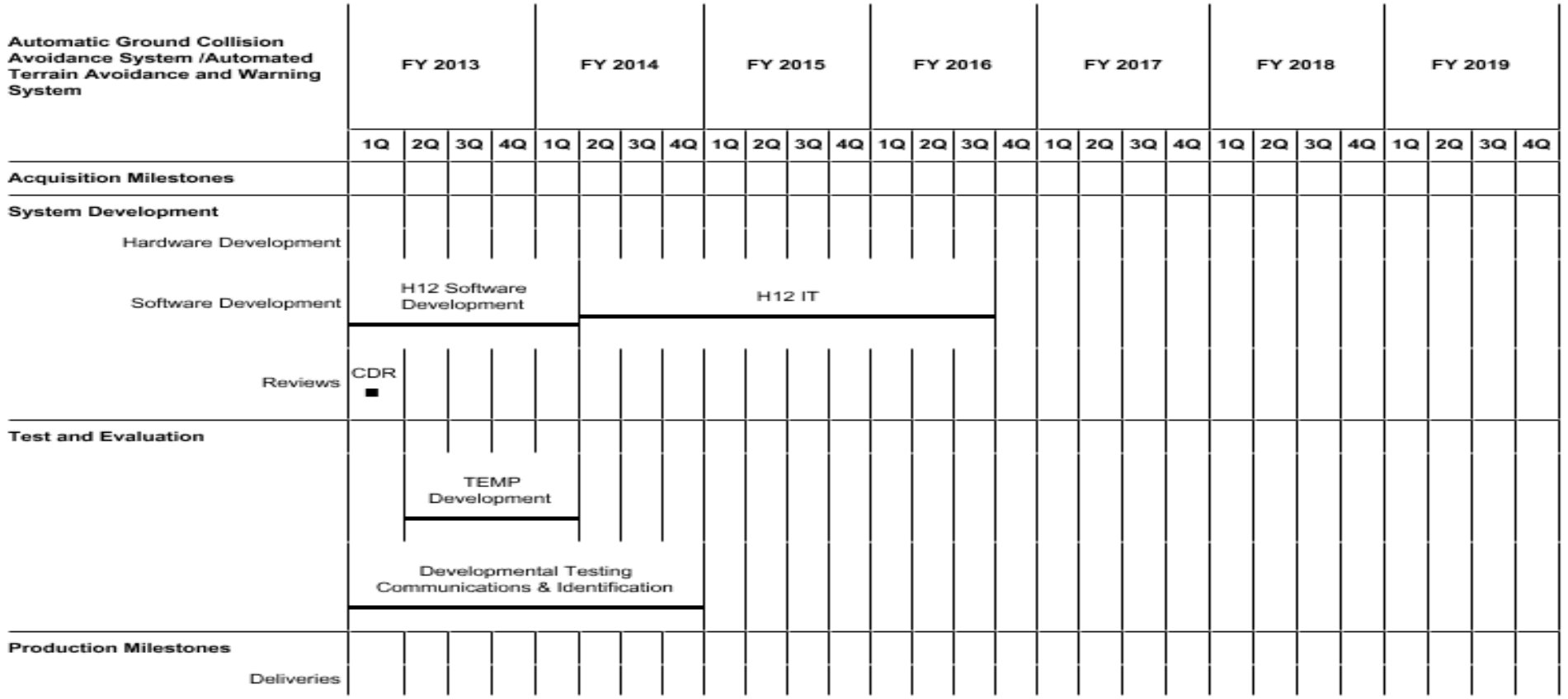
2015PB - 0204136N - 1662

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*



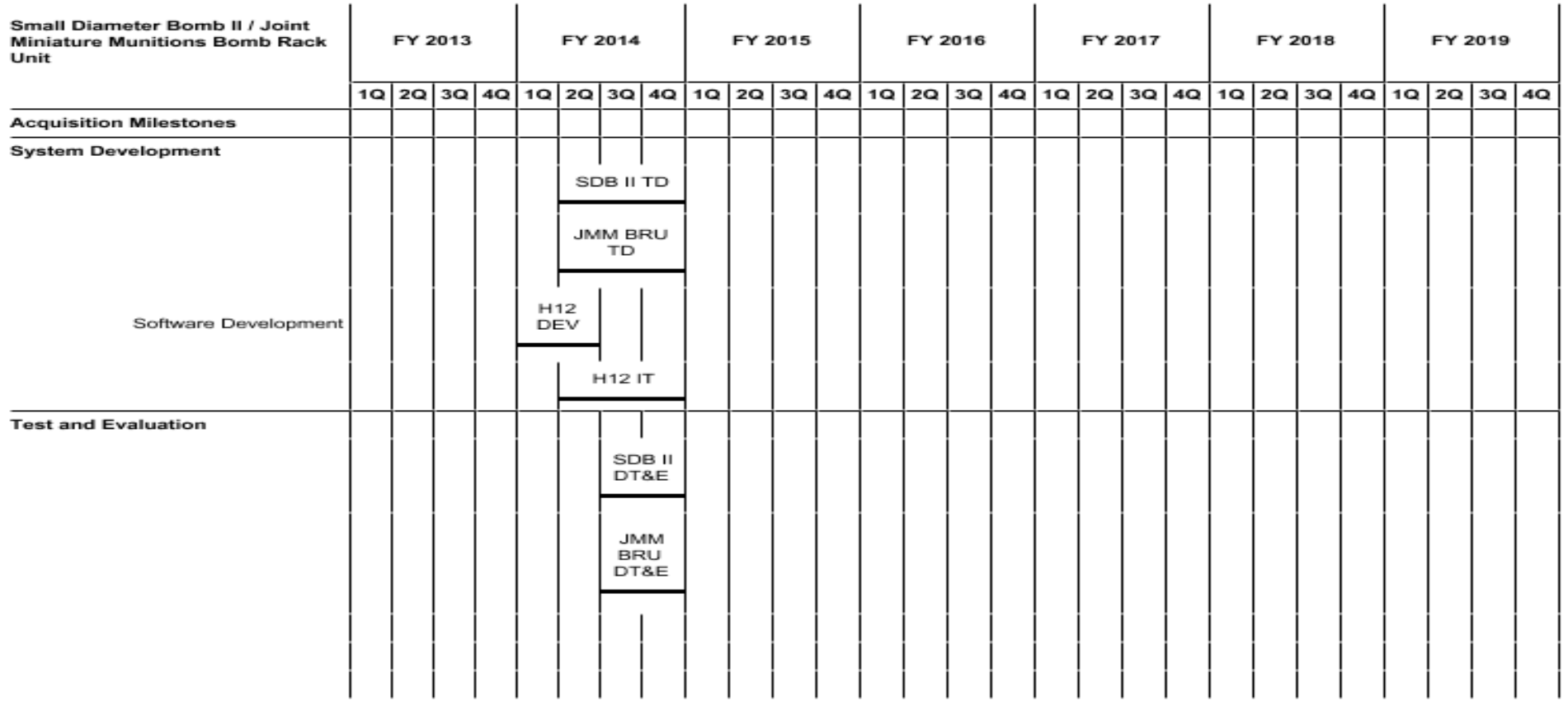
2015PB - 0204136N - 1662

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*



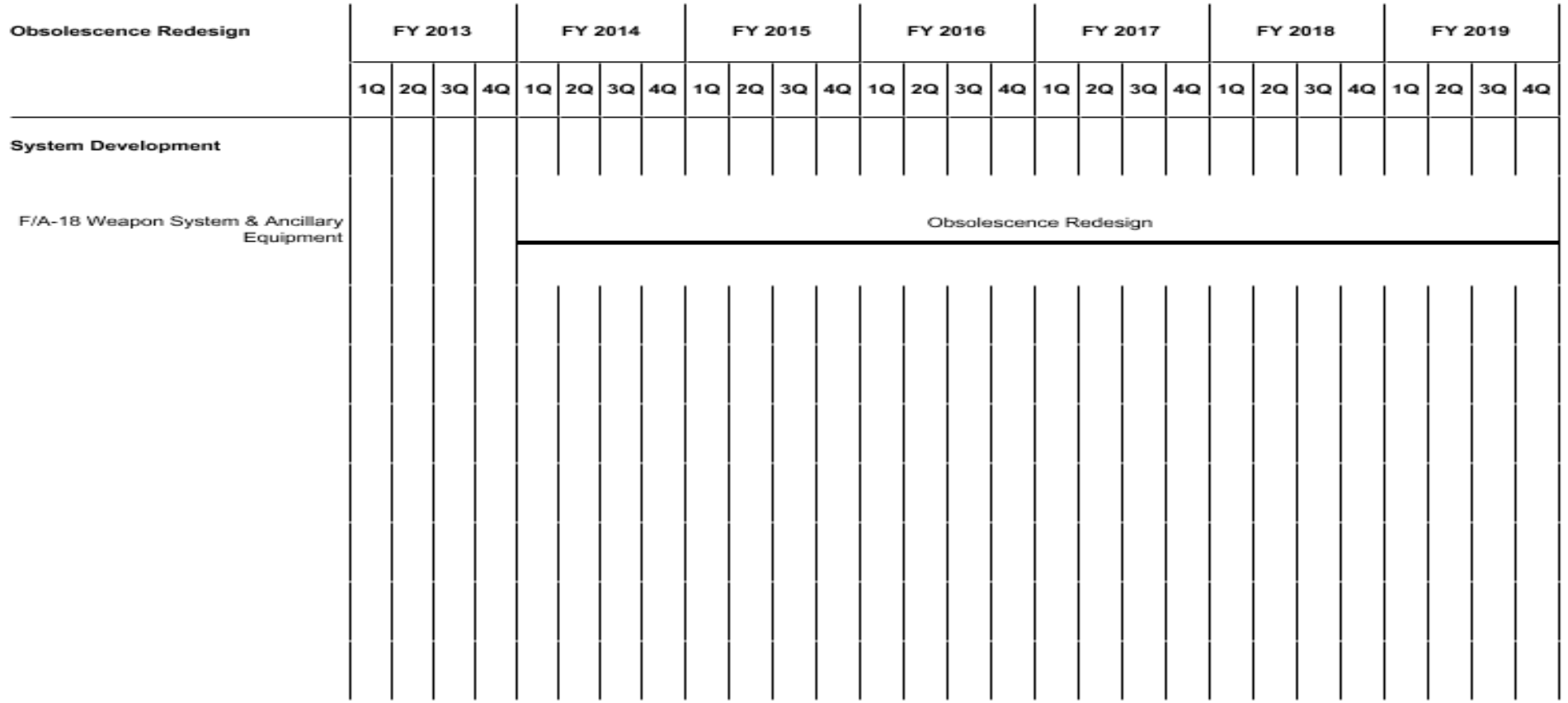
2015PB - 0204136N - 1662

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*



2015PB - 0204136N - 1662

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 1662 / *F/A-18 Improvement*



2015PB - 0204136N - 1662

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204136N / *F/A-18 Squadrons*	Project (Number/Name) 2065 / *F/A-18 Radar 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
2065: *F/A-18 Radar Upgrade*	667.485	38.449	3.086	3.064	-	3.064	3.022	-	-	-	-	715.106
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

F/A-18 Radio Detection and Ranging (RADAR) Upgrade: The F/A-18 RADAR Upgrade, Active Electronically Scanned Array (AESA) development program, which began in FY 1999, is the last of three pre-planned upgrades to the F/A-18 Type/Model/Series RADAR. The AESA system corrects operational test deficiencies noted in the AN/APG-73. It provides multi-target tracking, Synthetic Aperture RADAR (SAR) imagery, SAR Target Location Error (TLE), and improved spotlight map resolution. In addition, it provides greater lethality than previous F/A-18 RADARs by allowing full tactical support of existing and planned air-to-air (A/A) and air-to-ground (A/G) weapons and it significantly increases A/A and A/G detection and tracking ranges. The AESA system provides greater survivability through self-protection and standoff jamming capabilities, while its greater range allows for reduced detection by enemy RADAR. This budget continues spiral capability development of AESA with increased efforts to address Phase II Operational Requirements Document requirements such as Counter-Electronic Attack 1 (CEA 1) against multiple Radio Frequency Emitters, AESA Multi-Jammer Electronic Protection (EP), Precision TLE Improvement, Monopulse and 5th/6th Channel development and Air Combat Maneuvering/Short Range Search and Track development and includes upgrades to RADAR Instrumentation, test and evaluation assets and threat assets, and upgraded modeling and simulation of both clean and Electronic Attack threat environments. Budget also supports development and testing of design modifications to address obsolescence issues with APG-65, APG-73 and APG-79 RADAR systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Distributed Targeting - CEA 1 Software Development, Developmental Testing, Operational Testing, & Integration	38.449	2.986	3.004
Articles:	-	-	-
Description: Funding being utilized to support software (SW) capabilities development, integration and associated testing.			
FY 2013 Accomplishments: Continue SW development, Development Testing, systems integration efforts, and AESA OT&E inclusive of some FOT&E for hardware (HW) and SW change efforts. Continue AESA CEA 1 efforts.			
FY 2014 Plans: Continue HW and SW development, integration and testing of instrumentation required to support AESA RADAR spiral capability upgrades.			
FY 2015 Plans: Continue HW and SW development, integration and testing of instrumentation required to support AESA RADAR spiral capability upgrades. Funds program management and engineering support required for the APG-65/73-79 RADAR systems.			
Title: F/A-18 RADAR Obsolescence Redesign	-	0.100	0.060

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 2065 / *F/A-18 Radar Upgrade*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
Description: Develop and test design modifications to address obsolescence issues. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Develop and test design modifications to hardware components and software systems in response to F/A-18 RADAR system obsolescence issues. ***FY 2015 Plans:*** Develop and test design modifications to hardware components and software systems in response to F/A-18 RADAR system obsolescence issues.			
Accomplishments/Planned Programs Subtotals	38.449	3.086	3.064

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
• APN/0145: *F/A-18E/F*	2,551.158	174.551	-	-	-	-	-	-	-	-	41,769.113
• APN/0145C: *F/A-18E/F AP*	23.677	75.000	-	-	-	-	-	-	-	-	1,541.118
• APN/0143: *EA-18G*	939.723	1,870.424	43.547	-	43.547	-	-	-	-	-	13,223.494
• APN/05250: *F-18 Series Mod (OSIP 002-07)*	152.562	158.420	81.608	-	81.608	262.273	231.354	223.940	110.891	24.190	1,711.115
• APN/0143C: *EA-18G AP*	44.941	-	-	-	-	-	-	-	-	-	293.627

Remarks

D. Acquisition Strategy

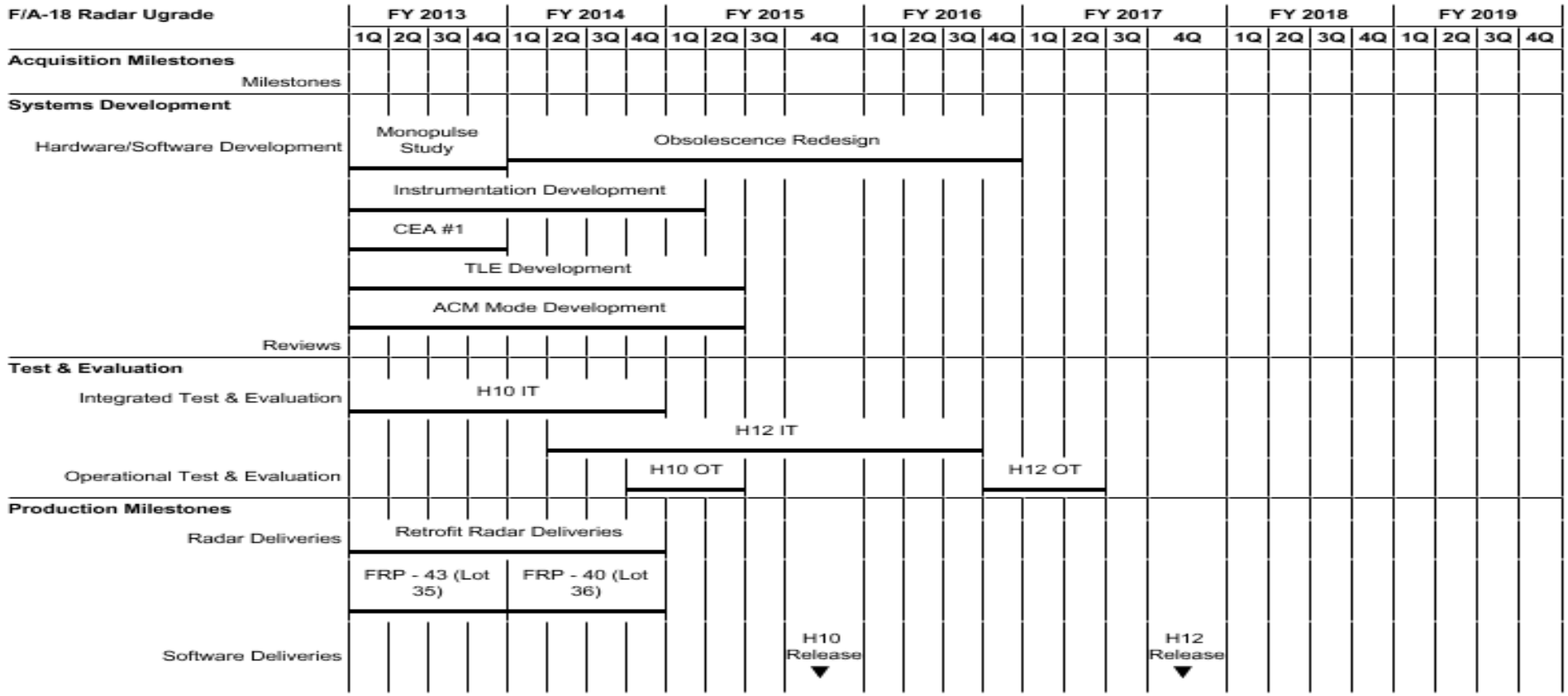
The Active Electronically Scanned Array (AESA) program continues developmental efforts following a successful Full Rate Production milestone decision, after completing a two-phase Acquisition approach during the FY1999 through FY2007 timeframe. This strategy continues utilization of reform initiatives such as: early partnering with industry; leveraging industry investment; optimizing use of Commercial Off-The Shelf software and Non-Developmental Item; using Cost as an Independent Variable; and Electronic Data Deliverables. Basic Ordering Agreement orders for Request for Proposal developments are in place for Boeing, the airframe prime manufacturer/integrator, and Raytheon, the Radio Detection and Ranging manufacturer, for focused risk reduction and sustainment of prior developmental activities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 2065 / *F/A-18 Radar Upgrade*

E. Performance Metrics

Execute the system engineering process for software delivery and support the design and development of Electronic Protection, air to air, and air to ground capabilities.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204136N / *F/A-18 Squadrons*	**Project (Number/Name)** 2065 / *F/A-18 Radar Upgrade*



2015PB - 0204136N - 2065

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0204152N *I E-2 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	185.121	7.871	1.971	-	-	-	-	-	-	-	-	194.963
0463: *E2C Improvements*	185.121	7.871	1.971	-	-	-	-	-	-	-	-	194.963

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

A. Mission Description and Budget Item Justification

E-2 Improvements (0463) provides for incorporation of technologies for the evolution of E-2 Battle Management and Command and Control capabilities in support of naval warfare command and control requirements. It funds digital IP radio efforts as a surrogate to the Joint Tactical Radio System, machine-to-machine digital data communications, Advanced Digital Networking System, cooperative and non-cooperative identification, and open architecture hardware and software computing environments. These efforts have laid the foundation for growth to provide additional functional capabilities satisfying evolving operational requirements, e.g., Airborne Networking, Joint Sensor Netting and Track Management, Tactical Decision Aids, Advanced communications, and permits the evolutionary growth of a Combat Identification and Theater Air and Missile Defense Capability.

Link-16/Cooperative Engagement Capability Interoperability Program funding is to address the most severe data link related interoperability issues. This will significantly improve the quality of the tactical surveillance picture, reduce the possibility of leakers, mitigate Blue on Blue engagements, and mis-identification of tracks. Provides stable sensor fusion foundation to support sensor/weapon coordination requirements.

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	8.610	1.971	-	-	-
Current President's Budget	7.871	1.971	-	-	-
Total Adjustments	-0.739	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.036	-			
• Rate/Misc Adjustments	0.001	-	-	-	-

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 7: *Operational Systems Development*		R-1 Program Element (Number/Name) PE 0204152N *I E-2 Squadrons*		

• Congressional General Reductions Adjustments	-0.704	-	-	-	-

Change Summary Explanation

Technical: Not Applicable

Schedule: Not Applicable

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204152N / *E-2 Squadrons*	Project (Number/Name) 0463 / *E2C 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
0463: *E2C Improvements*	185.121	7.871	1.971	-	-	-	-	-	-	-	-	194.963
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

E-2 Improvements (0463) provides for incorporation of technologies for the evolution of E-2 Battle Management and Command and Control capabilities in support of naval warfare command and control requirements. It funds digital IP radio efforts as a surrogate to the Joint Tactical Radio System, machine-to-machine digital data communications, Advanced Digital Networking System, cooperative and non-cooperative identification, and open architecture hardware and software computing environments. These efforts have laid the foundation for growth to provide additional functional capabilities satisfying evolving operational requirements, e.g., Airborne Networking, Joint Sensor Netting and Track Management, Tactical Decision Aids, Advanced communications, and permits the evolutionary growth of a Combat Identification and Theater Air and Missile Defense Capability.

Link-16/Cooperative Engagement Capability Interoperability Program funding is to address the most severe data link related interoperability issues. This 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Airborne Battlefield Command and Control	1.203	-	-
Articles:	-	-	-
Description: Funds development and demonstration of E-2 airborne Joint Sensor Netting and Track Management (including Network Centric Collaborative Targeting), Internet Protocol (IP) networking concepts (including Advanced Digital Networking Systems, and IP enabled communications systems), machine-to-machine interface, open architecture computing environment, network applications, tactical decision aids, combat identification technologies, on and off-board data fusion capabilities, and advanced mission computer and communications technologies airborne demonstrations. ***FY 2013 Accomplishments:*** Funded the development efforts, a Sensor Netting Flex Exercise, and a Limited Objective Experiment. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Link-16/Cooperative Engagement Capability (CEC) Interoperability	6.668	1.971	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204152N / *E-2 Squadrons*	**Project (Number/Name)** 0463 / *E2C Improvements*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
Description: Link-16/Cooperative Engagement Capability provides design, implementation, test and analysis of Link-16/CEC related interoperability issues. ***FY 2013 Accomplishments:*** Funded systems engineering development efforts. ***FY 2014 Plans:*** Funding provides Technical Evaluation and Certification Testing into the E-2C Aircraft. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	7.871	1.971	-

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/0544: *E-2 Series Includes OSIP 5-01, 012-10, 005-11, 002-10, 002-11 and 001-17*	16.234	20.092	8.432	-	8.432	6.117	10.509	8.654	6.819	31.237	1,494.310

Remarks

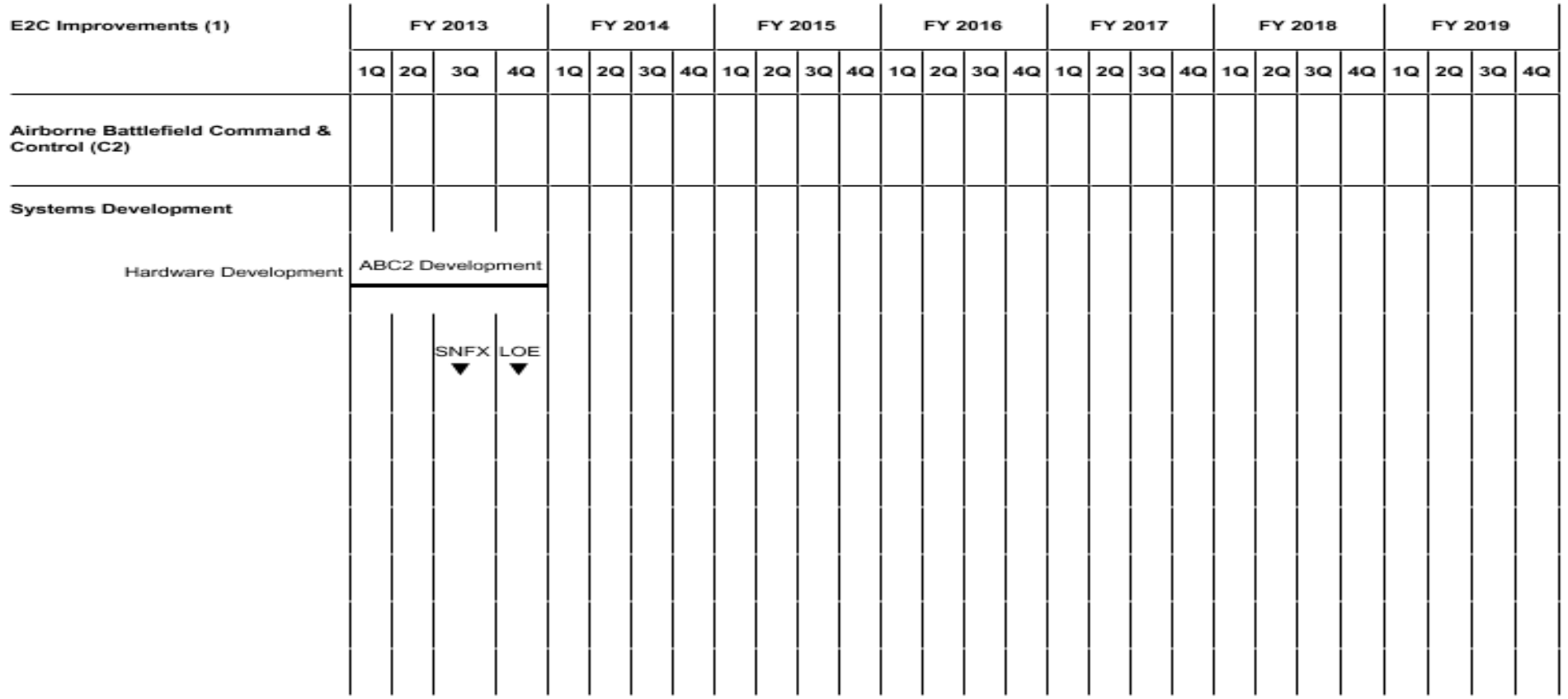
D. Acquisition Strategy

Link-16/Cooperative Engagement Capability strategy will be exercised under a Joint Interoperability Decision.

E. Performance Metrics

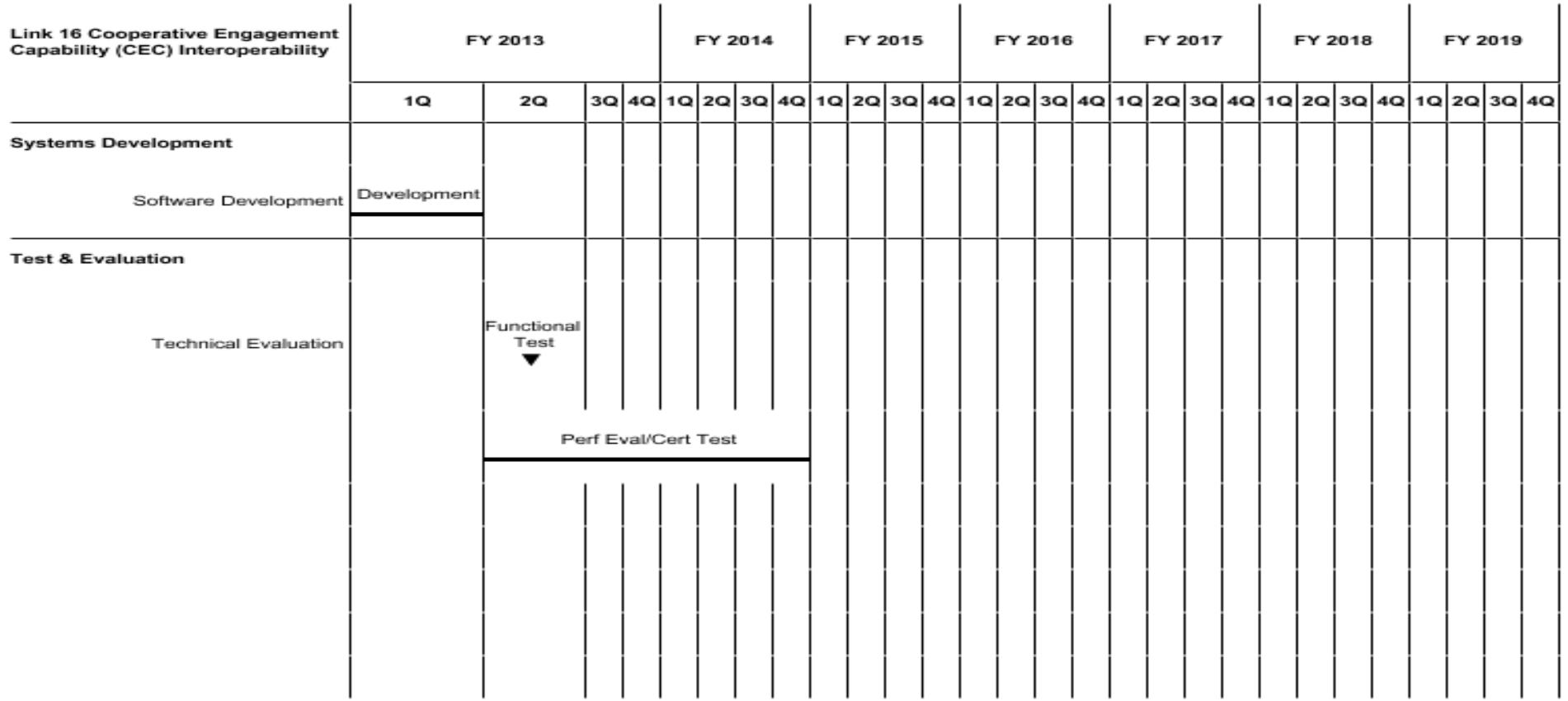
Successfully complete Design Development for the Link-16/Cooperative Engagement Capability Interoperability program.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204152N / *E-2 Squadrons*	**Project (Number/Name)** 0463 / *E2C Improvements*



2015DON - 0204152N - 0463

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204152N / *E-2 Squadrons*	**Project (Number/Name)** 0463 / *E2C Improvements*



2015DON - 0204152N - 0463

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0204163N *I Fleet Tactical 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	97.273	14.304	23.422	27.281	-	27.281	33.316	58.351	61.863	59.715	Continuing	Continuing
0725: *Communication Automation*	97.273	14.304	23.422	27.281	-	27.281	33.316	58.351	61.863	59.715	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The Communications Automation Program - This project is a continuing program that provides for automation and communications upgrades for fleet tactical users. It includes Battle Force Tactical Network (BFTN) and Joint Aerial Layer Network-Maritime (JALN-M).

The Battle Force Tactical Network (BFTN) on each surface, subsurface, air, or fixed US Navy platform utilizes previously installed/existing Line of Sight (LOS)/Extended Line of Sight (ELOS) radios (a.k.a. Radio Frequency (RF)) to create a secure gateway that inter-connects all users into a common RF Tactical Network (a.k.a. wireless). This Network separately supports US-Only and Allied/Coalition users' tactical data information exchanges on each platform (node) between and/or across separately dispersed RF Networks even if Satellite Communications (SATCOM) channels to shore are lost during an Anti-Access Area Denial (A2AD) event.

Joint Aerial Layer Network-Maritime (JALN-M) is the Navy implementation of the JALN architecture which provides assured communications in any environment, especially A2AD. With disruption or loss of Space tier communications, JALN-M establishes and/or restores connectivity within the High Capacity Backbone (HCB) tier, the Distribution Access Range Extension (DARE) tier, and the Transition tier in accordance with the JALN Initial Capabilities Document and the JALN Analysis of Alternatives (AoA) Final Report. JALN-M is a robust, assured communications capability providing joint connectivity via the HCB and Navy platform connectivity via a pseudo satellite DARE capability. JALN-M will use the Extended Data Rate (XDR) waveform for intra-battle group DARE communications, a Common Data Link (CDL) waveform for the HCB cross-link capability, and will leverage enhanced Ultra High Frequency/High Frequency (UHF/HF) waveforms for coalition connectivity.

FY15 BFTN efforts will support system demonstration, operational tests, (i.e., Technical Evaluation, Initial Operational Test and Evaluation (IOT&E)), and design enhancements to the baseline system that includes higher data rates for increased network speeds to support expanded range of applications beyond email, chat correspondence and web access. The engineering change will also incorporate intelligent modems and controllers that will automatically manage flow of information, offset jamming and an increase in channel quantities that will quadruple the number of BFTN network paths; thereby, increasing speed and shore interoperation/ reliability of service. This engineering change is also intended to address obsolescence and end of life impacts of rapidly advancing network technologies.

FY15 JALN-M efforts will continue to support the goal of developing six (6) JALN-M Prototype payloads through the leveraging of the results of both HCB and Airborne XDR flight demonstrations. Efforts will include development of capabilities to be interoperable with Automated Digital Network System (ADNS). ADNS provides routing, switching, baseband, configuration and monitoring capabilities. Funding will also facilitate the development of the design specification of JALN-M payload requirements for integration into an airborne prototype Pod.

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 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0204163N *I Fleet Tactical Development*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	15.695	46.155	60.903	-	60.903
Current President's Budget	14.304	23.422	27.281	-	27.281
Total Adjustments	-1.391	-22.733	-33.622	-	-33.622
• Congressional General Reductions	-	-0.017			
• Congressional Directed Reductions	-	-22.716			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.079	-			
• Rate/Misc Adjustments	-	-	-33.622	-	-33.622
• Congressional General Reductions Adjustments	-1.312	-	-	-	-

Change Summary Explanation

Battle Force Tactical Network (BFTN) funding was reduced by $2.7M Congressional Reduction in FY14 and $1.3M DoN Contracted Services Reduction in FY15.

Joint Aerial Layer Network-Maritime (JALN-M) funding was reduced by a $19.9M Congressional Reduction in FY14. PB15 restored funding across the FYDP. FY15 funding is $19.5M with the restoral for Extended Data Rate (XDR) waveform efforts, incorporating reductions for DoN Contracted Services, Fleet Tactical Endgame Balance, and Phase I Adjustments.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0204163N / *Fleet Tactical Development*				Project (Number/Name) 0725 / *Communication Automation*			
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**
0725: *Communication Automation*	97.273	14.304	23.422	27.281	-	27.281	33.316	58.351	61.863	59.715	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

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

Note

Maritime Aerial Layer Network (MALN) is renamed Joint Aerial Layer Network-Maritime (JALN-M).

A. Mission Description and Budget Item Justification

The Battle Force Tactical Network (BFTN) on each surface, subsurface, air, or fixed US Navy platform uses previously installed/existing Line of Sight (LOS)/Extended Line of Sight (ELOS) radios (a.k.a. Radio Frequency (RF)) to create a secure gateway that inter-connects all users into a common RF Tactical Network (a.k.a. wireless). BFTN enables war-fighters to digitally communicate NATO and US-Only information necessary to execute and plan in a real-time operational environment without relying on ashore application server interaction. This RF Network separately supports US-Only and Allied/Coalition users within each platform to distribute information even if Satellite Communications (SATCOM) channels to shore are lost. As a result, Carrier and Expeditionary Strike Group Commanders maintain the digital communication ability to execute and plan with other U.S. ships, submarines or aircraft, as well as with Allied/Coalition networks; even if SATCOM channels to shore are lost.

In a satellite-denied event, adversaries covertly jam or disable communications necessary to Fleet protection and tactical operation. BFTN engineering changes will facilitate automation of communications relays and application of network aware link establishment (NA-ALE) across battle groups. The BFTN engineering change will also enable modification of the BFTN Fly Away Kit for use in Unmanned Aerial Vehicles (UAV); thereby extending BFTN Ultra High Frequency/High Frequency (UHF/HF) link ranges. As a result, BFTN service levels can be extended for theatre of operations sufficient to thwart contested SATCOM connectivity to shore servers. Engineering studies and related test activities will commence FY14 to support the ultimate goal of development and implementation of an engineering change for increased BFTN network data rates and link ranges (1.92Mbps - Ultra High Frequency (UHF) at 20nm and 128Kbps - High Frequency (HF) at 200nm), a quadrupling of system channel quantities for improved service, increased network performance and jam resistance in a satellite degraded/denied environment. Design enhancements will enable the BFTN network to self-assemble Transmission Control Protocol/Internet Protocol (TCP/IP) delivery circuits, adapt to user proximity changes due to maneuvers or operational demands and self-heal those data delivery circuits, if they are degraded or forcefully taken from afloat forces. The engineering change will also mitigate obsolescence and end of life impacts associated with steady progression of network technology and architectures.

FY15 BFTN engineering change and related test activities will continue toward the objective of increasing BFTN network data rates and link ranges (1.92Mbps - UHF at 20nm and 128Kbps - HF at 200nm), increasing channel quantities for improved service and improved network performance and jam resistance in a satellite degraded/ denied environment. Engineering activities will include tests designed to assess performance of the engineering change with range extension via an in-flight aerial relay between a shore sites to surface platforms in FY16. Testing of legacy radio modifications for wideband and modems/controller modifications that increase data rates will

authenticate expansion of RF Networking data rates/ranges within and across at-sea forces, as well as providing access to the Global Information Grid (GIG) via long haul links to Automated Digital Network System (ADNS) routers at fixed and mobile operation centers, including satellite denied and RF jamming situations.

Joint Aerial Layer Network-Maritime (JALN-M) is the Navy implementation of the JALN architecture which provides assured communications in any environment, especially Anti-Access Area Denial (A2AD). With disruption or loss of space tier communications, JALN-M establishes and/or restores connectivity within the High Capacity Backbone (HCB) tier, the Distribution Access Range Extension (DARE) tier, and the Transition tier in accordance with the JALN Initial Capabilities Document (ICD) dated 27 August 2009 and the JALN Analysis of Alternatives (AoA) Final Report dated 31 October 2011. JALN-M is a robust, assured communications capability providing Joint connectivity via the HCB and Navy platform connectivity via a pseudo satellite DARE capability. JALN-M will use the Extended Data Rate (XDR) waveform for intra-battle group DARE communications, a Common Data Link (CDL) waveform for the HCB cross-link capability, and will leverage enhanced UHF/HF waveforms for coalition connectivity.

FY15 funding will continue to support the goal of developing six (6) JALN-M Prototype payloads through the leveraging of the results of both HCB and Airborne XDR flight demonstrations. Efforts will include development of capabilities to be interoperable with Automated Digital Network System (ADNS). ADNS provides routing, switching, baseband, configuration and monitoring capabilities. Funding will also facilitate the development of the design specification of JALN-M payload requirements for integration into an airborne prototype Pod.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Battle Force Tactical Network (BFTN)	0.642	3.500	7.752
Articles:	-	-	-

Description: Overall program efforts include investigation of emerging technologies through study, development and associated testing for feasibility of program insertion.

FY 2013 Accomplishments:
Supported the Battle Force Tactical Network (BFTN) Initial Operational Test and Evaluation (IOT&E) event in support of a Full Rate Production decision. Efforts supported research of commercial sector through internet data mining and requests for information (RFI) to determine what commercial off the shelf (COTS) technology is available in the marketplace to meet BFTN system enhancement design specifications. RFI responses were assessed and catalogued for development of BFTN engineering change RDT&E contract request for proposal (RFP).

FY 2014 Plans:
Continue support to the IOT&E event in support of a Full Rate Production decision. Submit RFP for BFTN Engineering Change RDT&E contract with RFP release estimated Q4FY14. Initiate the development of acquisition and system engineering documentation, initiate efforts in planning and management of BFTN acquisition plans, logistics, milestones and schedule to support efforts toward the award of BFTN engineering change contract. Support demonstration and operational tests and studies of BFTN engineering change design i.e., jamming resistance. Reconfigure BFTN laboratory to support individual component and improved system performance test and evaluation. Support channel allocation/saturation studies; design specifications for High Frequency (HF) and Ultra High Frequency (UHF) radio wideband modification kit and radio feasibility studies; BFTN Authority

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204163N / *Fleet Tactical Development*	**Project (Number/Name)** 0725 / *Communication Automation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
To Operate (ATO) accreditation documentation and approval process; planning for environmental and shock/vibe testing; and developmental and demonstration test activities. ***FY 2015 Plans:*** Continue support to the IOT&E event in support of a Full Rate Production decision. Continue to develop engineering documentation, initiate efforts in management of plans, logistics, milestones and schedule to support efforts toward BFTN engineering change contract award. Award contract for development and testing efforts of BFTN engineering change, to include: initiation of system sub-component miniaturization to reduce system weight and power parameters for ready integration into a broader range of platform configurations and support MIL-STD 461E Electromagnetic Interference and MIL-STD 167 Vibration testing and certification activities. Demonstrate and document techniques and procedures for multiple 1.9Mbps UHF and 128Kbps HF RF channels with load-balancing and fail-over from Satellite Communication (SATCOM). Efforts will begin to design test of BFTN Fly Away Kit upgrade (modular relay) ashore with in-flight aerial relay bridge to ships, authenticating extension of RF Networking data rates/ranges, within and across at-sea forces, to support BFTN Secret Internet Protocol Router Network (SIPRNET) connectivity to Automated Digital Network System (ADNS) routers ashore for GIG access. Engineering change developmental/lab testing in preparation for demonstration and operational test; wideband modification kit design for AN/WSC-3 UHF and AN/URT-23 HF radios; DoD Information Assurance Certification Accreditation Plan (DIACAP) and National Protection Center (NPC) integration in one (1) simulated Unmanned Aerial Vehicles (UAV) configured with the BFTN modular relay and three (3) surface platforms (nodes). Test plan development for testing of data rates in an at-sea topologic array of four or more platforms/nodes.			
Title: Joint Aerial Layer Network -Maritime (JALN-M)	13.662	19.922	19.529
Articles:	-	2.000	-
Description: Overall program efforts include investigation of emerging technologies through study, development and associated testing for feasibility of program insertion. ***FY 2013 Accomplishments:*** Participated in OPNAV Anti-Access Area Denial (A2AD) events to include Concept of Operations (CONOPS)/Concept of Employment(CONEMP) development, Council of Colonels engagement, and acquisition support. Accomplished initial efforts in support of necessary modifications to the Advance Extremely High Frequency (AEHF) Extended Data Rate (XDR) waveform identified and developed for use in the airborne XDR mode, and flight demonstration of the airborne XDR relay functionality. ***FY 2014 Plans:*** Continue participation in OPNAV Anti-Access Area Denial (A2AD) events to include Concept of Operations (CONOPS) development, Council of Colonels engagement, and continued efforts towards modifications to the Advance Extremely High Frequency (AEHF) Extended Data Rate (XDR) waveform identified and developed for use in the airborne XDR (A-XDR) mode, and to support the flight demonstration of the A-XDR relay functionality. Conduct analysis, risk reduction activities, and prototype			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204163N / *Fleet Tactical Development*	**Project (Number/Name)** 0725 / *Communication Automation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
development of the routing, navigation, cross-link, and payload requirements. Conduct flight test demonstration of A-XDR payload prototype articles at contractor site. Trade studies and risk assessments will begin in the areas of dynamic range, adjacent channel interference, XDR functionality, hardware RF options, security, information assurance, platform constraints, crosslink considerations, and acquisition and tracking. Risk reduction will include flight demonstrations employing the MIT/ Lincoln Lab satellite simulator on an aircraft communicating with a surface terminal. Initiate test planning for airborne HCB flight demonstrations to support the development of a JALN-M payload specification document. ***FY 2015 Plans:*** Complete A-XDR flight testing. Conduct flight test demonstrations of airborne HCB payload to establish throughput at range, anti-jamming capability verses uplink and downlink jamming, simultaneous connections, link availability and bit error rate. Initiate the design specifications for a JALN-M prototype payload. Initiate efforts on development of six (6) JALN-M prototype payloads in a Pod, leveraging the results of both HCB and Airborne XDR flight demonstrations.			
Accomplishments/Planned Programs Subtotals	14.304	23.422	27.281

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: *Battle Force Tactical Network (BFTN).*	0.285	1.836	1.425	-	1.425	6.940	13.403	11.063	15.815	-	77.760

Remarks

D. Acquisition Strategy

Battle Force Tactical Network (BFTN) will follow an evolutionary acquisition approach with collegial development across activities and coalesced implementation phases at accredited facility to achieve interoperable component upgrades, system integration and automated operations that optimize Fleet implementation. Program will use awarded OMNIBUS contracts to obtain engineering and support services consistent with acquisition initiatives. Development of BFTN engineering change enhancements leverages Commercial-Off-The-Shelf (COTS) and Government-Off-The-Shelf (GOTS) products while expanding material savings by streamlining logistics, installation, integration and training concepts. Where feasible, differing types of advantageous contract vehicles will be used to provide flexibility, decrease contract administrative costs, and encourage acquisition streamlining through the use of COTS products.

Joint Aerial Layer Network-Maritime (JALN-M) will address capability gaps as directed by the JALN Analysis of Alternatives (AoA) by integrating a suite of technical capabilities into a single payload. Technical and acquisition support will be provided to conduct HCB and airborne XDR demonstrations and to develop six prototype JALN-M payloads.

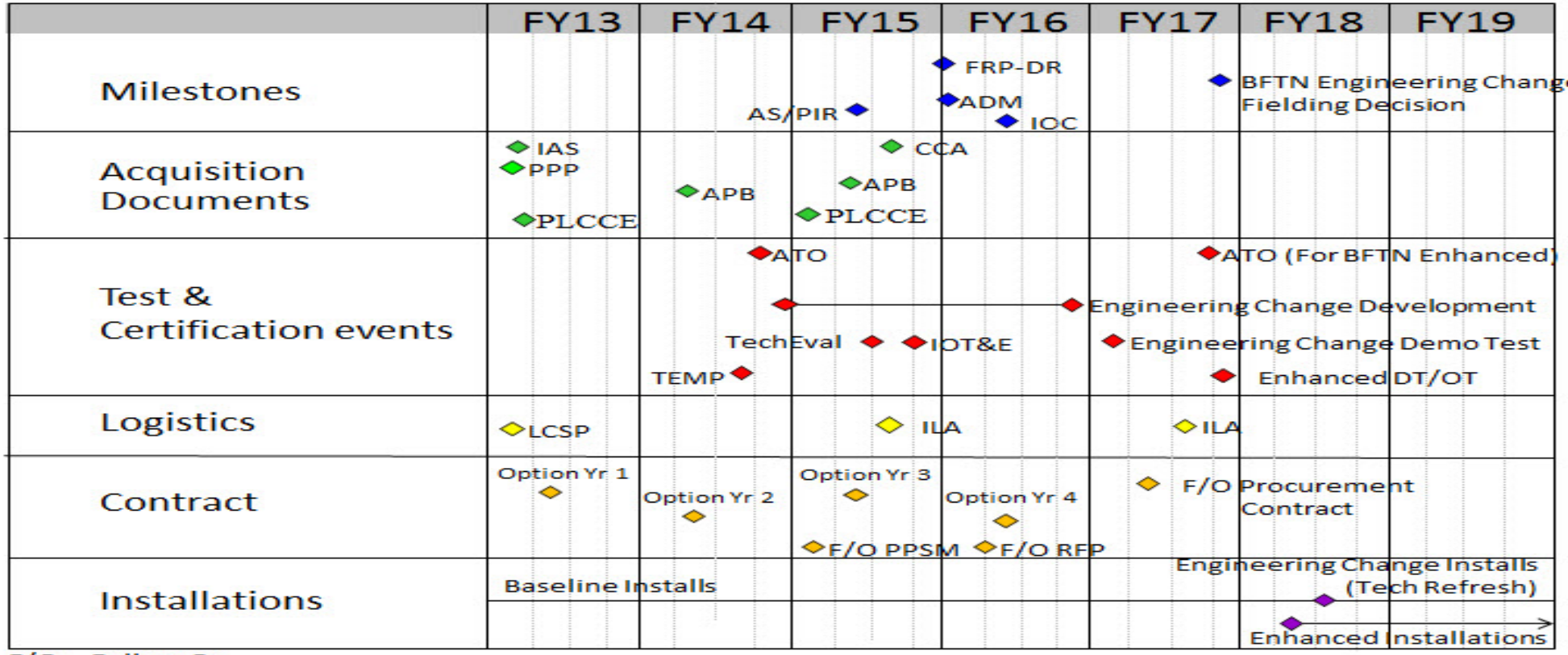
Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204163N / *Fleet Tactical Development*	**Project (Number/Name)** 0725 / *Communication Automation*

E. Performance Metrics

BFTN - Complete successful Initial Operational Test and Evaluation (IOT&E). Legacy UHF Radios Modified for Multichannel Wideband Interoperability Verified. Successful EMC/EMI Test & Accreditation. Continue engineering changes for Battle Force Tactical Network engineering change to increase individual High Frequency Internet Protocol (HFIP) channel data rates to 128Kbps and Ultra High Frequency Internet Protocol (UHFIP) to 1.9Mbps. Successful demonstration of engineering change over three (3) channels simultaneously, followed by successful demonstration of Spatial Multiplexing design over eight (8) channels simultaneously. Increased data rates for modem and controller are verified.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204163N / *Fleet Tactical Development*	**Project (Number/Name)** 0725 / *Communication Automation*

BFTN Schedule

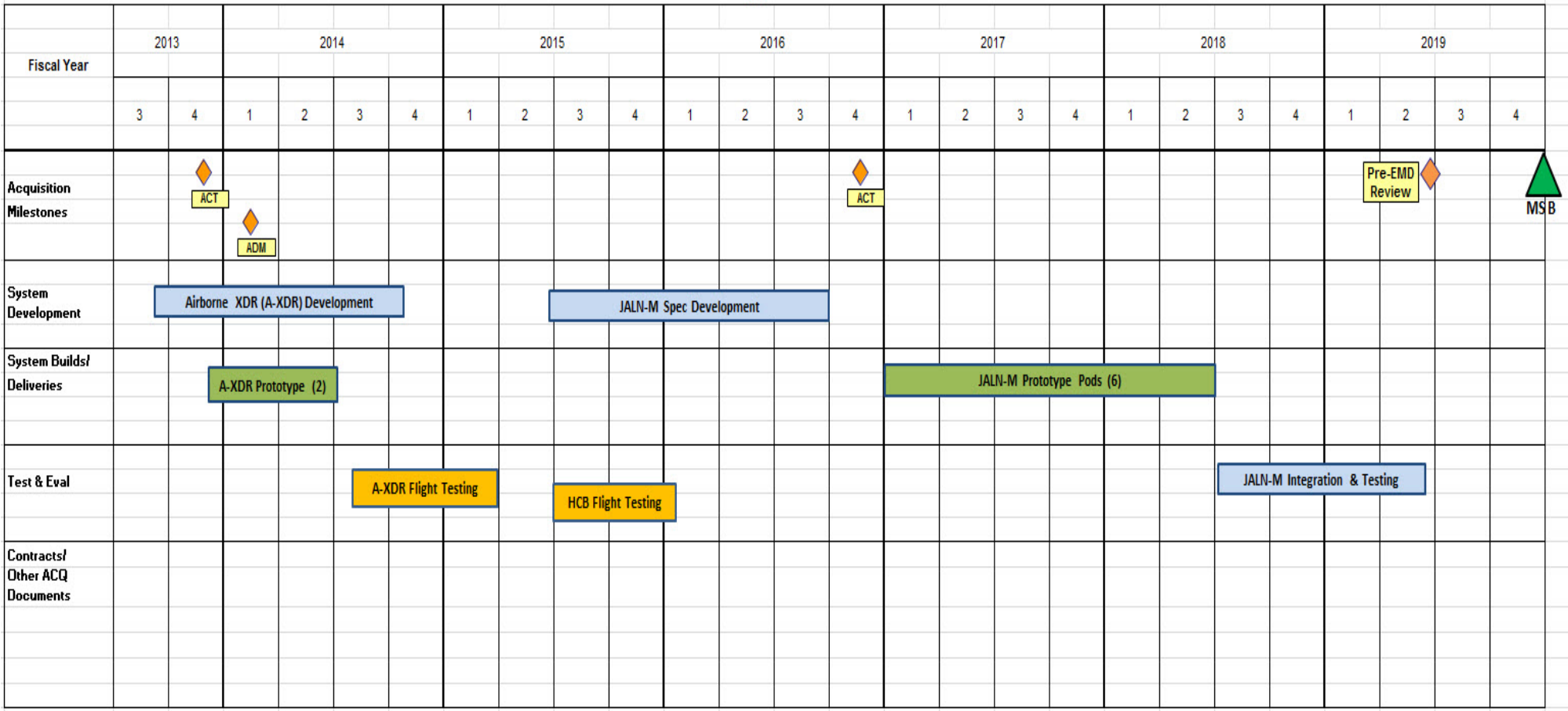


F/O – Follow On

CPD 4QFY10 MS C 4QFY11
ATO 4QFY11 FOC 4QFY26

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204163N / *Fleet Tactical Development*	**Project (Number/Name)** 0725 / *Communication Automation*

JALN-M 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 I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0204228N *I Surface 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**
Total Program Element	3.292	2.999	2.374	2.878	-	2.878	2.340	2.159	2.206	2.262	Continuing	Continuing
3311: *Navigation Systems*	3.292	2.999	2.374	2.878	-	2.878	2.340	2.159	2.206	2.262	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The Surface Support RDT&E funding will be used for the research, design, development, integration testing, and documentation of a new Inertial Navigation System (INS) to support the Ballistic Missile Defense (BMD) mission. The program will implement systems engineering processes to identify specific BMD performance requirements, investigate major navigation system error sources, define new functions, research new technologies, algorithms, and techniques to improve system performance, conduct analyses of alternatives, create preliminary and final design concepts, develop new hardware components and associated software, and conduct land based and shipboard testing.

The Navy's current INS is the AN/WSN-7(V) Ring Laser Gyro Navigator (RLGN), a legacy 1980's design that was first installed in 1998 and is now obsolete. This is a proprietary design. Estimates to redesign obsolete components for new production systems for SCN platforms exceed current budgets. The RLGN is reaching its limit with respect to providing the high-accuracy navigation solution required to meet known and emerging mission requirements. Navigator of the Navy's Vision 2025 identifies emergent requirements with respect to improved navigation in a GPS denied environment, littoral warfare, mine countermeasures, and manned and unmanned vehicle operations that cannot be met with existing systems. The RLGN employs an Inertial Measuring Unit (IMU) with three single-axis ring laser gyros that allow the system to provide continuous and automatic data outputs of the ship's geographic position (latitude, longitude), horizontal and vertical linear velocity (Ve, Vn, Vv), attitude (heading, roll, and pitch) and attitude rates. The INS provides mission critical ship's position and attitude data to shipboard sensors (such as radars), combat systems, gun, and missile systems. The INS uses data from the Global Positioning System (GPS) to periodically update (i.e., reset) its position and internal clock. The INS is the ship's primary position source in absence of GPS.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy					Date: March 2014
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy* / BA 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0204228N / *Surface Support*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	4.171	2.374	3.099	-	3.099
Current President's Budget	2.999	2.374	2.878	-	2.878
Total Adjustments	-1.172	-	-0.221	-	-0.221
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.091	-			
• Rate/Misc Adjustments	-	-	-0.221	-	-0.221
• Congressional General Reductions Adjustments	-0.281	-	-	-	-
• Congressional Directed Reductions Adjustments	-0.800	-	-	-	-

Change Summary Explanation

FY 2013 reductions reflect Congressionally mandated sequestration and general reductions.
FY 2015 reductions reflect the Department's decision to reduce contracted services.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204228N / *Surface Support*	Project (Number/Name) 3311 / *Navigation 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
3311: *Navigation Systems*	3.292	2.999	2.374	2.878	-	2.878	2.340	2.159	2.206	2.262	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 Surface Support RDT&E funding will be used for the research, design, development, integration testing, and documentation of a new Inertial Navigation System (INS) to support the Ballistic Missile Defense (BMD) mission. The program will implement systems engineering processes to identify specific BMD performance requirements, investigate major navigation system error sources, define new functions, research new technologies, algorithms, and techniques to improve system performance, conduct analyses of alternatives, create preliminary and final design concepts, develop new hardware components and associated software, and conduct land based and shipboard testing.

The Navy's current INS is the AN/WSN-7(V) Ring Laser Gyro Navigator (RLGN), a legacy 1980's design that was first installed in 1998 and is now obsolete. This is a proprietary design. Estimates to redesign obsolete components for new production systems for SCN platforms exceed current budgets. The RLGN is reaching its limit with respect to providing the high-accuracy navigation solution required to meet known and emerging mission requirements. Navigator of the Navy's Vision 2025 identifies emergent requirements with respect to improved navigation in a GPS denied environment, littoral warfare, mine countermeasures, and manned and unmanned vehicle operations that cannot be met with existing systems. The RLGN employs an Inertial Measuring Unit (IMU) with three single-axis ring laser gyros that allow the system to provide continuous and automatic data outputs of the ship's geographic position (latitude, longitude), horizontal and vertical linear velocity (Ve, Vn, Vv), attitude (heading, roll, and pitch) and attitude rates. The INS provides mission critical ship's position and attitude data to shipboard sensors (such as radars), combat systems, gun, and missile systems. The INS uses data from the Global Positioning System (GPS) to periodically update (i.e., reset) its position and internal clock. The INS is the ship's primary position source in absence of GPS.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Systems Engineering	2.999	2.374	2.878
Articles:	-	-	-
FY 2013 Accomplishments:			
- Developed Inertial Sensor Module (ISM) specifications and procurement documents.			
- Developed New Processing Module (NPM) hardware/software design.			
- Developed INS-R Modeling and Simulation capability.			
FY 2014 Plans:			
- Award competitive contract for ISM development.			
- NPM development hardware/software.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204228N / *Surface Support*	**Project (Number/Name)** 3311 / *Navigation Systems*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Procure NPM Engineering Development Module (EDM) hardware. ***FY 2015 Plans:*** - NPM development hardware/software. - NPM EDM integration. - Procure NPM Pre-Production Unit (PPU). - Award ISM contract. - ISM development procure EDM hardware.			
Accomplishments/Planned Programs Subtotals	2.999	2.374	2.878

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/0670: *Other Navigation*	21.219	33.386	45.431	-	45.431	54.278	43.646	64.504	64.288	-	551.796

Remarks

D. Acquisition Strategy

Procurement of the Inertial Navigation System (INS) planned to begin in FY2016.

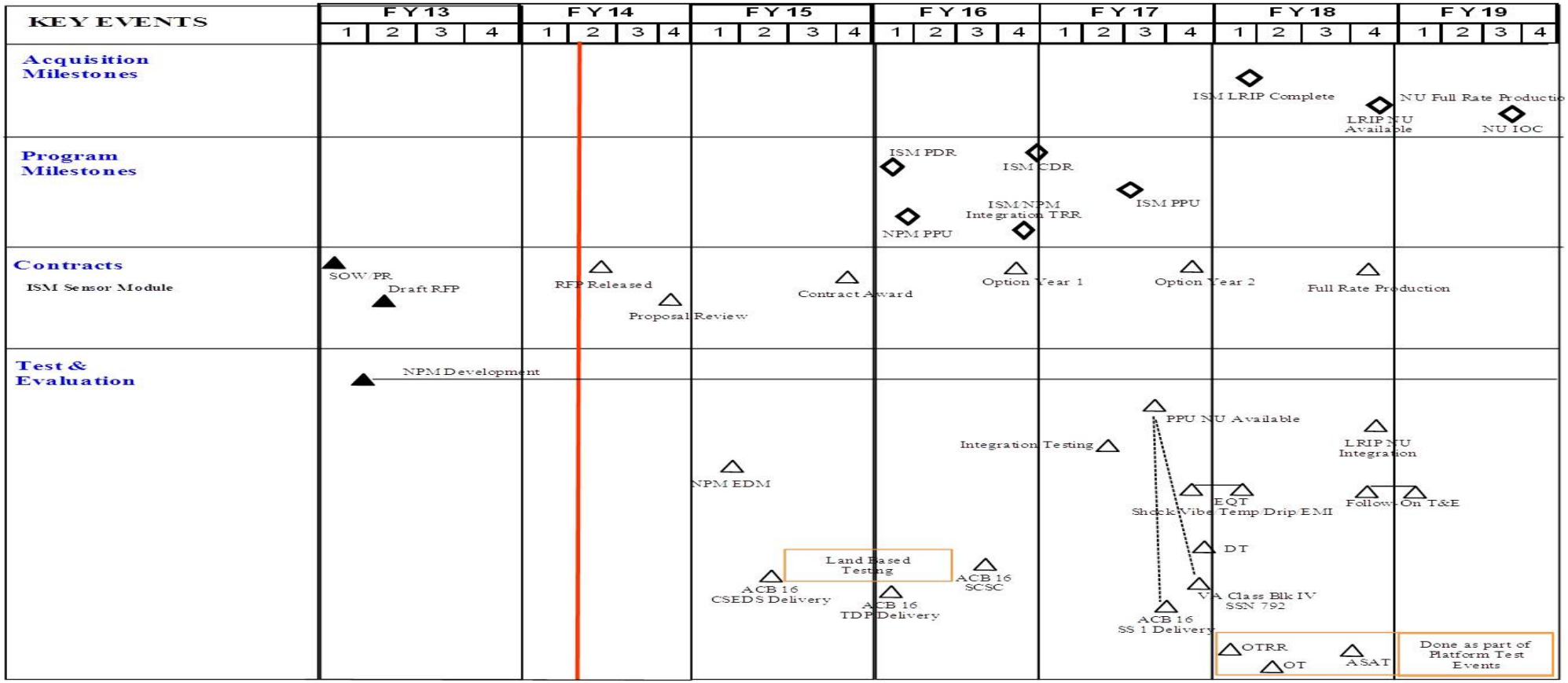
E. Performance Metrics

FY13:
- Initial NPM hardware/software development.
- Initial INS-R Modeling and Simulation capability.
- Completed INS-R CDD.

FY14:
- NPM development hardware/software.

FY15:
- Award competitive contract for ISM development.
- NPM development hardware/software.
- Procure NPM PPU
- Complete NPM EDM.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204228N / *Surface Support*	**Project (Number/Name)** 3311 / *Navigation Systems*



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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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204229N *I Tomahawk Mssn Planning Ctr*

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	3,092.979	10.154	12.407	32.385	-	32.385	37.187	114.702	156.889	165.991	Continuing	Continuing
0545: *TOMAHAWK*	3,092.979	10.154	12.407	27.385	-	27.385	27.187	44.702	31.889	15.991	Continuing	Continuing
3378: *Next Generation Land Attack Weapon (NGLAW)*	0.000	-	-	5.000	-	5.000	10.000	70.000	125.000	150.000	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

Funds support development of the Tomahawk Weapon System (TWS) encompassing Tomahawk Land-Attack Missile (TLAM) upgrades, Tactical Tomahawk Weapons Controls System (TTWCS), Tomahawk Command and Control System (TC2S) upgrades and other missile system improvements. The TWS provides a Tomahawk cruise missile attack capability against fixed and mobile targets. The TLAM can be fitted with either Conventional unitary warhead (TLAM/C) or submunition Dispenser (TLAM/D). Tomahawk is capable of being deployed from both submarines and surface ships. Launched from mobile, sea-based platforms, the land attack variant significantly increases the total capability of joint forces. This Program Element also includes funding for the NGLAW Analysis of Alternatives (AoA) and resultant follow-on development of a long range, survivable strike capability.

This program is funded under Operational Systems Development because it includes development efforts to upgrade systems that have been fielded or have received approval for Full Rate Production (FRP) and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	11.265	12.407	16.858	-	16.858
Current President's Budget	10.154	12.407	32.385	-	32.385
Total Adjustments	-1.111	-	15.527	-	15.527
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.174	-			
• Program Adjustments	-	-	17.500	-	17.500
• Rate/Misc Adjustments	0.001	-	-1.973	-	-1.973
• Congressional General Reductions Adjustments	-0.938	-	-	-	-

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204229N *I Tomahawk Mssn Planning Ctr*

Change Summary Explanation

Technical: FY15 increase in funding will be used to continue Anti-Access/Area Denial (A2AD) Navigation Improvements and initiate A2AD communications upgrades into Block IV weapons systems. A2AD communications Preliminary Design Review, Critical Design Review and Operational Test Readiness Review were added to the schedule as a result.

Funding was also added to Project Unit 3378, Next Generation Land Attack Weapon, for the Analysis of Alternatives (AoA) and resultant follow-on development of a long range, survivable strike capability.

Schedule: Changes to the R-4 schedule include updating all Image Navigation specific language and replacing it with Anti-Access/Area Denial(A2AD). The A2AD Preliminary Design Review and Critical Design Review dates have each slipped by 1 QTR as a result of restructuring program scope to existing Tomahawk segments to plan and execute GPS denied missions. As a result of changes to the program's Hardware Development acquisition strategy, Tactical Tomahawk Full Rate Production was removed.

A2AD Engineering Change Proposal (ECP) and A2AD Navigation Fleet Release have slipped due to contractor performance on preceding Small Business Innovation Research (SBIR) contracts. The contractor was expected to be at a Technology Readiness Level (TRL) 6/7 by the end of delivery order 3 (Jun 2013), and have only achieved TRL 5/6. Subsequently, an additional delivery order was added to that Basic Ordering Agreement which is no longer being pursued.

Changes within the R-4 schedule profile to the TTWCS schedule include the deletion of the v5.4.1 future operational capability milestone as v5.4.1 has been deferred and v5.4.0.2 has replaced it in 3rd quarter 2016 as the program of record, as approved by PEO (U&W) on January 24, 2013. Per this decision, v5.4.0.2 milestones replace v5.4.1 milestones. This includes v5.4.0.2 Operational Test Readiness Review (OTRR) replacing v5.4.1 test readiness review in 4th quarter 2015, Fleet release will occur after v5.4.0.2 OTRR in 2nd quarter 2016.

Changes within the R-4 schedule profile to TC2S include changing TC2S 4.3 FOC from 3QFY12 to 4QFY15 as a result of changes in ship availabilities and budget reductions due to FY13 sequestration. The 5.0.1 FOC was delayed from 2QFY15 to 4QFY17 due to schedule delays with the fielding of TC2S 4.3.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204229N / *Tomahawk Mssn Planning Ctr*	Project (Number/Name) 0545 / *TOMAHAWK*	

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
0545: *TOMAHAWK*	3,092.979	10.154	12.407	27.385	-	27.385	27.187	44.702	31.889	15.991	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 Tomahawk Weapon System (TWS) provides a Tomahawk cruise missile attack capability against fixed and mobile targets. This program ensures that the TWS exploits state-of-the-art technology to preserve the efficiency of this proven weapon system, and includes all missile development, mission planning system development, and submarine and surface ship weapons control system development.

The Tactical Tomahawk All-Up-Round (AUR) Block IV missile is a comprehensive spiral baseline upgrade to the TWS that provides the tactical commander a quick reaction response capability as well as improved flexibility, increased accuracy and higher lethality. A five-year multi-year (FY04-FY08) production contract was awarded in August 2004 for the production of up to 2200 Block IV Tomahawk missiles. The essential upgrades of the Block IV missile are: improved guidance, navigation, control and mission computer two-way Satellite Communications (SATCOM), and a lower production cost as compared to the Block III missile. Block IV provides a Ultra High Frequency SATCOM data link to enable the missile to receive in-flight mission modification messages, to transfer health and status messages and to broadcast Battle Damage Indication messages. Block IV also includes a high anti-jam Global Postitioning System (GPS) receiver, navigation improvements and associated antenna systems. The Tomahawk program also includes developments to evolve the TWS to be able to plan and execute missions requiring navigation in an Anti-Access/Area Denied environment.

Under the umbrella of the Theater Mission Planning Center (TMPC), the TC2S is the mission planning segment of the TWS that provides systems for the precision targeting, route planning, mission distribution, and strike management of Tomahawk cruise missile missions from sites located ashore and afloat. TMPC optimizes all aspects of the Tomahawk missile mission to successfully engage a target and has evolved into five scalable configurations at 179 sites: Cruise Missile Support Activities (CMSAs) (3), Tomahawk Strike Mission Planning Cells (TSMPCs) (3 - C5F, C6F, C7F), Carrier Strike Groups (CSGs) (10 CVN's/5 CTF's), Firing Units (FRUs)(84 Surface/56 Submarines), Command & Control Nodes (C2 Nodes)(6), labs (6), and training classrooms (6). Systems fielded at the CMSAs and TSMPCs provide mission planning and employment support information for TLAM/C, including the distribution of mission data and command information essential to TLAM employment via the mission distribution system and associated communications infrastructure. Development of Tactical Tomahawk capabilities in TMPC/TC2S includes software development, integration, test, and delivery, including support for training development, installation planning, and simulation/model development required by Commander, Operational Test and Evaluation Force. This project also includes development related to national and tactical imagery architectures, as well as software development to decrease mission planning time and increase the quality and accuracy of each mission for Block III and IV TLAM.

The TTWCS provides launch capability for surface and submarine platforms. Development of the TTWCS provides a common architecture to launch the TACTOM Block IV and all variants in inventory. Development of upgrades to the TTWCS is required to meet the Department of Defense Information Technology Standards Registry,

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204229N / *Tomahawk Mssn Planning Ctr*	**Project (Number/Name)** 0545 / *TOMAHAWK*

to meet FORCEnet compliance and be Internet Protocol Version 6 ready in order to remain interoperable within the Joint Service Architecture and to retain weapons system viability and usability for our Sailors. These efforts provide battle-group tactical flexibility and responsiveness while maximizing TWS wartime capability.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Tactical Tomahawk All-Up-Round (AUR)	7.722	4.509	13.967
Articles:	-	-	-
Description: Continuation of the cooperatively funded United States Navy/United Kingdom Joint Multi-Effects Warhead System (JMEWS) / Joint Capability Technology Demonstration (JCTD). Include significant research and analysis of the worldwide target set capability gaps to include Hard and Buried Targets and Prompt Global Strike targets, for which JMEWS is a potential solution. In addition, NAWCAD also provides engine power data/analysis in order to determine reserve power available to power potential upgrades to the Tomahawk AUR, such as JMEWS. Continue fleet experimentation and requirements coordination as well as Concept of Operations (CONOPS)/ Concept of Employment development. Commence and continue Anti-Access/Area Denial (A2AD) navigation and communication integration into Block IV weapons system.			
FY 2013 Accomplishments: Began acquisition milestone documentation for the JMEWS transition. Requirements, CONOPS, and software development for image navigation technology. Non-recurring engineering, systems and software development, integration and testing of capability upgrades to address emergent threats, Urgent Operational Needs Statement (UONS) and ORD target set gap.			
FY 2014 Plans: Commence A2AD navigation and communication integration into Block IV weapons system. FY 2014 efforts include requirements development and documentation; CONOPS development; software development; mission planning updates; and integration efforts. Continuation of JMEWS transition, integration, and demonstration efforts. Assessing and testing communication architecture and technologies to overcome more challenging communication environments. Target assessments, engine performance analysis, campaign planning and mission analysis for potential Tactical Tomahawk upgrades or new applicable weapons. Non-recurring engineering, systems and software development, integration and testing of capability upgrades to address emergent threats, UONS, Fleet Gaps, and the Tomahawk ORD.			
FY 2015 Plans: Continue A2AD navigation and communications transition and engineering change proposals to include software development, systems engineering, system testing, and transition documentation. Continuation of JMEWS transition, integration, and demonstration efforts. Target assessments, engine performance analysis, campaign planning and mission analysis for potential Tactical Tomahawk upgrades or new applicable weapons. Non-recurring engineering, systems and software development, integration and testing of capability upgrades to address emergent threats, UONS, Fleet Gaps, and the Tomahawk ORD.			
Title: Tomahawk Command and Control Systems (TC2S)	2.432	7.898	13.418
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204229N / *Tomahawk Mssn Planning Ctr*	**Project (Number/Name)** 0545 / *TOMAHAWK*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: Development and incorporation of new capabilities in TC2S necessary for the employment of Tactical Tomahawk. Imagery upgrades to TC2S. Continue test & evaluation support for TC2S. ***FY 2013 Accomplishments:*** Continued Tomahawk Land Attack Missile (TLAM) navigation and accuracy and weapons delivery Circular Error Probable (CEP) studies and assessments necessary to ensure the TWS is properly employed; continued evaluation of TC2S design process to ensure Tactical Tomahawk missile performance characteristics are adequately modeled in TC2S. Continued evaluation of imagery formats resulting from National Geospatial Intelligence Agency (NGA) mandated architectural changes. ***FY 2014 Plans:*** Continue TLAM navigation and accuracy and weapons delivery CEP studies and assessments necessary to ensure the TWS is properly employed; continue evaluation of TC2S design process to ensure Tactical Tomahawk missile performance characteristics are adequately modeled in TC2S. Continue evaluation of imagery formats resulting from NGA mandated architectural changes. Initial evaluation of Anti-Access/Area Denial (A2AD) navigation and communications integration and mission planning timeline upgrades. Develop requirements and design for A2AD navigation and communications integration and mission planning timeline upgrades. ***FY 2015 Plans:*** Continue TLAM navigation and accuracy and weapons delivery CEP studies and assessments necessary to ensure the TWS is properly employed; continue evaluation of TC2S design process to ensure Tactical Tomahawk missile performance characteristics are adequately modeled in TC2S. Continue evaluation of imagery formats resulting from NGA mandated architectural changes. Continue the development of navigation software improvements capability and software code completion associated with A2AD navigation and communications integration and mission planning timeline upgrades. The majority of the development will occur in FY15.			
Accomplishments/Planned Programs Subtotals	10.154	12.407	27.385

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/2101: *Tomahawk*	293.582	312.456	194.258	-	194.258	95.859	10.237	6.203	5.648	Continuing	Continuing
• OPN/5253: *Tomahawk Support Equip*	62.651	63.559	61.462	-	61.462	63.016	62.978	65.115	65.734	Continuing	Continuing
• OPN/9020: *Initial and Vendor Direct Spares*	0.023	0.158	0.240	-	0.240	0.172	0.160	0.219	0.164	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204229N / *Tomahawk Mssn Planning Ctr*	**Project (Number/Name)** 0545 / *TOMAHAWK*

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

Remarks

D. Acquisition Strategy

The Tactical Tomahawk (TACTOM) Weapon System achieved IOC in May 2004. The acquisition strategy involves maintaining production through FY14 and entrance into recertification starting in FY19. Recertification of TACTOM missiles starting in FY19 provides modernization opportunities to improve weapon system performance. TC2S and TTWCS are in sustainment requiring periodic hardware and software updates to maintain compliance with IA standards and maintain system relevance against emerging threats. Sustainment of TC2S and TTWCS segments will rely on a blend of industry and government expertise through the remaining life of the program.

Research & Development technology demonstration capabilities (Multiple-Effects Warhead, Anti Surface Warfare) will be potentially introduced after successful qualification and testing.

E. Performance Metrics

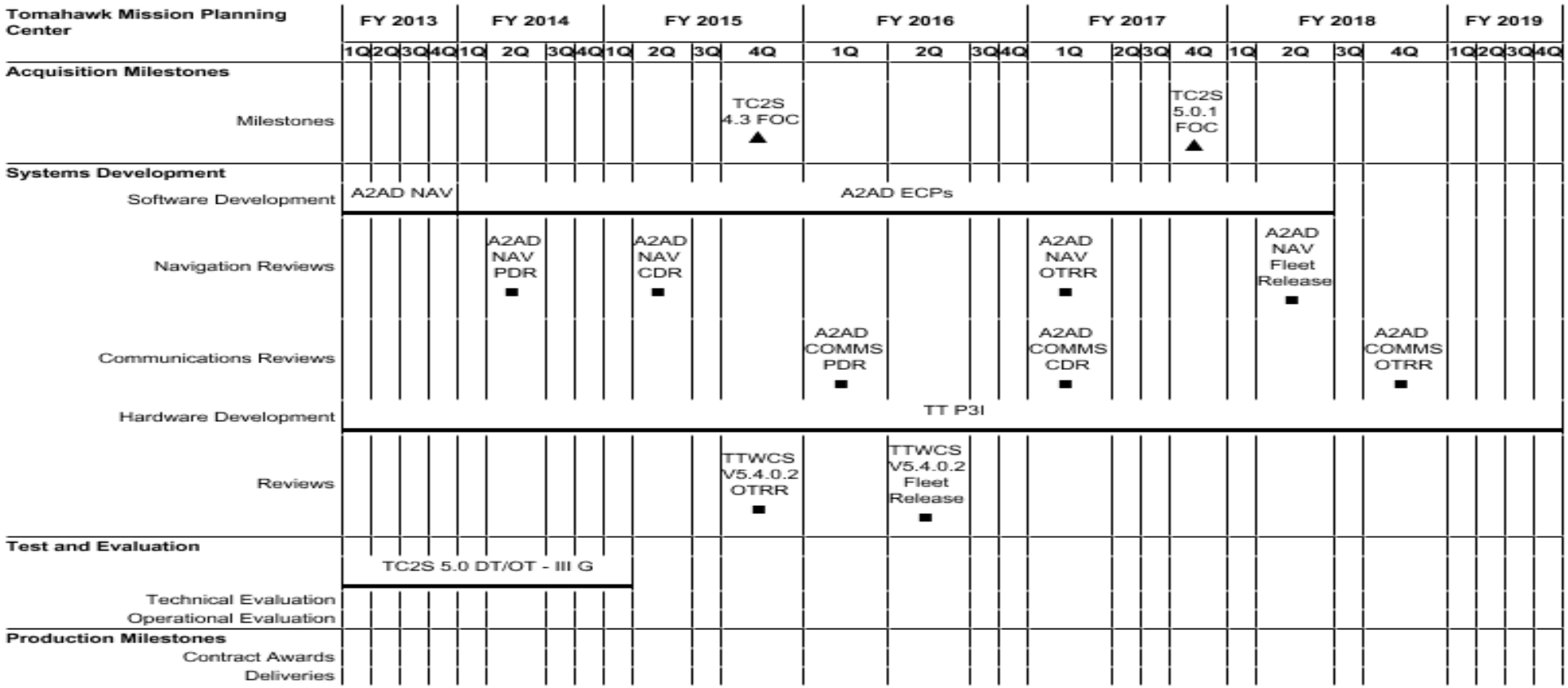
The Navy seeks to improve the Tomahawk cruise missile attack capability against land targets through research and development done predominantly through defense contractors and government field activities.

Examples in the area of the All-Up-Round include development of candidate warheads and sensors that will enhance weapon ability to cover all assigned target types, provide a quick reaction response capability for the weapon system, and improved guidance, navigation, control, mission computer two-way satellite communications, and a high anti-jam GPS receiver all in line with state of the art technology.

In the area of the weapons control system, research and development is performed to ensure viability and usability of the system into the future, providing necessary upgrades to meet the Department of Defense Information Technology standards registry to comply with FORCEnet requirements and be Internet Protocol Version 6 ready to remain interoperable within Joint Service Architecture, in order to provide battle-group tactical flexibility and responsiveness needed to enable full wartime capability.

In the area of the TC2S, continue research and development in order to provide scalable configurations to deploy where and as needed to provide necessary command and control, development necessary to function with national and tactical imagery architectures, decrease mission planning time, and increase the quality and accuracy of each mission for the TWS.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204229N / *Tomahawk Mssn Planning Ctr*	**Project (Number/Name)** 0545 / *TOMAHAWK*



2015PB - 0204229N - 0545

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204229N / *Tomahawk Mssn Planning Ctr*	Project (Number/Name) 3378 / *Next Generation Land Attack Weapon (NGLAW)*	

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
3378: *Next Generation Land Attack Weapon (NGLAW)*	-	-	-	5.000	-	5.000	10.000	70.000	125.000	150.000	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

Funding is provided for a Next Generation Land Attack Weapon (NGLAW), a weapons system that is long range, survivable and can be launched from multiple surface and submarine platforms. NGLAW will incorporate evaluated existing and emergent technologies to support an improved strike capability with an Initial Operational Capability (IOC) no later than 2024.

This effort will enter the Analysis of Alternatives (AoA) phase of the acquisition cycle in FY15. Upon completion, the Department of the Navy will assess the results of the AoA and make a determination on a preferred material approach, the phase of the acquisition cycle the program will enter, and when the NGLAW weapon will achieve IOC.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Next Generation Land Attack Weapon	-	-	5.000
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: N/A			
FY 2015 Plans: Conduct a thorough AoA assessing existing weapons systems, emergent technologies, and industry Internal Research and Development activities/proposals; develop potential Program of Record costs, schedules, and risks, as they apply to each. Conduct threat assessments based on current and future scenarios and environments to inform performance requirements and relevant technology which will be matured to provide potential NGLAW solution.			
Accomplishments/Planned Programs Subtotals	-	-	5.000

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204229N / *Tomahawk Mssn Planning Ctr*	**Project (Number/Name)** 3378 / *Next Generation Land Attack Weapon (NGLAW)*

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/2101: *Tomahawk*	293.582	312.456	194.258	-	194.258	95.859	10.237	6.203	5.648	Continuing	Continuing
• OPN/5253: *Tomahawk Support Equipment*	62.651	63.559	61.462	-	61.462	63.016	62.978	65.115	65.734	Continuing	Continuing
• OPN/9020: *Initial and Vendor Direct Spares*	0.023	0.158	0.240	-	0.240	0.172	0.160	0.219	0.164	Continuing	Continuing

Remarks

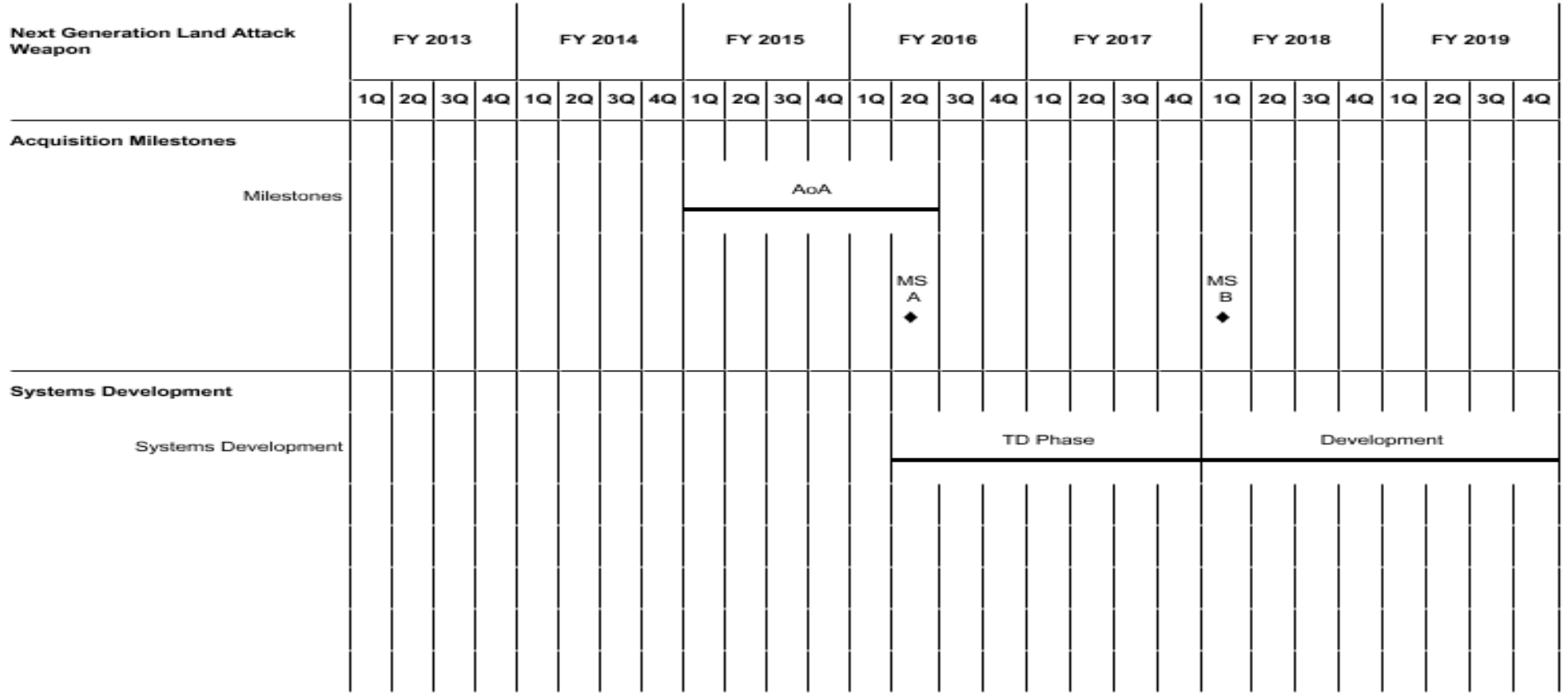
D. Acquisition Strategy

Initiate AoA in FY15 with expected Milestone A by the end of FY16.

E. Performance Metrics

Obtain Milestone A decision for NGLAW in FY16.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204229N / *Tomahawk Mssn Planning Ctr*	**Project (Number/Name)** 3378 / *Next Generation Land Attack Weapon (NGLAW)*



2015PB - 0204229N - 3378

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0204311N *I Integrated Surveillance 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	302.818	40.659	41.609	39.371	-	39.371	31.473	26.430	26.372	26.929	Continuing	Continuing
0344: *SUB AUXILIARIES*	0.000	2.767	0.904	0.811	-	0.811	0.926	0.912	0.881	0.900	Continuing	Continuing
0766.: *IUSS Detect/Classif System*	302.818	37.892	40.705	38.560	-	38.560	30.547	25.518	25.491	26.029	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

This Program Element (PE) comprises two projects - 0766 and 0344. Project 0766 provides for Integrated Undersea Surveillance Systems (IUSS) Research and Development Projects under the Maritime Surveillance Systems (MSS) Program Office (PEO SUB PMS 485). IUSS provides the Navy with its primary means of submarine detection both nuclear and diesel. A portion of project 0766 (FSS) is classified, with details available at a higher classification level. Project 0344 funds the Shallow Water Surveillance System (SWSS) project to develop and demonstrate the technology to enable autonomous installation of a passive acoustic array with processing and communications gear.

The IUSS Research and Development project (0766) funds SURTASS Passive and SURTASS Low Frequency Active (LFA) developments. SURTASS provides the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS LFA provides an active adjunct capability for IUSS passive and tactical sensors to assist in countering the quieter diesel and nuclear threats of the 1990s and beyond. The LFA tasks are directed at detection of slow quiet threats in harsh littoral waters.

In order to continue with reductions in life cycle costs and continue with system-wide consolidation, a short-term goal is to develop a common IUSS processor based on NAVSEA's Acoustic Rapid COTS Insertion (ARCI) program, with a cyclical tech refresh of hardware and software in conjunction with the submarine Advanced Processor Build (APB) process. The IUSS Integrated Common Processor (ICP) has the capability to process and display data from all fixed and mobile underwater systems. The IUSS ICP will be used for all new system installations and replace the legacy systems as they reach end of life and require upgrading. Additionally, SURTASS has consolidated on the TB-29A Twin-line array, a variant of the Submarine TB-29A Long line array. This reduced the number of array variants employed by SURTASS from 3 to 1, and enabled development and logistics cost savings by leveraging off the submarine TB-29A program.

The Shallow Water Surveillance System (SWSS) project (0344) funds the development and demonstration of the Increment 1B system with technology to enable autonomous classification and reporting of specific submarine targets of interest.

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 7: *Operational Systems Development*		R-1 Program Element (Number/Name) PE 0204311N *I Integrated Surveillance System*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	45.922	41.609	31.229	-	31.229
Current President's Budget	40.659	41.609	39.371	-	39.371
Total Adjustments	-5.263	-	8.142	-	8.142
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.600	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-1.449	-	-1.449
• Rate/Misc Adjustments	0.001	-	9.591	-	9.591
• Congressional General Reductions Adjustments	-3.664	-	-	-	-

Change Summary Explanation

Reduced FY13 funding for Sequestration reductions.

All Projects: The FY 2015 funding was reduced to properly phase program requirements in accordance with expenditures and other rate/miscellaneous adjustments.

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 0344 / *SUB AUXILIARIES*	

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
0344: *SUB AUXILIARIES*	-	2.767	0.904	0.811	-	0.811	0.926	0.912	0.881	0.900	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 Shallow Water Surveillance System (SWSS) project (0344) funds the development and demonstration of the Increment 1B system with technology to enable autonomous classification and reporting of specific submarine targets of interest.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: SWSS	2.767	0.904	0.811
Articles:	-	-	-
FY 2013 Accomplishments: FY13 SWSS funding was used for required activities to enable system demonstration in FY15, to include system engineering trade studies and early risk reduction testing of component technologies.			
FY 2014 Plans: FY14 SWSS funding will be used to continue new development and integration of components to support FY15 system demonstration.			
FY 2015 Plans: FY15 SWSS funding will be used to complete system integration test and to conduct initial fully integrated system demonstration. Following system demonstration, system ruggedization testing and transition to manufacturing efforts will be conducted.			
Accomplishments/Planned Programs Subtotals	2.767	0.904	0.811

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

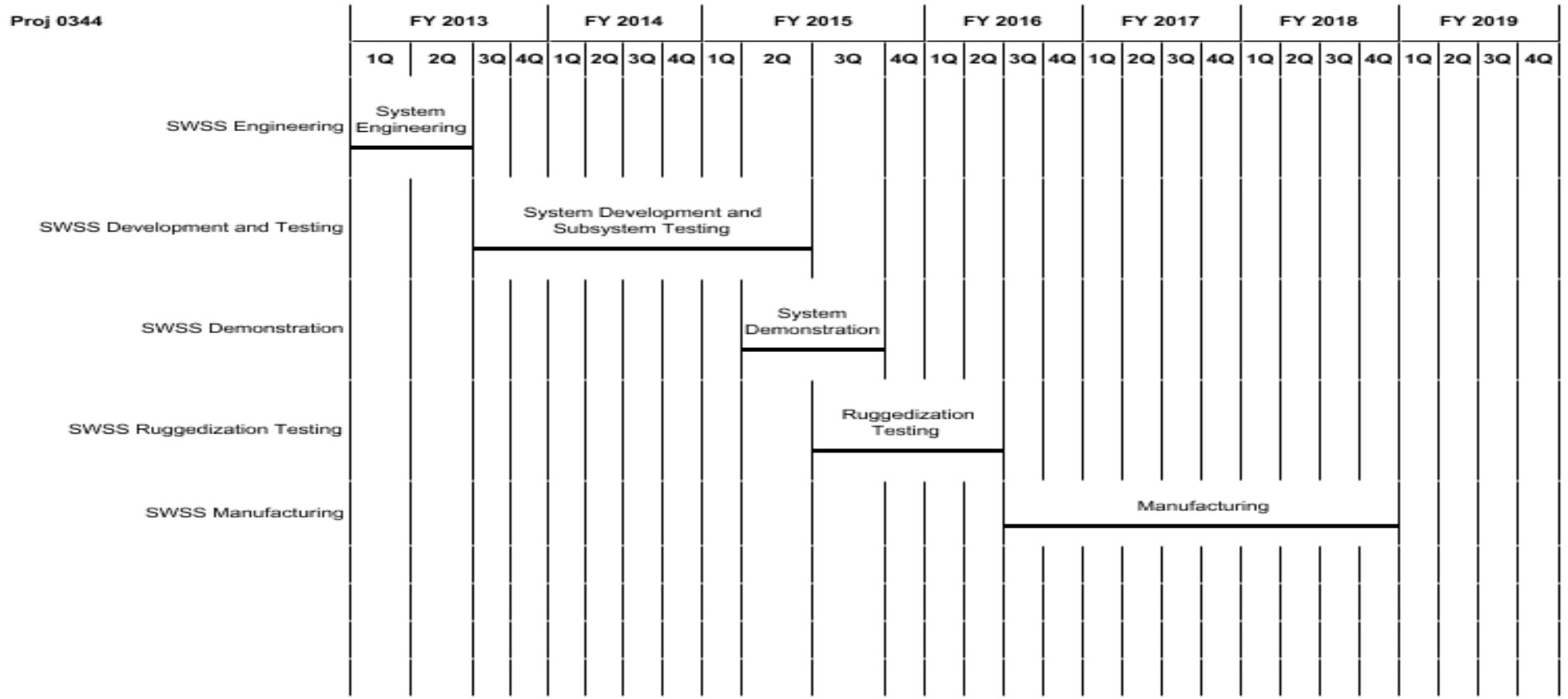
D. Acquisition Strategy

TBD

E. Performance Metrics

SWSS Requirements Document has been developed. Details are available at a higher level of classification.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0344 / *SUB AUXILIARIES*



2015OSD - 0204311N - 0344

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204311N / *Integrated Surveillance System*	Project (Number/Name) 0766. / *IUSS Detect/Classif 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
0766.: *IUSS Detect/Classif System*	302.818	37.892	40.705	38.560	-	38.560	30.547	25.518	25.491	26.029	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

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

Note

The FSS portion of 0766 is classified with details available at a higher classification level.

A. Mission Description and Budget Item Justification

A. This project includes efforts for SURTASS. The SURTASS project comprises the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS also provides the undersea surveillance necessary to support regional conflicts and sea-lane protection. SURTASS has experienced recent passive and active success against diesel submarines operating in shallow water. SURTASS is leveraging existing developments and reducing costs by using Non-Developmental Items and commercial hardware, supporting common Navy Undersea Warfare processing and towed array developments, and increasing operator efficiency through computer-aided detection and classification processing. SURTASS development efforts include: LFA improvements, common IUSS processing, twin-line array development and processing, improved detection and classification/passive automation to counter quieter threats, additional signal processing, integrated active and passive operations, improved Battle Group support, and improved information processing.

LFA provides an active adjunct capability for IUSS passive and tactical sensors to counter the quieter diesel and nuclear threats of the 1990s and beyond. The LFA tasks are directed at detection of slow, quiet threats in harsh littoral waters. Improvements include TL-29A/LFA integration enhancements, advanced waveforms for littoral/shallow water operations including Doppler sensitive waveforms, and processing algorithms to reduce clutter and reverberation false alarms in shallow water. The LFA task includes development and testing of a compact LFA transmit source array for SWATH-P ships, and upgrade of LFA processing capability in the IUSS Integrated Common Processing (ICP) architecture. The ICP is a derivative of the NAVSEA Submarine Acoustic Rapid COTS Insertion (ARCI) program, and is being augmented for IUSS requirements. Together, the LFA improvements, TL-29A, and the ICP support the SURTASS Active Improvement Program.

Functional improvements are delivered to the Fleet in software "builds" while hardware improvements are delivered through the Tech Insertion (TI) process. Software improvements delivered via the Advanced Surveillance Build (ASB) process are based on the Advanced Processor Build (APB) process begun by the NAVSEA Submarine USW program. Each ASB will introduce new capabilities into SURTASS systems including improved automation, normalizer techniques, adaptive beam forming, and display enhancements. SURTASS participates in the process by contributing algorithms for consideration, supplying peer group members for review of candidate algorithms, participating in test evolutions, and incorporating improved algorithms into operational systems. The TI process, modeled after the NAVSEA Submarine USW hardware improvement program, delivers processing technology improvements to platforms on roughly a 4-year cycle. Hardware upgrades for active

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*

and passive arrays and communications systems will also be provided during TI upgrades, but not on a regular planned development cycle as for the processing upgrades.

B. PEO SUB is involved with the development and maintenance of various IUSS systems. These systems include FDS, FDS-C, and SURTASS. The near-term goal is development of ICP, which will result in a single IUSS processor baseline, with minor maintenance efforts continuing on fielded systems. The existing system architecture, signal processing, contact management, and reporting requirements will be evaluated as well as the requirements for future systems. The development of the ICP will take advantage of automation advancement, array technology improvements, along with IUSS, submarine, and surface USW system commonality. Additionally, a long term goal is to activate all IUSS sensors as part of a coordinated Active Improvement Program.
The FSS portion of 0766 is classified with details available at a higher classification level.
The FSS portion of 0766 is classified with details available at a higher classification level.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Compact Low Frequency Active	1.639	1.750	1.500
Articles:	-	-	-
FY 2013 Accomplishments: Continued development of product improvements and corrections associated with CLFA DT/OT and LFA FOT&E. Conducted at-sea testing of product improvements.			
FY 2014 Plans: Continue development of product improvements and corrections associated with CLFA DT/OT and LFA FOT&E. Conduct at-sea testing of product improvements.			
FY 2015 Plans: Continue development of product improvements and corrections associated with CLFA DT/OT and LFA FOT&E. Conduct at-sea testing of product improvements.			
Title: TB-29A/Twin-Line	1.125	1.750	1.500
Articles:	-	-	-
FY 2013 Accomplishments: Continued development of connectionless array technologies and true fiber-optic arrays. Continued efforts to explore Twin-line variants of new submarine Long-line arrays for future application to SURTASS. Continued development of fishing net mitigation approaches.			
FY 2014 Plans: Continue development of connectionless array technologies and true fiber-optic arrays. Continue efforts to explore Twin-line variants of new submarine Long-line arrays for future application to SURTASS.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue development of fishing net mitigation approaches. ***FY 2015 Plans:*** Continue development of connectionless array technologies and true fiber-optic arrays. Continue efforts to explore Twin-line variants of new submarine Long-line arrays for future application to SURTASS. Continue development of fishing net mitigation approaches.			
Title: Integrated Common Processor (ICP) ***Articles:*** ***FY 2013 Accomplishments:*** Continued development of new automation algorithms and techniques for addressing multi-array high beam count requirements. Continued development of Littoral LFA improvements. Continued tech refresh development in coordination with the Submarine Acoustic Rapid COTS Insertion (ARCI) Program Advanced Processing Build (APB) tech refresh. Continued to address processing improvement recommendations and deficiencies associated with CLFA DT/OT and LFA FOT&E. ***FY 2014 Plans:*** Continue development of new automation algorithms and techniques for addressing multi-array high beam count requirements. Continue to develop software to implement technology refresh for SURTASS ships as well the Integrated Undersea Surveillance Systems' (IUSS) Advanced Surveillance Build (ASB) in coordination with the Submarine Acoustic Rapid Commercial Off The Shelf (COTS) Insertion (ARCI) program Advanced Processor Build (APB). Continue to address processing improvement recommendations and deficiencies associated with CLFA DT/OT and LFA FOT&E. ***FY 2015 Plans:*** Continue development of operator automation to allow operator to more quickly detect targets of interest. Specific focus on compensating for array shape in a ship maneuver as well as system improvements to alert the operator of potential targets of interest in both the active and passive realms. Continue to develop software to implement technology refresh for SURTASS ships as well the Integrated Undersea Surveillance Systems' (IUSS) Advanced Surveillance Build (ASB) in coordination with the Submarine Acoustic Rapid Commercial Off The Shelf (COTS) Insertion (ARCI) program Advanced Processor Build (APB). Continue to address processing improvement recommendations and deficiencies associated with CLFA and/or LFA FOT&E and/or DT/OT.	10.690 -	10.389 -	9.633 -
Title: Classified Effort ***Articles:*** ***Description:*** The FSS portion of 0766 is classified with details available at a higher classification level. ***FY 2013 Accomplishments:***	24.438 -	26.816 -	25.927 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
The FSS portion of 0766 is classified with details available at a higher classification level. ***FY 2014 Plans:*** The FSS portion of 0766 is classified with details available at a higher classification level. ***FY 2015 Plans:*** The FSS portion of 0766 is classified with details available at a higher classification level.			
Accomplishments/Planned Programs Subtotals	37.892	40.705	38.560

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/2237: *Surveillance Towed Array Sensor System*	2.572	9.680	9.619	-	9.619	8.475	3.045	10.724	10.738	-	182.356

Remarks

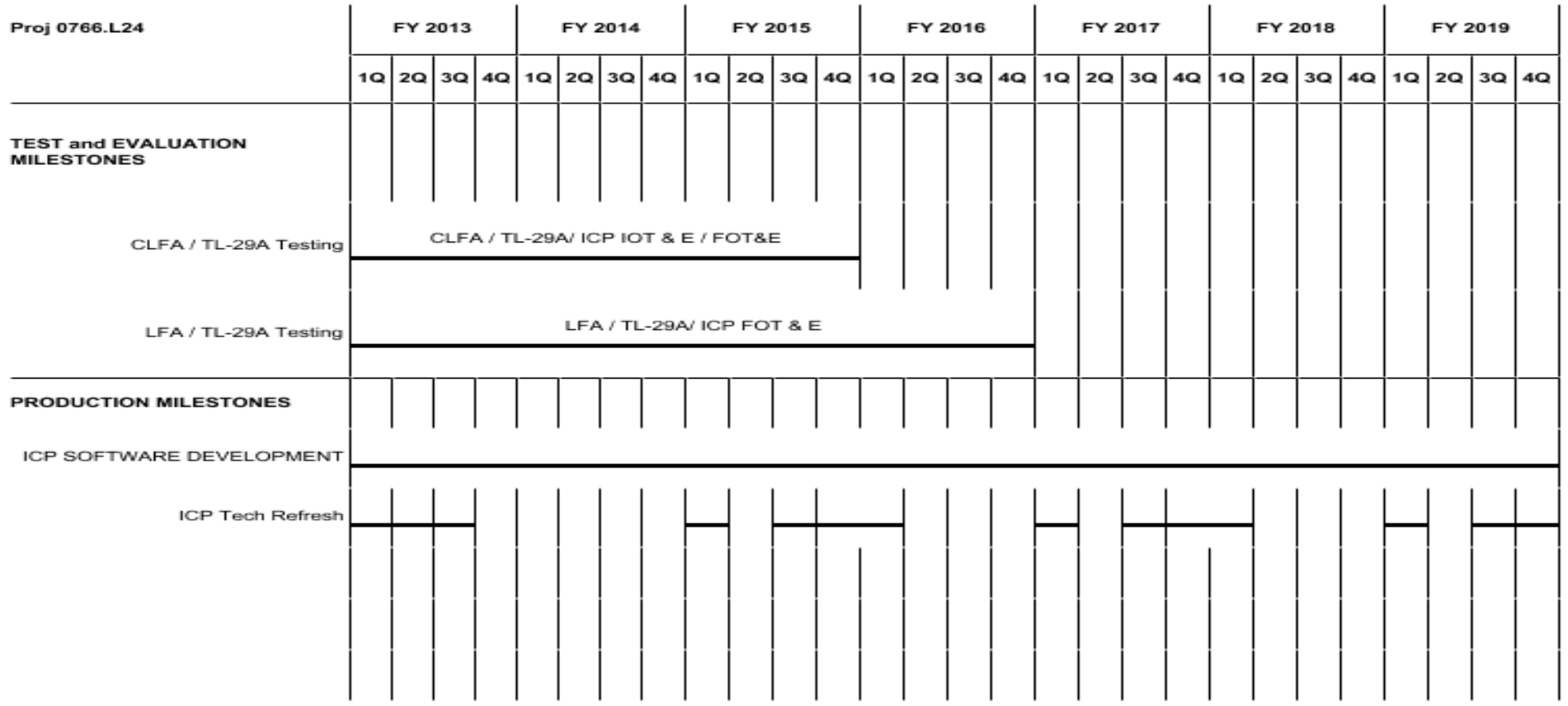
D. Acquisition Strategy

FY 2010: T&E Milestones: CLFA/TL-29A/ICP DT.
FY 2011: Engineering Milestones: ICP Tech Refresh.
FY 2011: T&E Milestones: CLFA/TL-29A/ICP DT. LFA/TL-29A/ICP FOT&E.
FY 2012: T&E Milestones: CLFA/TL-29A/ICP DT/OT. LFA/TL-29A/ICP FOT&E.
FY 2013: LFA/TL-29A/ICP FOT&E.
FY 2014: ICP Tech Refresh. CLFA/TL/29A/ICP FOT&E
FY 2015: ICP Tech Refresh. CLFA/TL/29A/ICP FOT&E
The FSS portion of 0766 is classified with details available at a higher classification level.

E. Performance Metrics

Successfully achieve CLFA Initial Operational Capability. Successfully complete CLFA Operational Test Readiness Review. Successfully complete CLFA Developmental Test / Operational Test. Successful demonstration of required LFA/CLFA improvements capability. Successful transition of Submarine Advanced Processing Build (APB) functionality into IUSS products. Successful transition of net mitigation technologies into Towed Array baseline.
The FSS portion of 0766 is classified with details available at a higher classification level.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204311N / *Integrated Surveillance System*	**Project (Number/Name)** 0766. / *IUSS Detect/Classif System*



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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0204413N *I Amphibious Tactical Supt Units*							
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	6.091	4.382	4.609	-	4.609	11.026	8.166	1.671	1.724	Continuing	Continuing
2231: *SC(X)(R)*	0.000	6.091	4.382	4.027	-	4.027	11.026	8.166	1.671	1.724	Continuing	Continuing
2909: *Amphibious Lighterage Development*	0.000	-	-	0.582	-	0.582	-	-	-	-	-	0.582

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

A. Mission Description and Budget Item Justification

Landing Craft Air Cushion (LCAC) Technology Transition: Provides for research and development efforts on LCAC Future Naval Capabilities to transfer technologies to functional uses on current LCACs. Current technology initiatives include sustainability/readiness/performance analyses, LCAC communication improvements, development and qualification of Full Authority Digital Engine Controller (FADEC) for LCAC engines, new torque meter design for LCAC ETF40B engines, Marine Rotor Active Balancing System (MRABS), and LCAC fuel efficiency initiatives.

Surface Connector (X) Replacement (SC(X)(R)): Replacement program for the current Landing Craft Utility (LCU) 1610 class craft. A class of craft that has significantly exceeded its 20-year planned service life. SC(X)(R) will provide similar payload, range, speed, and interoperability. Procurement is currently scheduled to begin in FY18.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	8.435	7.240	12.613	-	12.613
Current President's Budget	6.091	4.382	4.609	-	4.609
Total Adjustments	-2.344	-2.858	-8.004	-	-8.004
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.858			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.522	-			
• SBIR/STTR Transfer	-0.060	-			
• Program Adjustments	-	-	-4.000	-	-4.000
• Rate/Misc Adjustments	-0.001	-	-4.004	-	-4.004
• Congressional General Reductions Adjustments	-0.761	-	-	-	-

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204413N *I Amphibious Tactical Supt Units*

Change Summary Explanation

FY 2013 reductions include sequestration and a reprogramming action realigning funds to PE 0603564N PROJ. 2474 to properly price LX(R) design.

FY 2014 reduction reflects the Department's decision to realign program requirements with expenditures.

FY 2015 reductions reflect the Department's decision to reduce contracted services, properly phase program requirements with expenditures, and delay the SC(X)(R) RDT&E efforts to better align with procurement commencing in FY 2018.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0204413N / *Amphibious Tactical Supt Units*				Project (Number/Name) 2231 / *SC(X)(R)*			
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**
2231: *SC(X)(R)*	-	6.091	4.382	4.027	-	4.027	11.026	8.166	1.671	1.724	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

Landing Craft Air Cushion (LCAC) Technology Transition: Provides for research and development efforts on LCAC Future Naval Capabilities to transfer technologies to functional uses on current LCACs. Current technology initiatives include sustainability/readiness/performance analyses, LCAC communication improvements, development and qualification of Full Authority Digital Engine Controller (FADEC) for LCAC engines, new torque meter design for LCAC ETF40B engines, Marine Rotor Active Balancing System (MRABS), and LCAC fuel efficiency initiatives.

Surface Connector (X) Replacement (SC(X)(R)): Replacement program for the current Landing Craft Utility (LCU) 1610 class craft. A class of craft that has significantly exceeded its 20-year planned service life. SC(X)(R) will provide similar payload, range, speed, and interoperability. Procurement is currently scheduled to begin in FY18.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2013**	**FY 2014**	**FY 2015**
Title: LCAC RDT&E,N and LCU Replacement	6.091	4.382	4.027
Articles:	-	-	-
FY 2013 Accomplishments: FY13 LCAC: Conducted analyses and testing of new commercial non-skid products; researched commercial products for low cost skirt fasteners; researched commercial wireless radios and corrosion improvements for Halon bottles. FY13 SC(X)(R): Began Materiel Solution Analysis (MSA) and continued development of requirements documentation, to include the Analysis of Alternatives (AoA) (FY13, Q4); conducted concept and feasibility design studies; conducted Alternative Systems Review (ASR) (FY13, Q4); successful Gate 1 Review.			
FY 2014 Plans: FY14 LCAC: Perform full-scale testing of composite vehicle ramps and underway testing of composite propulsion shafting (entire drive train); research and test improved bow thruster bearings to achieve increased reliability.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204413N / *Amphibious Tactical Supt Units*	**Project (Number/Name)** 2231 / *SC(X)(R)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY14 SC(X)(R): Complete MSA and the AoA; draft Capability Document Development (CDD); initiate indicative design; conduct Software Specification Review (SSR); complete Reliability, Availability, Maintainability-Cost (RAM-C) rationale report; begin development of Test and Evaluation Master Plan (TEMP); conduct Gate 2 Review and achieve Milestone A. ***FY 2015 Plans:*** FY15 LCAC: Perform full-scale testing of all-in-one LCAC power supply capable of charging craft batteries, powering 28VD electronics and providing 60Hz 115VAC power; develop technologies to prevent moisture intrusion into craft windows; develop auxiliary power unit controller to improve visibility and equipment reliability. FY15 SC(X)(R): Begin preliminary design and contract design; conduct System Functional Review (SFR) and Preliminary Design Review (PDR); initiate Life Cycle Sustainment Plan (LCSP) development; begin integrated developmental and operational testing; conduct Gate 3 Review.			
Accomplishments/Planned Programs Subtotals	6.091	4.382	4.027

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 0970: *Amphibious Tactical Support Units*	15.557	14.431	7.158	-	7.158	5.625	5.730	5.848	5.988	-	123.273
• SCN 5139: *LCAC SLEP*	85.717	80.987	40.485	-	40.485	81.304	83.500	85.054	-	-	1,507.521
• SCN 5100: *SC(X)(R) Procurement*	-	-	-	-	-	-	-	33.842	41.663	-	75.505

Remarks

D. Acquisition Strategy

Technology Transition - RDT&E efforts commenced in FY06. Multiple contracts and Field Activities are involved through FY19 to complete the various projects.

E. Performance Metrics

FY13 LCAC: Conducted analyses and testing of new commercial non-skid products; researched commercial products for low cost skirt fasteners; researched commercial wireless radios and corrosion improvements for Halon bottles.

FY13 SC(X)(R): Began Materiel Solution Analysis (MSA) and continued development of requirements documentation, to include the Analysis of Alternatives (AoA) (FY13, Q4); conducted concept and feasibility design studies; conducted Alternative Systems Review (ASR) (FY13, Q4); successful Gate 1 Review.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204413N / *Amphibious Tactical Supt Units*	**Project (Number/Name)** 2231 / *SC(X)(R)*

FY14 LCAC: Perform full-scale testing of composite vehicle ramps and underway testing of composite propulsion shafting (entire drive train); research and test improved bow thruster bearings to achieve increased reliability.

FY14 SC(X)(R): Complete MSA and the AoA; draft Capability Document Development (CDD); initiate indicative design; conduct Software Specification Review (SSR); complete Reliability, Availability, Maintainability-Cost (RAM-C) rationale report; begin development of Test and Evaluation Master Plan (TEMP); conduct Gate 2 Review and achieve Milestone A.

FY15 LCAC: Perform full-scale testing of all-in-one LCAC power supply capable of charging craft batteries, powering 28VD electronics and providing 60Hz 115VAC power; develop technologies to prevent moisture intrusion into craft windows; develop auxiliary power unit controller to improve visibility and equipment reliability.

FY15 SC(X)(R): Begin preliminary design and contract design; conduct System Functional Review (SFR) and Preliminary Design Review (PDR); initiate Life Cycle Sustainment Plan (LCSP) development; begin integrated developmental and operational testing; conduct Gate 3 Review.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0204413N / *Amphibious Tactical Supt Units*				Project (Number/Name) 2909 / *Amphibious Lighterage 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**
2909: *Amphibious Lighterage Development*	-	-	-	0.582	-	0.582	-	-	-	-	-	0.582
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 Sealift support amphibious vehicle which will be the Lighter Amphibious Resupply Cargo, 5 ton (LARC-V) Replacement, provides amphibious equipment and personnel transport and near shore salvage and diving capability. It is a vital piece of equipment required for the execution of the Naval Beach Group (NBG)and Underwater Construction Team (UCT) missions.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: New Accomplishment/Planned Program Entry	-	-	0.582
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: New Start Project not funded for FY14 "Technology investigation unfunded outyear requirement". FY14 Not Funded: Commence Technology Investigation in FY14, NAVFAC HQ, NAVFAC field activity and other agencies are involved in this effort.			
FY 2015 Plans: Work on research for the propulsion systems and human interface with replacement near shore amphibious initiatives.			
Accomplishments/Planned Programs Subtotals	-	-	0.582

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

RDT&E funding is required to begin development of a replacement amphibious vehicle to support OPLAN and Required Operational Capability/Potential Operation Environment (ROC/POE) requirements of the NBGs and UCTs. Technology Investigation to commence in FY15, Naval Facilities Engineering Command (NAVFAC)HQ, NAVFAC field activity and other agencies are involved in this effort.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204413N / *Amphibious Tactical Supt Units*	**Project (Number/Name)** 2909 / *Amphibious Lighterage Development*

E. Performance Metrics

FY15:
15 Oct 2014 Award Engineering and Manufacturing Development (EMD) contract
15 Dec 2014 Award Low Rate Initial Production (LRIP) contract

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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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204460M *I (U)Ground/Air Task Oriented Radar (G/ATOR)*

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	70.217	78.208	99.106	-	99.106	79.595	82.416	32.849	20.431	Continuing	Continuing
9C89: *Marine Ground-Air Radar*	0.000	70.217	78.208	99.106	-	99.106	79.595	82.416	32.849	20.431	Continuing	Continuing

MDAP/MAIS Code:
Other MDAP/MAIS Code(s): 386

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

A. Mission Description and Budget Item Justification

Ground/Air Task Oriented Radar (G/ATOR) (formerly known as the Multi-Role Radar System (MRRS)) is an expeditionary, 3-dimensional, high-mobility, multi-purpose wheeled vehicle, short/medium range multi-role radar designed to detect cruise missiles, air breathing targets, rockets, mortars, and artillery. MRRS and GWLR (Ground Weapons Locating Radar) merged into a single requirement/capability (G/ATOR) and will replace an aging fleet of single mission legacy radar systems. G/ATOR will support air defense, air surveillance, counter-battery/target acquisition, aviation radar tactical enhancements and the final evolution will also support the Air Traffic Control mission. This project was funded under Program Element 0206313M Project C3099 prior to FY2010 and Program Element 0206313M Project 9C89 in FY2011-2012. It was moved to Program Element 0204460M in FY2013.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	75.088	78.208	77.413	-	77.413
Current President's Budget	70.217	78.208	99.106	-	99.106
Total Adjustments	-4.871	-	21.693	-	21.693
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.478	-			
• SBIR/STTR Transfer	-2.089	-			
• Program Adjustments	-	-	-5.135	-	-5.135
• Rate/Misc Adjustments	-	-	26.828	-	26.828
• Congressional General Reductions Adjustments	-6.260	-	-	-	-

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204460M *I (U)Ground/Air Task Oriented Radar (G/ATOR)*

Change Summary Explanation

The funding increase from FY14 to FY15 supports Gallium Nitride (GaN) Transition and G/ATOR Block 2 software development as part of a Common Hardware Material Solution.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204460M / *(U)Ground/Air Task Oriented Radar (G/ATOR)*	Project (Number/Name) 9C89 / *Marine Ground-Air 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
9C89: *Marine Ground-Air Radar*	-	70.217	78.208	99.106	-	99.106	79.595	82.416	32.849	20.431	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 386

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

A. Mission Description and Budget Item Justification

The Ground/Air Task Oriented Radar (G/ATOR) is a 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 (G/ATOR Block 1) and the Ground Counter Fire/Counter Battery (G/ATOR Block 2) 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 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. The funding increase from FY14 to FY15 supports Gallium Nitride (GaN) Transition and G/ATOR Block 2 software development as part of a Common Hardware Material Solution.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: G/ATOR Contractor Technical, Development Engineering	46.738	59.874	40.686
Articles:	-	-	-

FY 2013 Accomplishments:

Provided hardware and software updates in support of government directed changes as a result of DT1B and OA testing, assisted in the development of program documentation in support of Milestone C (MS C), continued to assist the government in development of LRIP configuration in support of Transition to Production, and plan Producibility Enhancements in support of GaN Transition.

FY 2014 Plans:

Begin Technology Protection implementation, Transition to Production, begin Producibility Enhancements in support of GaN Transition, conclude Developmental Test/Operational Assessment (DT/OA). Begin plan to develop G/ATOR Block 2, continue Systems Engineering Program Management (SEPM) for G/ATOR during LRIP.

FY 2015 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204460M / *(U)Ground/Air Task Oriented Radar (G/ATOR)*	**Project (Number/Name)** 9C89 / *Marine Ground-Air Radar*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue Technology Protection implementation, Transition to Production, continue Producibility Enhancements in support of GaN Transition.			
Title: G/ATOR Contractor Technical, Development Engineering/Block 2	-	-	37.589
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: N/A			
FY 2015 Plans: Support development of and Systems Engineering Program Management (SEPM) for G/ATOR Block 2 software.			
Title: G/ATOR: Test and Evaluation	11.714	2.837	4.550
Articles:	-	-	-
FY 2013 Accomplishments: Performed G/ATOR Developmental Test (DT1B), Field User Evaluation (FUE) and Operational Assessment (OA).			
FY 2014 Plans: Conclude G/ATOR development Test (DT1B) and Operational Assessment (OA). Participate in WTI, C2 FOS and Black Dart events.			
FY 2015 Plans: Plan for G/ATOR Developmental Test (DT1C), Operational Assessment (OA) and C2 FOS. Participate in WTI and Black Dart events.			
Title: Government Technical Support	10.440	12.081	12.946
Articles:	-	-	-
FY 2013 Accomplishments: Government support provided from the following activities enabled program execution; MITRE, NSWC Dahlgren, NSWC Crane, NSWC Pt Hueneme.			
FY 2014 Plans: Government support from the following activities to enable program execution; MITRE, NSWC Dahlgren, NSWC Crane, NSWC Pt Hueneme, Air Traffic Control Radar Beacon System Identification Friend or Foe, Mark XII/XIIA System (AIMS) Program Office.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204460M / *(U)Ground/Air Task Oriented Radar (G/ATOR)*	**Project (Number/Name)** 9C89 / *Marine Ground-Air Radar*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Government support from the following activities will enable program execution; MITRE, NSWC Dahlgren, NSWC Crane, NSWC Pt Hueneme, Air Traffic Control Radar Beacon System Identification Friend or Foe, Mark XII/XIIA System (AIMS) Program Office.			
Title: G/ATOR: Program Office Management & Travel Costs	0.300	0.300	0.300
Articles:	-	-	-
FY 2013 Accomplishments: Continued Program Office Management and travel in support of system development and test.			
FY 2014 Plans: Continue Program Office Management and travel in support of system development and test.			
FY 2015 Plans: Will continue Program Office Management and travel in support of system development and test.			
Title: G/ATOR: Engineering, Management, & Logistics Support	1.025	3.116	3.035
Articles:	-	-	-
FY 2013 Accomplishments: Continued engineering, management & logistics program office support.			
FY 2014 Plans: Continue engineering, management & logistics program office support. Support includes MS-C documentation and support for Operational Assessment documentation.			
FY 2015 Plans: Will continue engineering, management & logistics program office support.			
Accomplishments/Planned Programs Subtotals	70.217	78.208	99.106

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
• PMC/4650: *GRND/AIR TASK ORIENTED RADAR*	89.428	87.215	-	-	-	-	-	-	-	-	180.889
• RDTE/0604504N: *AIR CONTROL MATCALS*	-	2.990	1.200	-	1.200	-	-	-	-	-	4.190
• PMC/7000: *INITIAL SPARES*	-	7.500	2.598	-	2.598	4.599	13.406	18.619	13.237	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204460M / *(U)Ground/Air Task Oriented Radar (G/ATOR)*	**Project (Number/Name)** 9C89 / *Marine Ground-Air 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
• PMC/4655: *GRND/AIR TASK ORIENTED RADAR*	-	-	89.230	-	89.230	102.952	139.743	162.958	203.053	824.920	1,522.856

Remarks

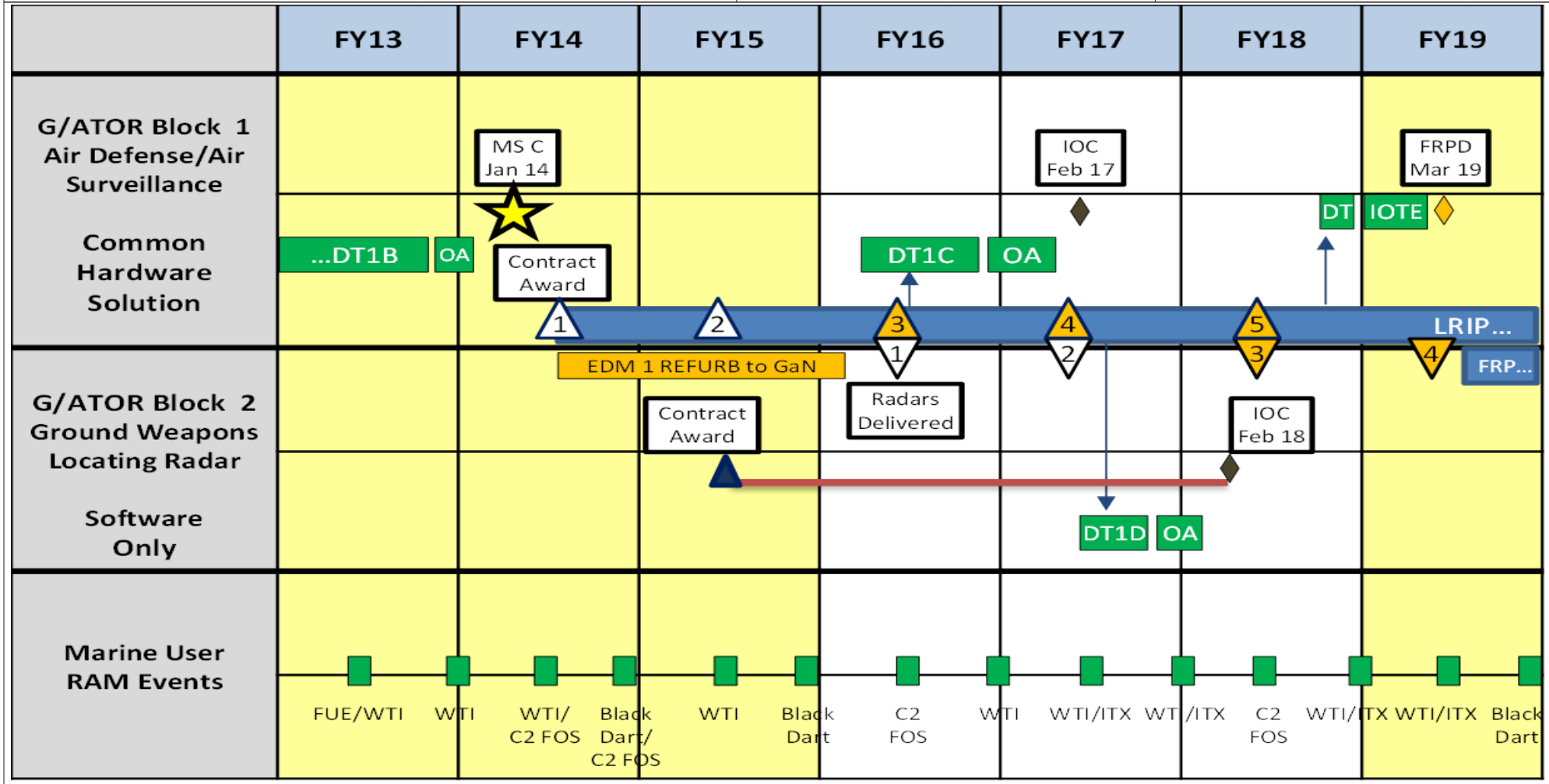
D. Acquisition Strategy

The Ground/Air Task Oriented Radar (G/ATOR) is a multi-role, ground-based, expeditionary radar that replaces five legacy radar systems and provides the USMC Air Defense and Air Surveillance (AD/AS)(G/ATOR Block 1), Counterfire/Targeting (G/ATOR Block 2), and Air Traffic Control (G/ATOR Block 4) capability. The AD/AS (GB1) development effort was competitively awarded in 2007 and completed Milestone C in FY14. Development of the Counterfire/Targeting (GB2) capability was initiated in FY10 with a RFI to industry, followed by a Business Case Analysis (BCA) to select the most cost effective procurement strategy. The results of the BCA indicated that a sole source contract to NGSC was the most cost effective solution. Thus, development award is planned for the 3rd Qtr FY15. In FY13, a BCA was performed to determine the optimum strategy for development of the Air Traffic Control (GB4) mission with a potential development contract to be awarded in FY16. Funding in FY14 and FY15 supports systems engineering activities prior to contract award, including integration studies with ATNAVICS, the Navy provided Air Traffic Control C2 systems.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204460M / *(U)Ground/Air Task Oriented Radar (G/ATOR)*	**Project (Number/Name)** 9C89 / *Marine Ground-Air Radar*



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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0204571N *I Consolidated Trng Sys 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	279.312	16.798	39.124	39.922	-	39.922	47.715	24.536	20.236	20.633	Continuing	Continuing
0604: *Training Range & Instr Dev*	135.294	3.132	3.460	2.729	-	2.729	3.530	3.601	3.630	3.700	Continuing	Continuing
1427: *Surface Tactical Team Trainer (STTT)*	60.072	9.936	11.000	16.768	-	16.768	13.445	12.002	10.569	10.776	Continuing	Continuing
2124: *Air Warfare Training*	27.789	1.474	1.595	1.262	-	1.262	1.624	1.666	1.683	1.716	Continuing	Continuing
3093: *TACTS/LATR Replacement*	56.157	2.256	13.532	12.349	-	12.349	21.393	4.780	4.354	4.441	Continuing	Continuing
3356: *High Fidelity Surface Trainers*	0.000	-	9.537	6.814	-	6.814	7.723	2.487	-	-	-	26.561
MDAP/MAIS Code: 223												

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

A. Mission Description and Budget Item Justification

A. MISSION DESCRIPTION:

0604 - This project develops specialized instrumentations for fleet readiness training while minimizing life cycle costs. Tasks include development of the following: Large Area Training Range (LATR) improvements and Tactical Training Range(TTR) infrastructure improvements to include: the Joint Display Subsystem (JDS), Radar Acquistion Display Subsystem, Electronic Warfare (EW) server, Link 16 interface, TTR shipboard rotary platform technology improvements and the Radiant Mercury (RM) Cross Domain Solution (CDS).

1427 - Surface Tactical Team Trainer (STTT) develops modifications during sustainment of Battle Force Tactical Training (BFTT) system. This is required to maintain capabilities and interfaces to provide realistic combat system coordinated team, unit and Fleet Synthetic Training (FST) collective Group/Force level training events. In addition, BFTT supports the embedded trainer "family of systems" approach for the development of a Total Ship Training Capability (TSTC). Specific improvements include improved integration with the Navy Continuous Training Environment (NCTE) and development of a High Level Architecture (HLA) capable, integrated shipboard network to meet increasing Commander Naval Surface Forces (CNSF) and United States Fleet Forces Command (USFFC) FST requirements. The need for transforming training is documented within the DoD Training Transformation Plan, the Chief of Naval Operations Fleet Response Plan and Commander United States Fleet Forces Command Fleet Readiness Training Plan.

2124 - The Air Warfare Training Development (AWTD) program provides transition of operational systems technologies and risk mitigation for aviation training systems, including mission preview/rehearsal simulation technologies, Live-Virtual Constructive (LVC) and the Aviation Training Technology Integration Facility (ATTIF). The

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204571N *I Consolidated Trng Sys Dev*

ATTIF provides for incremental development, prototype evaluation, technology readiness level assessment and final fleet Test and Evaluation prior to technology transition.

3093 - The Tactical Combat Training System (TCTS) will provide the Navy a replacement for the Tactical Aircrew Combat Training System and LATR systems. TCTS will also provide fleet deployable training for at-sea training and tactics development. By providing a rangeless capability, the system will greatly increase the area where live instrumented training can be conducted. Fielding of a pod system is complete at TACTS sites. The program incorporates an evolutionary development (incremental) towards an encrypted system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant sensor stimulation, open architecture and an encrypted/long range secure data link.

3356- Funds FCA, high fidelity Aegis Integrated Air and Missile Defense (IAMD) individual and team trainers for all Advanced Capability Build (ACB) and below Aegis baselines. This line also provides funds for development of a CIWS 1B Baseline 2 Trainer upgrade.

JUSTIFICATON FOR BUDGET ACTIVITY:
This program is funded under Operational Systems Development because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	20.229	45.124	45.763	-	45.763
Current President's Budget	16.798	39.124	39.922	-	39.922
Total Adjustments	-3.431	-6.000	-5.841	-	-5.841
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-6.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.156	-			
• Program Adjustments	-	-	-1.330	-	-1.330
• Rate/Misc Adjustments	-	-	-4.511	-	-4.511
• Congressional General Reductions Adjustments	-1.590	-	-	-	-
• Congressional Directed Reductions Adjustments	-1.685	-	-	-	-

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204571N *I Consolidated Trng Sys Dev*

Change Summary Explanation

0604: R-4/R-4A reflects the following program changes: LATR-OPSEC posture improvements Systems Development/Production Milestone ending 4th Qtr FY2014 vice 4th Qtr FY2013 due to added requirement of establishing a LATR baseline following a LATR technology refresh and required Acquisition documentation. LATR-Ship Rotary Platform Tracking set beginning 3rd Qtr FY2013 vice 1st Qtr FY2014 due to anticipated increase in time required for capability development. LATR EW interface development completed 4th Qtr FY2012 vice 1st Qtr FY2015 due to added resources in FY2012 to complete effort. TTR-Shipboard/Rotary Platform Tracking Set Systems Development/Production Milestone ending 4th Qtr FY2014 vice 1st Qtr FY2013 due to an extended review of requirements due to multiple end user inputs.

2124: R-4/R-4A reflects the following program changes: Human/Instructional Systems Integration-DMRT-Class Debrief APAARS Systems Development ending 4th Qtr FY2014 vice 2nd Qtr FY2012 due to an approved schedule change in the ONR Technology Transition Agreement (TTA) driven by changing fleet test dates. Human/Instructional Systems Integration-Hypoxia/Spatial Disorientation Technology (Fixed/Rotary) Systems Development/Production Milestone ending 4th Qtr FY2015 vice 4th Qtr FY2014 due to an added associated Spatial Disorientation syllabus review by the Navy.
Sensors and Environment-Comms/EW Systems Development/Production Milestone ending 4th Qtr FY2019 vice 4th Qtr FY2017 due to a planned new application of the technology to the Unmanned Combat Air Vehicle effort during FY18. Training Common Architecture began 4th Qtr FY2012 ending 4th Qtr 2015 to reduce trainer costs by developing a common interface solution.

3093: R-4/R-4A reflects the following program changes: As a result of delays in developing an encryption solution and corresponding budget reductions, the following program changes occurred: TACTS/LATR Replacement-Acquisition Milestone Encryption MS B from 3th Qtr FY2012 to 4th Qtr FY2014. TACTS/LATR Replacement-Acquisition Milestone Encryption MS C from 4th Qtr FY2015 to 3th Qtr FY2017. TACTS/LATR Replacement-Production Milestone Increment 2 Encrypted Datalink Capability from 4th Qtr FY2015 to 4th Qtr FY2017.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204571N / *Consolidated Trng Sys Dev*	Project (Number/Name) 0604 / *Training Range & Instr 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
0604: *Training Range & Instr Dev*	135.294	3.132	3.460	2.729	-	2.729	3.530	3.601	3.630	3.700	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 develops specialized instrumentations for fleet readiness training while minimizing life cycle costs. Tasks include development of the following: Large Area Training Range (LATR) improvements and Tactical Training Range(TTR) infrastructure improvements to include: the Joint Display Subsystem (JDS), Radar Acquistion Display Subsystem, Electronic Warfare (EW) server, Link 16 interface, TTR shipboard rotary platform technology improvements and the Radiant Mercury (RM) Cross Domain Solution (CDS).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: LATR	1.816	2.051	1.876
Articles:	-	-	-

Description: Design, integrate and test modules to eliminate obsolete components in the LATR Pod. Design, integrate and test LATR software baseline upgrades. Design, integrate and test Participant Instrumentation Packages (PIP) modules to address obsolescence, high failure components and to improve operability and performance. Conduct and complete installation of the Ground System Rehosts. Conduct and complete security testing and assessment for LATR system certification and accreditation for Ground System Rehosts. Develop, test and integrate software and hardware modifications to system test sets. Develop, test and integrate LATR data translators. Conduct studies to identify sub-projects required through FY19. Complete ground system and PIP refresh sub-projects, in conjuction with, semi-annual system block upgrades. Conduct LATR Operational Security (OPSEC) Posture Improvements Sub-Project and Shipboard and Rotary Wing Technology Wing Upgrade (LSRTU).

FY 2013 Accomplishments:
Develop and test LATR ground software version 5.7.0. Continue LATR EW interface development. Continue LATR Operational Security Posture Improvements.

FY 2014 Plans:
Develop and test LATR ground software version 5.8.0. Continue to develop LATR Shipboard and Rotary Wing Technology Upgrade (LSRTU). Complete LATR OPSEC posture improvements.

FY 2015 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 0604 / *Training Range & Instr Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Develop and test LATR ground software version 5.9.0. Continue to develop LATR Shipboard and Rotary Wing Technology Upgrade (LSRTU).			
Title: TENA	0.800	0.800	-
Articles:	-	-	-
Description: Develop and test Tactical Training Ranges (TTR) Object Model (OM) for use with the Office of the Secretary of Defense (OSD) Test & Training Enabling Architecture (TENA) Software Development Agency (SDA) TENA Middleware versions 5.0-11.0. Develop TTR TENA Gateway for use with the TTR Electronic Warfare (EW) server and Joint Display System (JDS) and Tactical Combat Training System instrumentation set. Develop TTR TENA Monitoring Tool for diagnostic use by TTR personnel and TTR System Support Activities. Develop and test TTR TENA product upgrades to be compatible with TENA SDA Middleware. Host TENA on the TTR EW server and JDS.			
FY 2013 Accomplishments: Develop Graphic User Interface (GUI) for TTR TENA Monitoring Tool as requested by Fleet users. Develop and test TTR TENA 8.0 product upgrades to be compatible with evolving TENA SDA Middleware. Develop interfaces with evolving Joint TENA training events.			
FY 2014 Plans: Develop GUI for TTR TENA Monitoring Tool as requested by Fleet users. Develop and test TTR TENA 9.0 product upgrades to be compatible with evolving TENA SDA Middleware. Develop interfaces with evolving Joint TENA training events.			
FY 2015 Plans: N/A			
Title: TTR	0.516	0.609	0.853
Articles:	-	-	-
Description: Develop and test upgrades to the JDS, Radar Acquisition Display Subsystem (RADS), and EW server. Develop and test upgrades to the Link-16 Interface, JDS, RADS, and EW server. Develop and test TTR shipboard and rotary platform tracking solution set.			
FY 2013 Accomplishments: Develop and test 2013.1 & 2013.2 upgrades to the JDS, RADS, and EW server. Continue TTR rotary platform tracking set development.			
FY 2014 Plans: Develop and test 2014.1 & 2014.2 upgrades to the JDS, RADS, and EW server.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 0604 / *Training Range & Instr Dev*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Complete TTR rotary platform tracking set. ***FY 2015 Plans:*** Develop and test 2015.1 & 2015.2 upgrades to the JDS, RADS & EW Server.			
Accomplishments/Planned Programs Subtotals	3.132	3.460	2.729

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Training Range and Instrumentation Development (TRID) program is a non-ACAT program. The integrated program teams that develop new TRID capabilities include government and contractor engineering personnel.

E. Performance Metrics

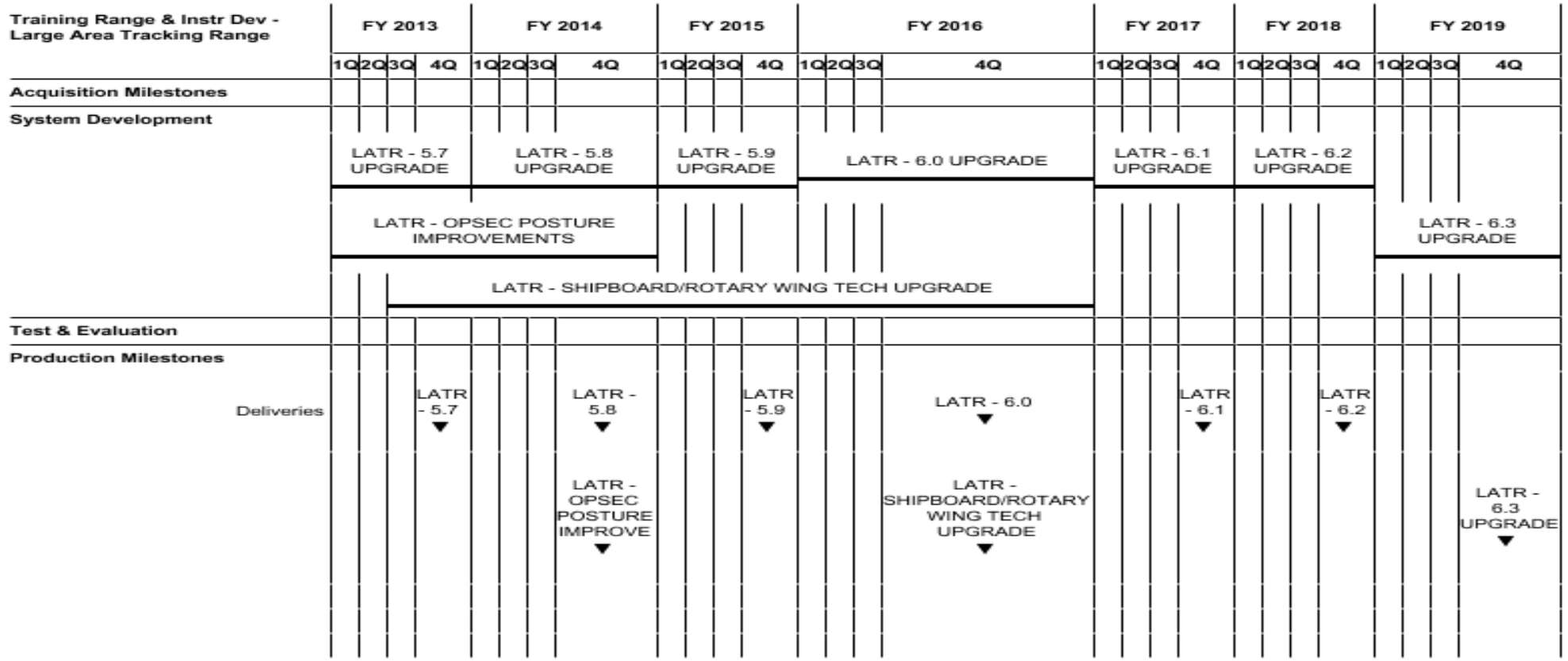
Metric/Description:
NAWC-AD: # of Large Area Tracking Range (LATR) software product improvements and new capabilities. Successful application of system engineering processes. Design and development of improvements. Site acceptance of product improvements with no Priority 1 or 2 problem reports. Completion of 1 upgrade per year.

Tybrin Corp: # of Training Enabling Architecture software product improvements and new capabilities. Successful design, development and testing of product improvements and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports.

NAWC-WD: # of Tactical Training range (TTR) upgrades per year. Successful application of system engineering processes. Design and development of improvements. Site acceptance of product improvements with no Priority 1 or 2 problem reports. Completion of 2 upgrade per year.

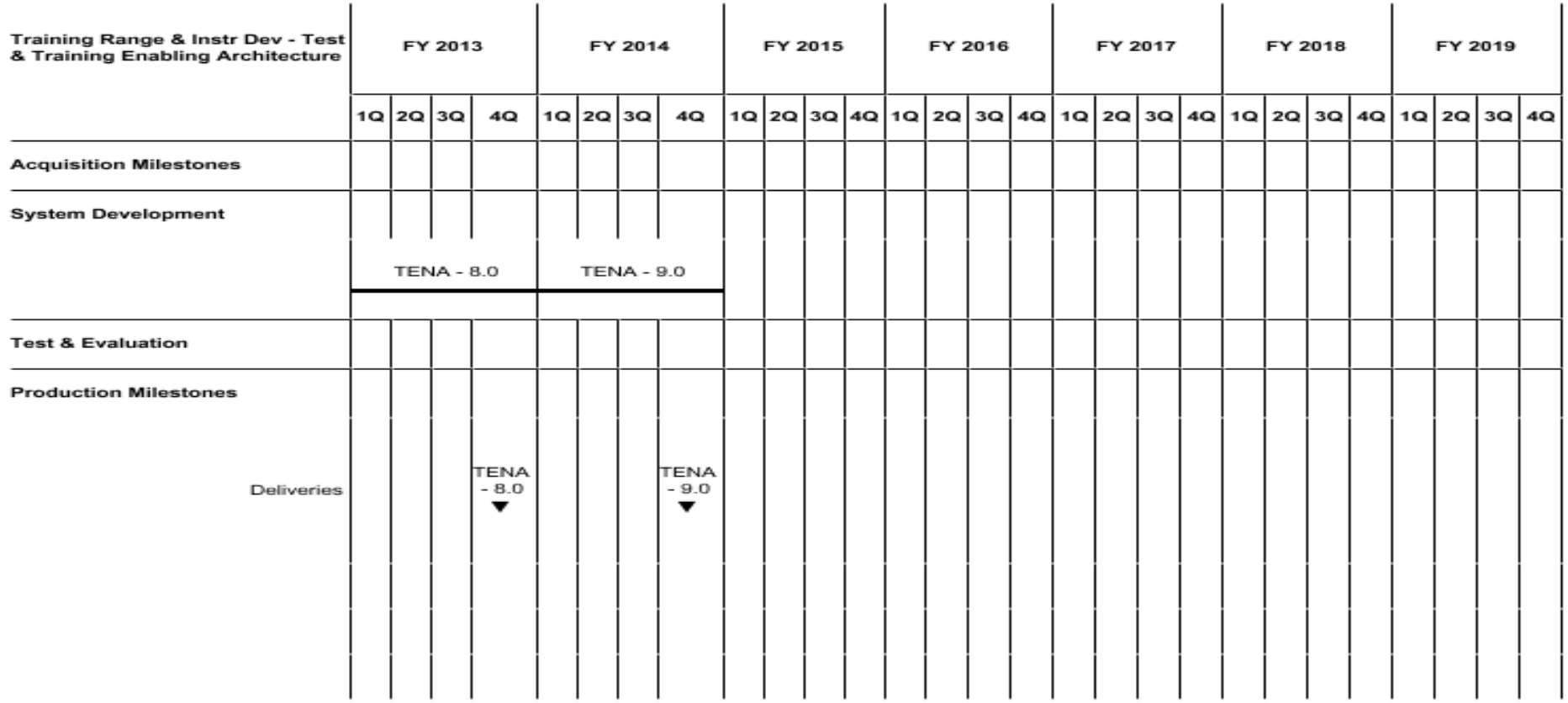
Tybrin Corp: # of TTR software product improvements and new capabilities. Successful design, development, and testing of product improvements and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 0604 / *Training Range & Instr Dev*



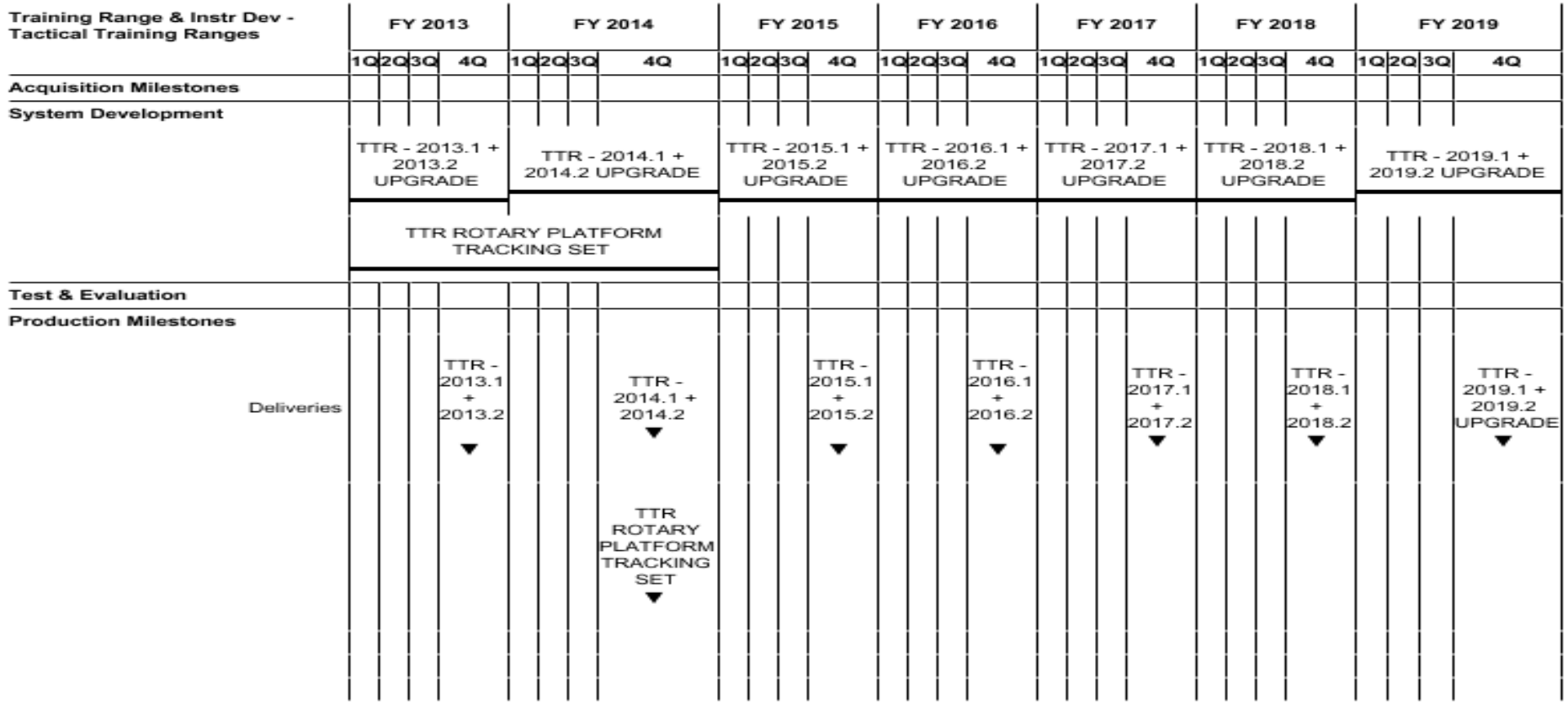
2015PB - 0204571N - 0604

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 0604 / *Training Range & Instr Dev*



2015PB - 0204571N - 0604

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 0604 / *Training Range & Instr Dev*



2015PB - 0204571N - 0604

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0204571N / *Consolidated Trng Sys Dev*				Project (Number/Name) 1427 / *Surface Tactical Team Trainer (STTT)*			
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**
1427: *Surface Tactical Team Trainer (STTT)*	60.072	9.936	11.000	16.768	-	16.768	13.445	12.002	10.569	10.776	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

BFTT Program provides realistic joint warfare training across the spectrum of armed conflict, realistic unit level team training in all warfare areas (e.g. NIFC-CA and BMD missions to support IAMD capabilities). BFTT will link ships together via USFFC NCTE. BFTT is evolving to an open distributed architecture with maximum commonality across ship classes, integrating existing training systems and evolving to High Level Architecture (HLA) protocols. BFTT provides ships' Commanding Officers and Battle Group/Battle Force Commanders with the ability to conduct coordinated realistic, high stress, combat system level team training as an integral part of the Afloat Training Organization, the Tactical Training Groups and C2F/C3F FSTs. BFTT provides a baseline capability/system that meets the Operational Requirements Document (ORD). Without an operating BFTT system, the ship will be unable to complete system level testing impacting overall combat system operational testing.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Surface Tactical Team Trainer (STTT)	9.936	11.000	16.768
Articles:	-	-	-

FY 2013 Accomplishments:

Certify and field BFTT 3.5.1. Continue development of Build 5.0. Start requirements definition of BFTT Build 6.0/ACB 16 including de-integrating Scenario Generation & Control, Data Collection, Fusion & Debrief to create a common Combat System capability that supports the Combat System Product Line Architecture.

FY 2014 Plans:

Continue developing Build 5.0. Develop interface and userdocumentation updates to support transfer and control of simulated CU reports from CEC. Develop modifications to control simulated engagements, process simulated gun rounds within integrated training simulation environment. Develop training system Human Machine Interface (HMI) changes to allow launch commands to AEGIS embedded threat models and commands to control Kill Assessment outcomes. Modify external shipboard interface to extend simulated launch and kill assessment controls to remote training users. Includes documentation, testing, safety, information assurance compliance and Combat System Certification.

Start development of Build 6.0. Begin AEGIS Intergrated Training: Develop SAU 7000 Simulation/Stimulation unit. Develop interface updates between BFTT, SQQ-89 and NCTE to allow simulated Vertical Launch Anti-Submarine Rocket (VLASROC) fly-outs for use by other assets in integrated training events. Develop Air Asset training simulation/stimulation interfaces to the common data link and provide simulated EW, ASW and Radar contacts, as seen from a simulated ASW Air

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 1427 / *Surface Tactical Team Trainer (STTT)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Asset. Includes documentation, HMI changes, testing, safety and Information Assurance compliance and Combat System Certification. ***FY 2015 Plans:*** Continue Build 5.0 development required for CVN78 and AEGIS baseline 9 & 7.2 backfit. Integrate CVN78 Dual Band Radar and Cooperative Engagement Capability (CEC) Enhanced Trainer (CET). Complete Build 5.0 Test Readiness Review and commence Build 5.0 Test and Evaluation. Support CVN78 SSDS MK2 Mod 6C engineering tests at Wallops Island for BFTT Build 5.0 Integration and Combat System light off. Conduct BFTT Build 6.0 Preliminary Design Review (PDR) and associated systems engineering and development analysis. Support AEGIS ACB16 PDR and SSDS development effort. Initiate Critical Design Review (CDR) development and systems engineering efforts to support FY16 CDR. Initiate Interface Control Documents (ICD) development for hardware and software integration.			
Accomplishments/Planned Programs Subtotals	9.936	11.000	16.768

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 276200: *(Surface BFTT/TSTC portion only)*	31.493	27.213	41.128	-	41.128	37.096	38.951	38.105	38.880	-	321.291

Remarks

D. Acquisition Strategy

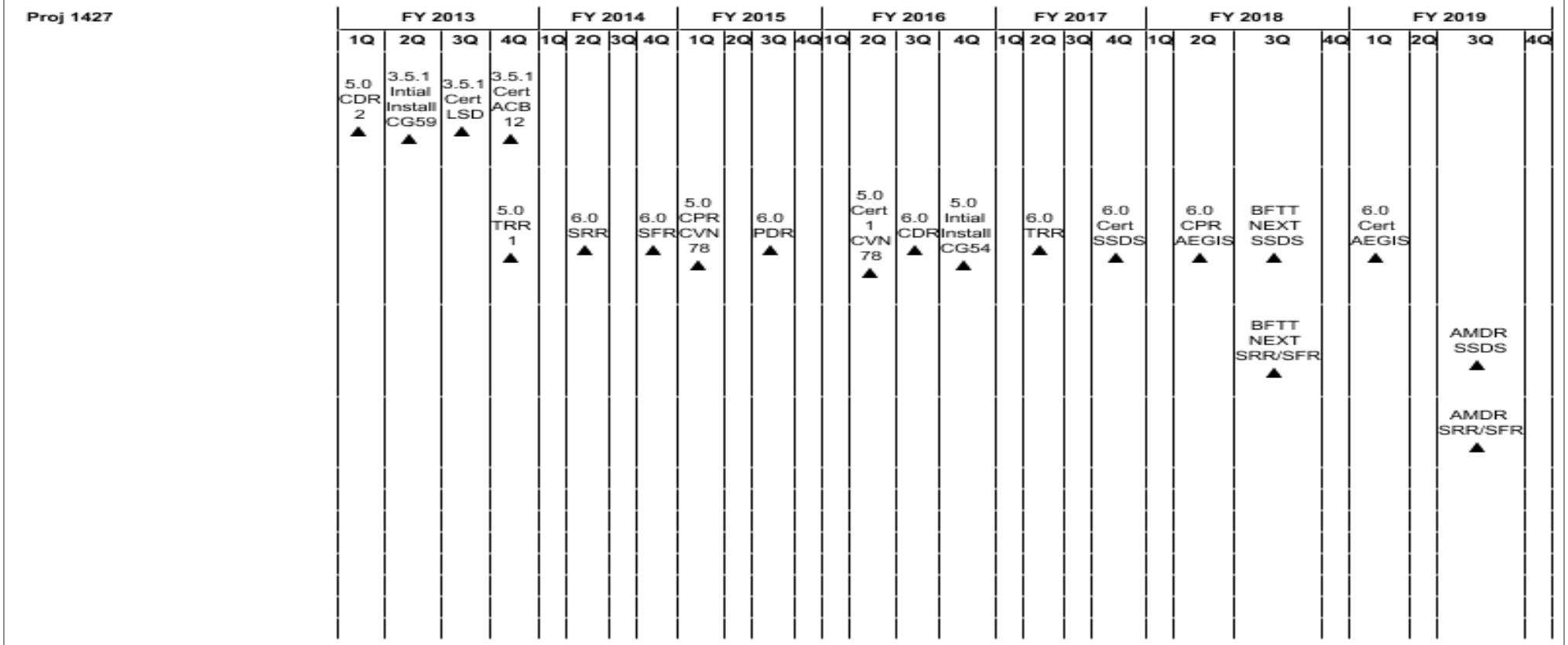
The BFTT acquisition strategy for system development utilizes the Advanced Capability Build (ACB) development model, as mandated by OPNAV. Incremental acquisition and fielding, utilizing commercial off-the-shelf technology to the extent possible, is in accordance with OPNAV LTR Ser N86/9U179029 dtd 31 Jul 09.

E. Performance Metrics

NSWC Dam Neck: Number of BFTT modification product improvements and new capabilities. Successful design, development, testing and fielding of product improvements, and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports. Completion of one upgrade per ACB.

NSWC Dahlgren: Number of Test events completed. Training system interface problem resolutions documented. Safety Reviews in direct support of Element Certification.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 1427 / *Surface Tactical Team Trainer (STTT)*



2015DON - 0204571N - 1427

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0204571N / *Consolidated Trng Sys Dev*				Project (Number/Name) 2124 / *Air Warfare Training*			
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**
2124: *Air Warfare Training*	27.789	1.474	1.595	1.262	-	1.262	1.624	1.666	1.683	1.716	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 transitions new training system technologies for use in Naval Aviation training. Products from this effort are directly tied to the Navy Aviation Simulation Master Plan (NASMP), NASMP technology upgrades, MH-60R/S master plan, Unmanned Aerial Systems (UAS) master plan, UAS Common Control Station (CCS), Live Virtual Constructive (LVC), component technologies, F/A-18C-F Requirements Procurement Plan (RPP), open architecture implementation, multiple platform technology refresh efforts and the Multi-Mission Maritime Aircraft (MMA/P-8) programs. These efforts will support the development and design of future naval aviation training/preview/mission rehearsal systems (fixed, deployed, and unmanned). Tasks include: Advanced training systems specification development to provide for common, modular, High Level Architecture (HLA) compliant, high fidelity Distributed Mission Training (DMT) and mission rehearsal capabilites ashore and afloat. Technologies to be developed and integrated include: intelligent semi-automated forces (SAF) technologies, automated performance measurement technology, advanced net-ready weapons simulation, Air to Air/Air to Ground (AA/AG), visual/sensor enhancement, sensor/weather server, common Mission Training Station (MTS) technologies, tablet mission preview technology, advanced visual-sensor technology, high resolution helmet mounted, and/or flat panel displays, 20-20 visual acuity image generation, NAVAIR Portable Source Initiative (NSPI) improvements, common correlated data set technologies, common link, common software/database reuse technologies, advanced environmental effects modeling, fused radar/infra-red/electro-optic and acoustic sensor simulations, aerodynamic modeling, physics-based infra-red simulations, comms degradation modeling and final T&E within the Aviation Training Technology Integration Facility (ATTIF), NAWCAD, which is a man-in-the loop test bed for the integration of software, hardware and operational equipment. This Manned-Flight Simulator (MFS) capability provides a window to fleet aviators for critical comment, evaluation and fine tuning of new, interoperable, and innovative technologies such as Training System Common Environment (TRACE) components, before final transition to the fleet. MTS, debrief/After Action Review (AAR) and intelligent training tools for the virtual environment are focused on human performance enhancements for fleet readiness and distributed mission training at all levels.

Metrics: These technology transitions seek to lower Total Ownership Costs (TOC) of the training systems and life cycle costs, including: increasing software re-use, reduced instructor manning profiles, software-based fidelity enhancements and increased fleet readiness by enhancing overall system fidelity to the projected operating environments. NASMP readiness improvements are conservatively forecasted at 12-35% Training and Readiness (T+R) improvement via synthetic environment upgrades and associated technology upgrades to stand-alone and networked simulators. Individual technology transition investments have routinely exceeded 300+% financial Return On Investment (ROI). Technology Readiness Levels (TRL), Training and Readiness, fleet readiness, and financial metrics are used.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2013**	**FY 2014**	**FY 2015**
Title: HUMAN/INSTRUCTIONAL SYSTEMS INTEGRATION	0.993	0.516	0.473
Articles:	-	-	-
Description: Develop common and platform-unique MTS, Intelligent Tactical Semi-Automated-Forces (SAF) and high fidelity simulator component technologies. MTS and Intelligent SAF designs lower NASMP upgrade and simulator life-cycle costs. Integrate Voice-Capable SAF component technologies, improve open common instructor interface effectiveness and			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 2124 / *Air Warfare Training*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
provide for multi-SAF exercise utilization. Analyze, develop, and integrate common architecture components for F/A-18C-F, EA-18G, MH-60R/S, Unmanned Aerial Systems (UAS) platforms, E-2C/D & USMC mission areas, intelligent instructor operator components, automated performance measurement technologies, Tactical Aircraft (TACAIR)/ Multi-Mission Maritime Aircraft (MMA) / Reduced Oxygen Breathing Device-Spatial Disorientation (ROBD-SD) devices common graphic user interface initiatives, common threat system formats and new Next Generation Threat System (NGTS) technology transitions, Joint SAF compatability, cross platform post mission performance measurement, and after action review/ debrief innovations, thereby maximizing return on investment for mission training station-related technology investments. ***FY 2013 Accomplishments:*** Provide for ongoing modular MTS designs to lower Navy Aviation Simulation Master Plan (NASMP) upgrade and simulator upgrade life-cycle II costs, integrating Voice-Capable Semi-Automated-Forces (SAF) component technologies, improving P-8A and Unmanned Aerial System (UAS) common instructor interface effectiveness, complete Post Mission Assessment Tactical Training (PMATT) phase I and provide for LVC and multi-SAF exercise utilization. Continue to analyze, develop, and integrate open architecture components for Common Control Station (CCS), UAS/Broad Area Maritime Surveillance (BAMS), FIRESCOUT, F/A-18C-F, MH-60R/S, E-2C/D & USMC mission preview areas, intelligent instructor operator components, systematic open architecture component development, TACAIR/MMA/ROBD-SD common graphic user interface initiatives, common threat system formats and NGTS, Joint SAF compatability, performance measurement, and after-action review/ debrief, thereby maximizing fleet efficiencies and ROI for mission training technology investments. ***FY 2014 Plans:*** Provide continued development and support for MTS based brief preview, debrief and tactical training assessment technologies for all Naval Aviation Platforms, to include data and trend-analysis. Provide technology in support of common simulation product lines, UAS common control stattion, debrief visualization, and Live Virtual Constructive (LVC) technology transition. ***FY 2015 Plans:*** Provide continued development and support for MTS-based brief/preview, debrief, and tactical assessment technologies for all Naval Aviation platforms, to include data and trend analysis. Provide technology in support of common, and open-architecture simulation product lines, UAS training, UAS common control station, debrief visualizations, and Live-Virtual-Constructive (LVC) technology transitions.			
Title: SENSORS AND ENVIRONMENT	0.330	0.400	0.200
Articles:	-	-	-
Description: Develop common and platform unique sensor visual, and environmental simulation (atmospherics or acoustics) into fidelity upgrades with Commercial Off The Shelf (COTS) and/or Government Off the Shelf Software (GOTS). Perform risk reduction, advanced displays innovation, test and evaluation, integration, and production of Inter-service Common Sensor Model (ICSM), High Fidelity Active-Acoustics Sensor Operator Training (HIFAST) and Integrated Distributed Sensor Scene Simulation			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 2124 / *Air Warfare Training*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
System (DS-4) for Navy Distributed Mission Training (DMT), 3D weather, and new ROBD-SD and legacy device technologies. Demonstrate GOTS capability for cost-effective database materialization, Material Properties Reference Dataset (MPRD) library, associated NAVAIR Portable Source Iniative (NPSI) specifications and processes for implementation on Distributed Mission Training (DMT), deployed trainers, legacy, and new visual system upgrade programs. In support of Navy Aviation Simulation Master Plan (NASMP) upgrade efforts, develop texture storage, sensor-environmental effects, Synthetic Environmental Radiometry Engine (SERE) NAVAIR Portable Source Initiative (NPSI) material reference processes/standards, automated technology applications for real time publishing, shadows, cultural lighting, combat, and weather effects and very high-resolution visualization technologies, to include tablet-based mission preview for tactical aircrew. ***FY 2013 Accomplishments:*** Continue to integrate common and platform unique real-time sensor simulation with Government Off the Shelf (GOTS) implementations. Demonstrated SERE GOTS capability for cost-effective environmental effects database materialization, developed the NAVAIR Portable Source Initiative (NPSI) Material Properties Reference Dataset (MPRD) and developed associated NPSI specifications and processes for implementation on DMT, deployed mission readiness trainers, legacy, and new visual system upgrade programs in accordance with NASMP priorities. Developed texture storage, weather and sensor-environmental effects, SERE Environment NPSI material reference processes/standards, and automated technology applications for real time publishing, shadows, cultural lighting, combat, and weather effects, communication and radio frequency models and very high-resolution sensor visualization for multiple platform upgrade initiatives. ***FY 2014 Plans:*** Test, evaluate and demonstrate new platform and composite squadron mission preview sensor-prediction, Carrier Qualification (CQ) and after-action review (AAR) technologies that improve individual, squadron unit and wing readiness. Provide GOTS/ Commercial Off The Shelf (COTS) applications for common and platform unique visual/sensor technologies in all phases of training on mission preview/preparation. Perform new sensor-fusion technologiy development for Common Control Station (CCS), and other platform UAS specific applications. ***FY 2015 Plans:*** Continue to develop, test, and demonstrate new platform and composite/MEU squadron mission preview, sensor prediction, Carrier Qualification (CQ) part-task training, and after action review (AAR) technologies that improve individual, squadron, and wing readiness metrics. Provide GOTS/or COTS applications for platform unique, or common visual-sensor technology challenges for all phases of training or mission preview. Perform new sensor-fusion and synthetic vision technology development to meet fleet requirements, and emerging UAS CCS, or UAS-platform unique requirements.			
Title: SYSTEM ENGINEERING & INTEGRATION	-	0.250	-
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 2124 / *Air Warfare Training*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: Integrate and test new and legacy General Training/Hypoxia system components for Navy survivability and platform unique deployable readiness training devices. Provide GOTS component Technology Readiness Level (TRL) assessment for general training components, Tactical Air (TACAIR), and Maritime/Anti-Submarine Warfare (ASW) components, tactical Graphical User Interface (GUI) and performance measurement and tactical scenario-control technologies. Test and demonstrate E-2C Distributed Mission Readiness Trainer (DMRT) enhancements and General Training technologies, while maintaining or increasing fidelity. Analyze Live Virtual Contructive (LVC) Government Off The Shelf (GOTS)/ Commercial Off The Shelf (COTS) technologies, and alternatives for network centric warfare compliance connnectivity in the simulated battlespace, Navy Continuous Training Environment (NCTE) interoperability, and human mission performance measurements while reducing training system life cycle cost. Ensure proper Technology Readiness Level (TRL) levels for integrating new software components, achieve training readiness and document a financial ROI. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Continue to provide training system component-level technology assessments for: (1) TRL maturation, TRL assessment, (2) platform applicability (Tactical Air (TACAIR), Anti-Submarine Warfare (ASW), and UAS), and (3) Information Assurance (IA)-certified Distributed Mission Training (DMT) interoperability. Perform support for fidelity improvement analysis, and fleet/T&R assessment. ***FY 2015 Plans:*** N/A			
Title: LIVE VIRTUAL CONSTRUCTIVE (LVC) AND VISUALS	0.151	0.429	0.589
Articles:	-	-	-
Description: Air Warfare Training Development (AWTD) provides for risk mitigation and next generation platform, UAS, LVC and associated visualization component development for distributed mission training for stand-alone and small footprint deployable devices. Support the Navy Aviation Simulation Master Plan (NASMP) upgrade efforts and Type/Model/Series (T/M/S) programs with advanced visual system display configurations requirements. Assess trainee cognitive requirements and the development and incorporation of next generation LVC, UAS constructive and associated visualization technologies. Additionally, AWTD provides for advanced virtual component fidelity improvements for LVC capability (such as "Mobility" Part-Task Trainers (PTT) and Distributed Mission Readiness Trainer (DMRT) class devices). LVC technologies will facilitate advanced, cost effective weapons and tactics training and emerging capability requirements in the Air-Sea battlespace and Naval Fire-Control Counter Air (NFCA) training concepts. ***FY 2013 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 2124 / *Air Warfare Training*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue to support NASMP upgrades and T/M/S visual research programs (TACAIR, Maritime and UAS) to include the development of high fidelity advanced visual system display configurations that are LVC capable using next generation technology for both stand-alone and small footprint deployable devices. Apply advanced visualization to after action review systems, and mission preview applications that give "visualizations" of the battlespace in different lighting conditions, sensor views and atmospheric conditions. Provided detailed pilot cue analysis for the LVC mobility/carrier qualification analysis. ***FY 2014 Plans:*** Provide continued support to incremental Live Virtual Constructive (LVC) technology development, enhanced visual, sensor, environmental, motion, aero and ocean state fidelity for new virtual training and readiness capabilities. Provide man-in-the-loop Technology Readiness Level (TRL) assessment at Manned Flight Simulator (MFS) and assess Distributed Mission Readiness Trainer (DMRT) and other mobility training application areas for improved fleet training and life-cycle cost reductions. ***FY 2015 Plans:*** Provide continued support to incremental LVC component technology development, to enhance visual, sensor, environmental, motion, aerodynamics, and ocean fidelity for required training and readiness improvements. Provide man-in-the-loop Technology Readiness Level (TRL) assessment at Manned Flight Simulator (MFS), and assess Distributed Mission Readiness Trainer-class systems, and other mobility focused training devices for improved fleet training, T&D metrics, and life-cycle cost reductions.			
Accomplishments/Planned Programs Subtotals	1.474	1.595	1.262

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/0705: *COMMON GROUND EQUIPMENT - TRAINING*	142.281	146.654	200.862	-	200.862	177.424	193.316	194.627	195.469	Continuing	Continuing

Remarks

D. Acquisition Strategy

Air Warfare Training Development (AWTD) is a 6.7 RDT&E joint technology transition program tied to Navy Aviation Simulation Master Plan (NASMP), USMC upgrades and the various platform simulation master plans with the purpose of transitioning advanced training and mission preview/rehearsal technologies. AWTD provides risk mitigation, test and evaluation, and prototype development for stand-alone, un-manned, distributed, open systems and deployed training systems for the warfighter utilizing an Integrated Product Team approach and a combination of reimbursable and direct cite/cost-plus time and material (T&M) contracts.

E. Performance Metrics

NAWC-TSD: # of transitions to Fleet Platforms. For each transition, successful TRL testing and device Ready for Training (RFT) to Fleet platforms. Seminal transition events are either RFT or tech-refresh Authority to Operate.

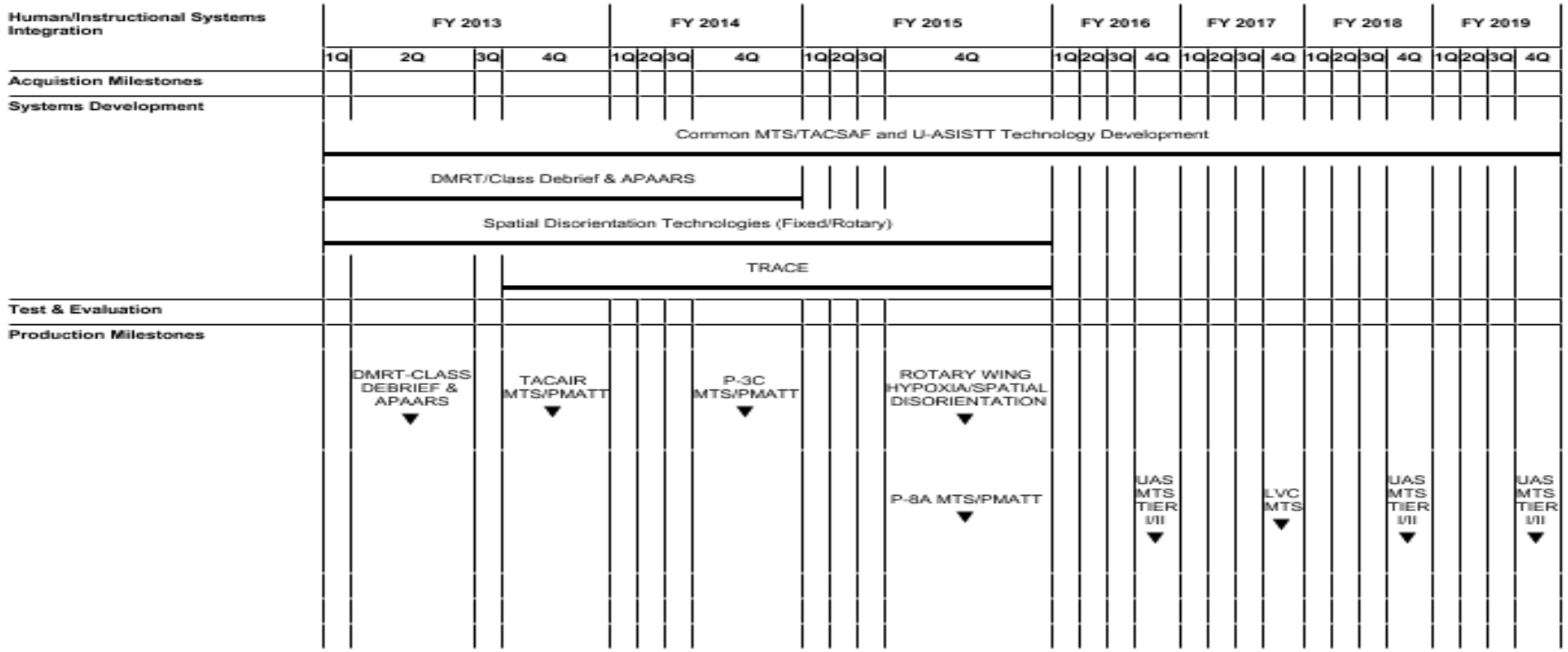
Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 2124 / *Air Warfare Training*

NAWC-AD: Complete Technology Readiness Level (TRL) & compliance testing for NASMP and Information Assurance directives.

RSC Inc: Successful Small Business Innovation Research evaluation of device testing.

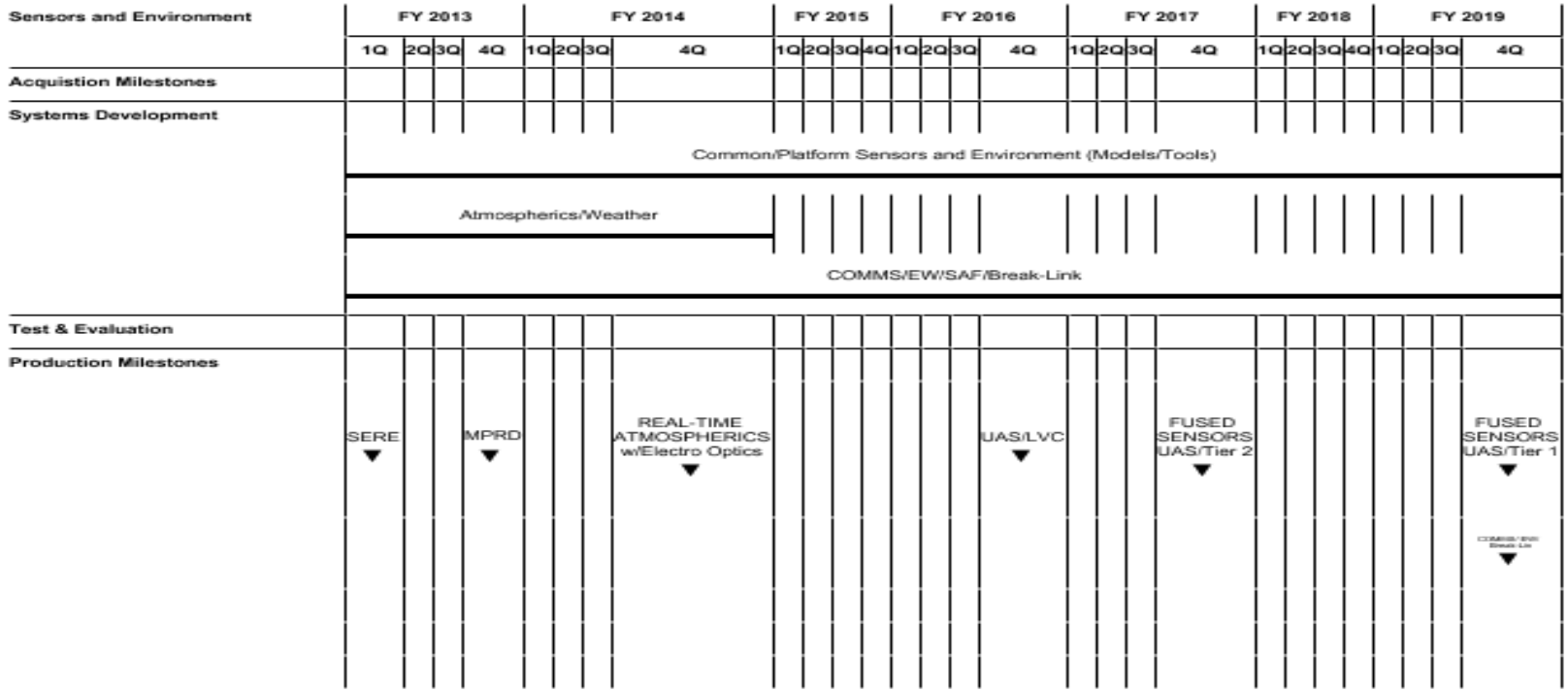
Aptima Inc: Successful Small Business Innovation Research evaluation of device testing.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 2124 / *Air Warfare Training*



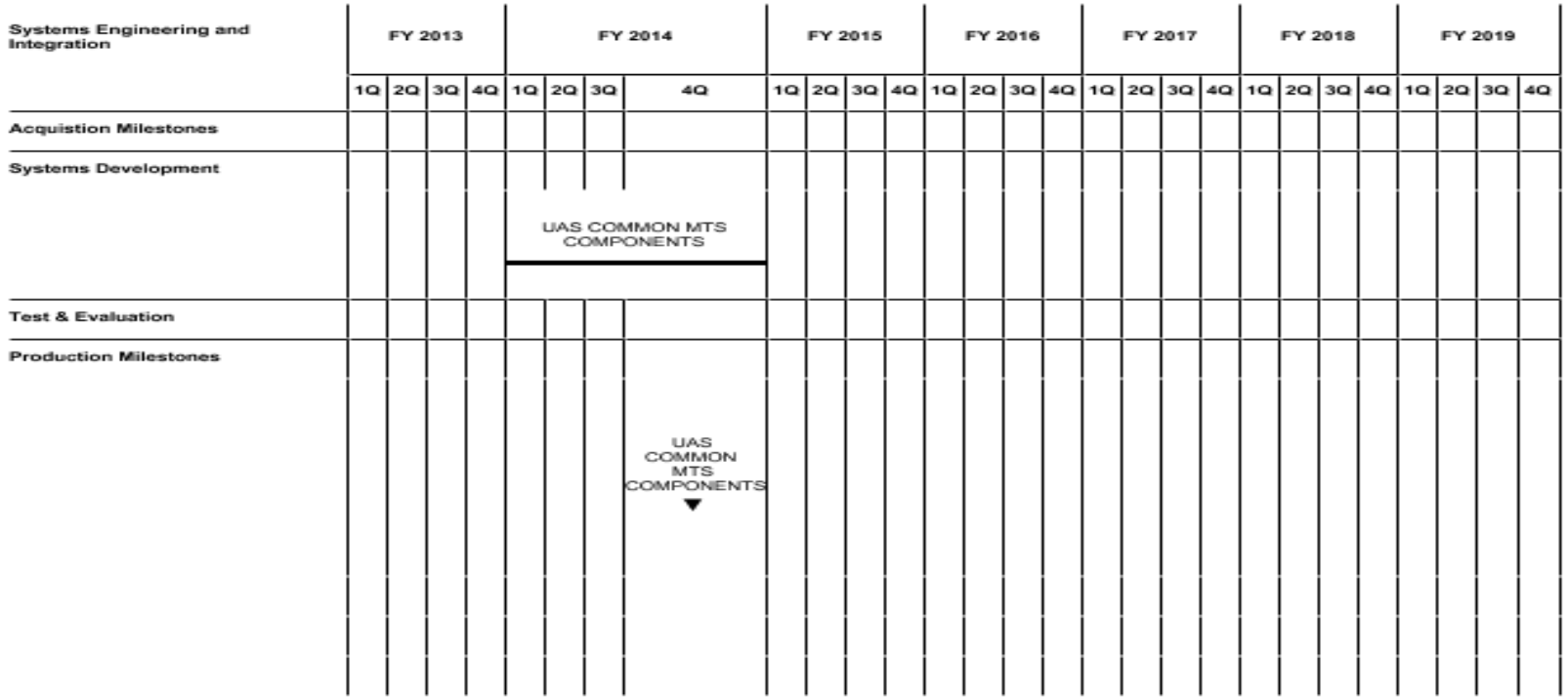
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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 2124 / *Air Warfare Training*



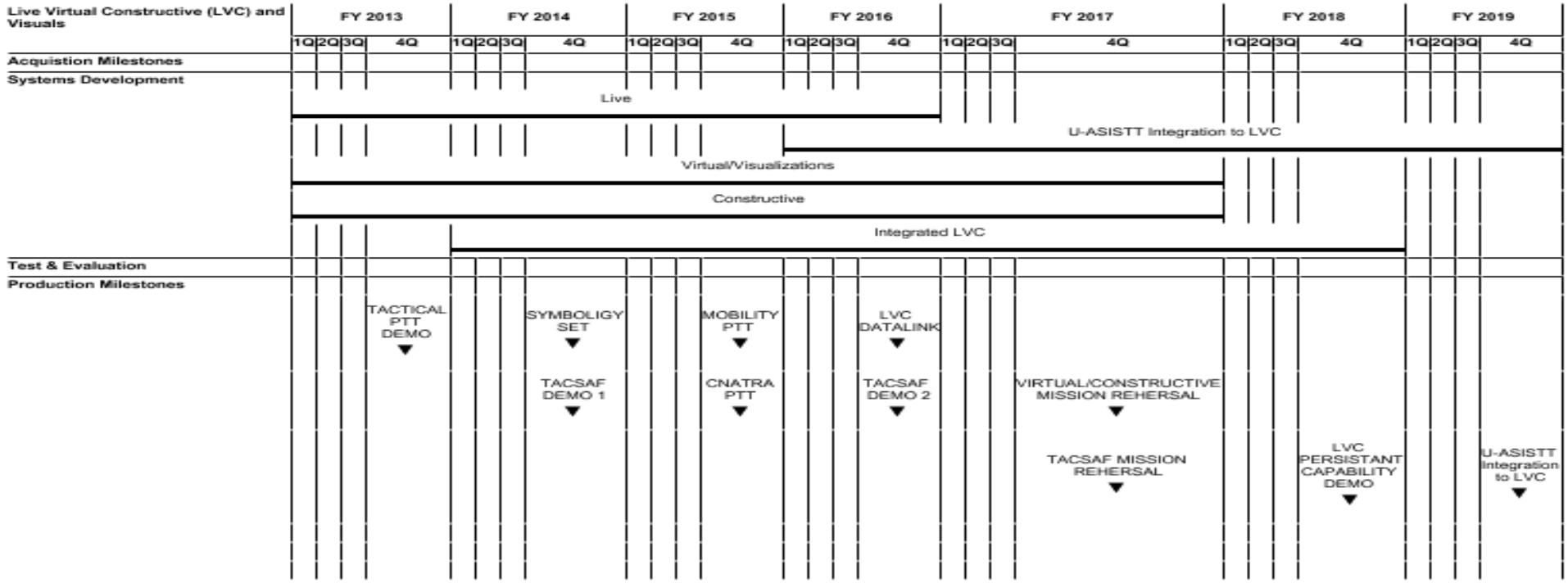
2015DON - 0204571N - 2124

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 2124 / *Air Warfare Training*



2015DON - 0204571N - 2124

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 2124 / *Air Warfare Training*



2015DON - 0204571N - 2124

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204571N / *Consolidated Trng Sys Dev*	Project (Number/Name) 3093 / *TACTS/LATR 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
3093: *TACTS/LATR Replacement*	56.157	2.256	13.532	12.349	-	12.349	21.393	4.780	4.354	4.441	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

Tactical Combat Training System (TCTS) will provide the Navy a replacement for major portions of the Tactical Aircrew Combat Training System (TACTS) and Large Area Tracking Range (LATR) systems. TCTS will also provide fleet deployable training for at-sea training and tactics development. By providing a rangeless capability, the system will greatly increase the area where live instrumented training can be conducted. Fielding of a pod system is complete at TACTS sites. The program incorporates an evolutionary development (incremental) towards an encrypted system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant sensor stimulation, open architecture and an encrypted/long range secure data link.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: TACTS/LATR REPLACEMENT	2.256	13.532	12.349
Articles:	-	-	-
Description: Tactical Combat Training System (TCTS): Qualify and complete the Rangeless Pod system fielding for CVW-5 CVN installation, including the complete Integrated Logistics products and training. Define Test & Training Enabling Achitecture (TENA) compliant interface between TCTS and an Advance Display System (ADS). Develop a Rack-Mounted subsystem for use on rotary wing and transport aircraft. Continue development of the encrypted data link. Develop related training range integration. ***FY 2013 Accomplishments:*** Prepare Request for Proposal, Milestone B preparation and conduct Pre-Engineering Manufacturing Development Review activities. ***FY 2014 Plans:*** Milestone B approval. Begin encryption integration activities into TCTS and conduct integration Systems Requirements Review (SRR). ***FY 2015 Plans:*** Conduct Integrated Baseline Review (IBR) to establish a Performance Measurement Baseline with the contractor. Conduct a System Functional Review (SFR) to set the functional baseline followed by the Preliminary Design Review (PDR) to establish the allocated baseline. A Post PDR Assessment will be conducted with the Milestone Decision Authority (MDA) at the completion of the PDR with the contractor.			
Accomplishments/Planned Programs Subtotals	2.256	13.532	12.349

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 3093 / *TACTS/LATR Replacement*

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/4204: *Weapons Range Support Equipment (WRSE)/TCTS*	3.855	3.269	3.817	-	3.817	3.917	3.884	3.863	3.942	Continuing	Continuing
• APN/0725: *Other Production Charges/Tactical Combat Training System (TCTS)*	3.492	5.268	5.630	-	5.630	3.476	11.277	20.988	21.400	Continuing	Continuing

Remarks

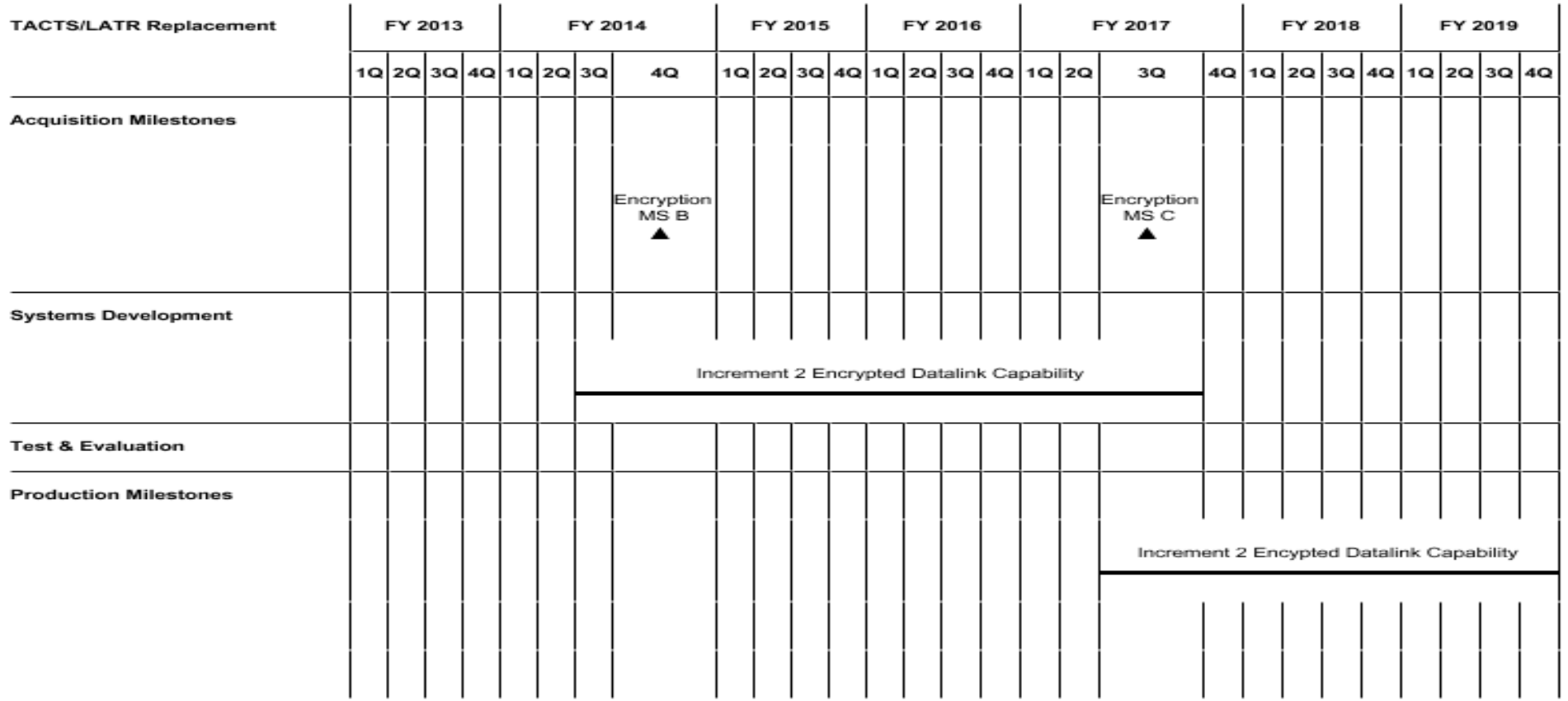
D. Acquisition Strategy

Tactical Combat Training System (TCTS)will employ an evolutionary incremental acquisition strategy. This strategy will provide for the development of a system that meets the Operational Requirements Document (ORD).

E. Performance Metrics

Contractor (TBD): National Security Agency (NSA) approved encrypted Data Link Transceiver (DLT). Successful Engineering Development Model testing of encrypted DLT requirements with NSA.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 3093 / *TACTS/LATR Replacement*



2015PB - 0204571N - 3093

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204571N / *Consolidated Trng Sys Dev*	Project (Number/Name) 3356 / *High Fidelity Surface Trainers*	

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
3356: *High Fidelity Surface Trainers*	-	-	9.537	6.814	-	6.814	7.723	2.487	-	-	-	26.561
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 line provides SEA 21 (PMS 339) funds for development of a High Fidelity Aegis Combined Integrated Air and Missile Defense (IAMD) and Anti-Submarine Warfare (ASW) Trainer (CIAT) to enable advanced warfare training (AWT) Phase II objectives to be accomplished ashore and to support Active and Passive Sonar Operations, Target Motion Analysis, Sonobuoy Localization, Command and Control, and execution of ASW Kill chain. Funds are provided for advanced component technology development, prototype evaluation, and technology readiness level assessment. Development of these trainers is in response to CNO Wholeness Review and COMNAVSURFOR requirements. This line also funds the research and development of advanced technologies to allow Close-In Weapon System (CIWS) 1B Baseline 2 integration at CSCS Damneck and Detachment West.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Combined IAMD ASW Trainer (CIAT)	-	9.537	6.720
Articles:	-	-	-

FY 2013 Accomplishments:

N/A

FY 2014 Plans:

Develop a high fidelity Combined IAMD and ASW Shore Based Trainer (SBT), research and develop advanced technologies necessary to introduce a SBT that will support scenario driven watch team practice of Standard Operating Procedures (SOPs), Tactics Techniques and Procedures (TTPs) and Pre-Planned Response (PPRs) against advanced threats in a realistic environment. Research and develop technologies and interfaces which will enable Surface Anti-Submarine Warfare Synthetic Trainer (SAST) to be integrated with the shore based trainer. Research and define hardware that maximizes the benefits of COTS equipment and reuse of tactical software components. Research and develop integration of models to allow for Navy Integrated Fire Control - Counter Air (NIFC-CA) trainer.

FY 2015 Plans:

Develop a high fidelity Combined IAMD and ASW Shore Based Trainer (SBT), research and develop advanced technologies necessary to introduce a SBT that will support scenario driven watch team practice of Standard Operating Procedures (SOPs), Tactics Techniques and Procedures (TTPs) and Pre-Planned Response (PPRs) against advanced threats in a realistic environment. Research and develop technologies and interfaces which will enable Surface Anti-Submarine Warfare Synthetic Trainer (SAST) to be integrated with the shore based trainer. Research and define hardware that maximizes the benefits of COTS

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 3356 / *High Fidelity Surface Trainers*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
equipment and reuse of tactical software components. Research and develop integration of models to allow for Navy Integrated Fire Control - Counter Air (NIFC-CA) trainer.			
Title: CIWS 1B Baseline 2 Schoolhouse Integration	-	-	0.094
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: N/A			
FY 2015 Plans: Research and Develop advanced technologies to allow CIWS 1B Baseline 2 integration at CSCS Dam Neck and Det West to enable accurate training. This project will introduce an upgrade to a training system which is insufficient for accurate training on the fleet configuration. Funds are provided for development of the technologies and test and evaluation of the integrated components.			
Accomplishments/Planned Programs Subtotals	-	9.537	6.814

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The software development for High Fidelity Surface Trainers is accounted for in this RDT&E line. All production kits are procured in OPN PE 0804731N BLI 5660 cost codes 1.6. The software development and introduction for the CIWS 1B Baseline 2 Schoolhouse Integration is accounted for in this RDT&E line. This upgrade will provide an enabling technology to an existing training system.

E. Performance Metrics

NSWC Dahlgren: Approved Combined IAMD and ASW Trainer (CIAT). Successful engineering development model (EDM) introducing advanced technologies necessary to simulate/stimulate the AEGIS Combat System elements required for operators stated in AEGIS Ashore Baseline 9 Weapons Specification (WS) 21200 series. Successful EDM introducing advanced technologies necessary to simulate/stimulate the Aegis Combat System elements required for operators of Aegis BL 7 system.

NSWC Dahlgren: Approved CIWS 1B Baseline 2 Schoolhouse Integration. 1) Accurate replication of CIWS 1B Baseline 2 configuration and functionality. 2) Successful introduction and test and evaluation to integrate and simulate the performance of Close In Weapons System (CIWS) 1B Baseline 2.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204571N / *Consolidated Trng Sys Dev*	**Project (Number/Name)** 3356 / *High Fidelity Surface Trainers*

NSWC Carderock: Approved Combined IAMD & ASW Trainer (CIAT). Successful engineering development model introducing advanced technologies necessary to 1) simulate performance of AN/SQQ-89A(V)15 sonar system in alignment with fielding plan for initial Sonar software versions with capability to receive AN/SQQ-89A(V)15 coordinated routine modernizations and 2) replicate Combat Information Center (CIC) configuration and functionalities representative of AEGIS Baseline 9.

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0204574N *I Cryptologic Direct 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
Total Program Element	13.814	1.610	2.703	1.157	-	1.157	1.179	1.195	1.262	2.322	Continuing	Continuing
3091: *Advanced Cryptological Sys Eng (CCOP)*	13.814	1.610	2.703	1.157	-	1.157	1.179	1.195	1.262	2.322	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The Advanced Cryptologic Systems Engineering - The Cryptologic Carry-on Program develops state-of-the-art signal acquisition software in response to Combatant Command requirements for a quick-reaction surface cryptologic carry-on capability. There are approximately 115 cryptologic capable surface ships in the current Navy inventory. Each of these ships is a potential user of this carry-on equipment, depending on deployment schedules and the tempo of operations. In addition, numerous other Navy and Coast Guard platforms are potential users.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	1.756	2.703	2.761	-	2.761
Current President's Budget	1.610	2.703	1.157	-	1.157
Total Adjustments	-0.146	-	-1.604	-	-1.604
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.001	-	-1.604	-	-1.604
• Congressional General Reductions Adjustments	-0.147	-	-	-	-

Change Summary Explanation

Technical: Not applicable.
Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0204574N / *Cryptologic Direct Support*	Project (Number/Name) 3091 / *Advanced Cryptological Sys Eng (CCOP)*	

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
3091: *Advanced Cryptological Sys Eng (CCOP)*	13.814	1.610	2.703	1.157	-	1.157	1.179	1.195	1.262	2.322	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 Advanced Cryptologic Systems Engineering - Cryptologic Carry On Program (CCOP) develops state-of-the-art signal acquisition software in response to Combatant Command requirements for a quick-reaction surface, subsurface and airborne cryptologic carry-on capability. There are approximately 115 cryptologic capable surface ships and shore sites in the current Navy inventory; each is a potential user of this carry-on equipment, depending on deployment schedules and the tempo of operations. In addition, there are numerous subsurface and air platforms that are also potential users. This funding line will provide the resources to enable rapid transition of available Commercial Off-The-Shelf (COTS) and Government Off -The-Shelf (GOTS) technologies that apply to Fleet requirements for carry-on system functionalities. These technologies typically require various levels of integration to leverage on-board systems that provide system and mission management, product reporting, and data analysis. COTS/GOTS system documentation and training materials usually require adaptation or modification to meet fleet operator requirements, or entirely new training materials may need to be developed. Before deployment for operational use, systems must be systematically tested to ensure suitable and reliable operation, tested for network vulnerabilities if connected to shipboard Local Area Networks, and tested relative to interoperability requirements. Certification testing is conducted to meet Office of Naval Intelligence security requirements and network testing is conducted in accordance with Information Technology (IT) requirements to allow connection to Navy networks. Funding will also provide resources to address rapid deployment of enhancements or improvements to the common hardware and/or software baseline of all other carry-on subsystems to meet emergent requirements.

FY15 funds will continue to integrate, test, and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the Signals of Interest (SOI) and target threat list. Funds will continue to develop upgrades to existing systems and subsystems according to Fleet requirements. Additional funds will aid in the development of new SOI algorithms in support of cryptologic systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Advanced Cryptological Sys Eng - CCOP	1.610	2.703	1.157
Articles:	-	-	-
FY 2013 Accomplishments: Continued to integrate, test, and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the Signals of Interest (SOI) and target threat list. Funds continued to develop upgrades to existing systems and subsystems according to Fleet requirements.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204574N / *Cryptologic Direct Support*	**Project (Number/Name)** 3091 / *Advanced Cryptological Sys Eng (CCOP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue to integrate, test, and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the Signals of Interest (SOI) and target threat list. Funds continue to develop upgrades to existing systems and subsystems according to Fleet requirements. Additional funds will aid in the development of new signal processing algorithms to meet emerging threat targets and to address creation of software based solutions for rapid transition to existing hardware. ***FY 2015 Plans:*** Continue to integrate, test and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the Signals of Interest (SOI) and target threat list. Funds will continue to develop upgrades to existing systems and subsystems according to Fleet requirements. Continue the development of new signal processing algorithms and software based solutions to enable rapid transition.			
Accomplishments/Planned Programs Subtotals	1.610	2.703	1.157

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 / 3501: *Cryptologic Communications Equipment*	9.407	10.716	10.076	-	10.076	10.224	10.408	10.607	10.855	Continuing	Continuing

Remarks

D. Acquisition Strategy

Acquisition, management, and contracting strategies are to support engineering and manufacturing development by providing funds to Space and Naval Warfare (SPAWAR) Systems Centers Atlantic and Pacific, and miscellaneous contractors with management oversight by SPAWAR.

E. Performance Metrics

Cryptologic Carry On Program (CCOP) will deliver state-of-the-art signal acquisition software for CCOP systems in response to Combatant Command requirements for a quick-reaction surface, subsurface and airborne cryptologic carry-on capability. There are approximately 284 CCOP systems in inventory.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		**Date:** March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204574N / *Cryptologic Direct Support*	**Project (Number/Name)** 3091 / *Advanced Cryptological Sys Eng (CCOP)*

Exhibit R-4, RDT&E Program Schedule Profile DATE: October 2013

Appropriation/Budget Activity	Program Element Name and Number	Project Name and Number
RDT&E, N / BA 7	0204574N Cryptologic Direct Support	Advanced Cryptologic Systems Engineering (CCOP) / 3091

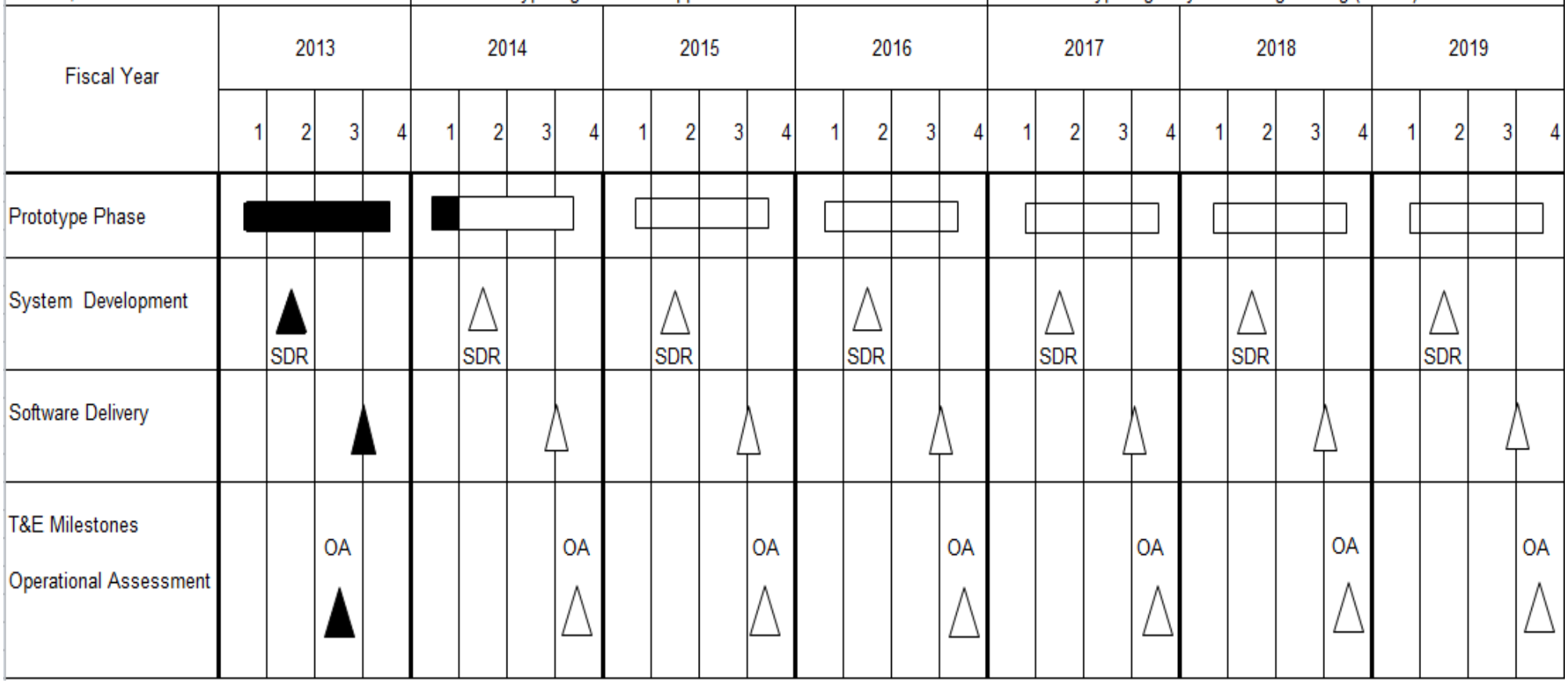


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0204575N *I Elect Warfare Readiness Supt*							
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**
Total Program Element	195.717	17.867	19.563	22.067	-	22.067	31.510	36.636	40.644	44.229	Continuing	Continuing
2263: *Information Warfare System*	195.717	17.867	19.563	22.067	-	22.067	31.510	36.636	40.644	44.229	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

Research, assess, and develop information warfare capabilities.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	19.843	19.563	31.320	-	31.320
Current President's Budget	17.867	19.563	22.067	-	22.067
Total Adjustments	-1.976	-	-9.253	-	-9.253
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.492	-			
• Rate/Misc Adjustments	0.001	-	-9.253	-	-9.253
• Congressional General Reductions Adjustments	-1.485	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0204575N / *Elect Warfare Readiness Supt*				Project (Number/Name) 2263 / *Information Warfare 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**
2263: *Information Warfare System*	195.717	17.867	19.563	22.067	-	22.067	31.510	36.636	40.644	44.229	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

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

Note

Funding for this Project Code will be managed by BSO 60 starting in FY14.

A. Mission Description and Budget Item Justification

Information Operations (IO) Counter Measure Capability Research and Development: Develops software to account for antenna modeling, weather calculations, radio frequency modeling, signals mapping and terrain modeling for warfighter use in configuring optimal Electronic Attack (EA) from afloat.

Maritime Cryptologic Systems for the 21st Century (MCS-21) Systems Development and Support: Develops and fields spiral EA and cyber capabilities against Fleet Forces Command prioritized signals, networks, and target sets. EA capabilities will be integrated into a software architecture baseline that is deployed on subsurface, airborne and surface IO platforms (Classic Troll, Banshee and Ships Signal Exploitation Equipment Increment E and Increment F). Also included is the Navy's investment in Integrated Communications and Data System proof of concept system and PACSAIL research project.

Research, Analysis and Research and Development Technical Support: Conducts vulnerability analysis and reverse engineering on emerging threats and targets and provides specialized technical, engineering and management capabilities to the program management office. (Specific details held at a higher classification level)

Computer Network Operations: Funds development and testing of computer networks for modeling, simulation, and tailoring of Cyber capabilities. Develops specific Cyber tools, techniques, and operators in support of Fleet Cyber Command and Commander, TENTH Fleet requirements. (Specific development details held at a higher classification level). Conducts vulnerability analyses and reverse engineering on improvised explosive devices (Specific details held at a higher classification level)

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Electronic Warfare / Information Operations (IO) Countermeasure Capability Research & Development	5.355	4.086	15.682
Articles:	-	-	-
Description: Information Operations (IO) Counter Measure Capability Research and Development: Develops and tests IO Countermeasure capabilities across various platforms. Develops specific waveforms to attack adversary systems. Develops and uses modeling and simulation techniques to prototype and test emergent waveforms.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204575N / *Elect Warfare Readiness Supt*	**Project (Number/Name)** 2263 / *Information Warfare System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
* Continued Modeling and Simulation Lab (Applied/projected level of effort) * Continued Information Warfare/Information Operations (IW/IO) EA capability development (Details held at higher classification level) ***FY 2014 Plans:*** * Develop and test IO Countermeasures capabilities across various platforms. * Develop specific waveforms to attack adversary systems. * Develop and use modeling and simulations techniques to prototype and test emergent waveforms. * Continue Modeling and Simulation Lab (Applied/projected level of effort). * Continue Information Warfare (IW)/Information Operations (IO) Electronic Attack (EA) capability development (Details held at a higher classification level). * Continue Waveform Weapon Development. ***FY 2015 Plans:*** * Develop and test IO Countermeasures capabilities across various platforms. * Develop specific waveforms to attack adversary systems. * Develop and use modeling and simulations techniques to prototype and test emergent waveforms. * Continue Modeling and Simulation Lab (Applied/projected level of effort). * Continue Information Warfare (IW)/Information Operations (IO) Electronic Attack (EA) capability development (Details held at a higher classification level). * Continue Waveform Weapon Development.			
Title: Electronic Warfare Readiness/MCS-21 Systems Development	3.659	0.637	0.424
Articles:	-	-	-
Description: Maritime Cryptologic Systems for the 21st Century Systems Development: Develops and fields spiral EA and cyber capabilities against Fleet Forces Command prioritized signals, networks and target sets. Capabilities will be integrated into a software architecture baseline that is deployed on subsurface, airborne and surface Information Operations platforms (Classic Troll, Banshee and Ships Signal Exploitation Equipment Increment E and Increment F). ***FY 2013 Accomplishments:*** *Continued IW/IO EA capability development & integration (Details held at higher classification level) ***FY 2014 Plans:*** * Develop and field spiral EA and cyber capabilities against Fleet Forces Command prioritized signals, networks and targets sets. Capabilities will be integrated into a software architecture baseline that is deployed on subsurface, airborne, and surface IP platforms (Classic Troll, Banshee, and Ships Exploitation Increment E and Increment F).			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204575N / *Elect Warfare Readiness Supt*	**Project (Number/Name)** 2263 / *Information Warfare System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
* Continue IW/IO EA capability development & integration (Details held at higher classification level). * Continue Research and Analysis (Details held at higher classification level). ***FY 2015 Plans:*** * Develop and field spiral EA and cyber capabilities against Fleet Forces Command prioritized signals, networks and targets sets. Capabilities will be integrated into a software architecture baseline that is deployed on subsurface, airborne, and surface IP platforms (Classic Troll, Banshee, and Ships Exploitation Increment E and Increment F). * Continue IW/IO EA capability development & integration (Details held at higher classification level). * Continue Research and Analysis (Details held at higher classification level).			
Title: Electronic Warfare/Research, Analysis and R&D Technical Support	3.567	5.696	2.107
Articles:	-	-	-
Description: Research, Analysis and Research and Development Technical Support: Conducts vulnerability analysis and reverse engineering on emerging threats and targets and provides specialized technical, engineering and management capabilities to the program management office. (Specific details held at a higher classification level) ***FY 2013 Accomplishments:*** * Continued Technical and intelligence related studies and contractor engineering, technical and management capabilities. * Continued Research and Analysis (Details held at higher classification level) ***FY 2014 Plans:*** *Conduct vulnerability analysis and reverse engineering on emerging threats and targets and provide specialized technical, engineering and management capabilities to the program management office. (Specific details held at a higher classification level). *Technical and intelligence related studies and contractor engineering, technical and management capabilities. *Research and Analysis (Details held at higher classification level). ***FY 2015 Plans:*** *Conduct vulnerability analysis and reverse engineering on emerging threats and targets and provide specialized technical, engineering and management capabilities to the program management office. (Specific details held at a higher classification level). *Technical and intelligence related studies and contractor engineering, technical and management capabilities. *Research and Analysis (Details held at higher classification level).			
Title: Electronic Warfare/Computer Network Operations (CNO)	5.286	9.144	3.854
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204575N / *Elect Warfare Readiness Supt*	**Project (Number/Name)** 2263 / *Information Warfare System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: Computer Network Operations (CNO): Funds development and testing of computer networks for modeling, simulation, and tailoring of Cyber capabilities. Develops specific Cyber tools, techniques, and operators in support of Fleet Cyber Command and Commander, TENTH Fleet requirements. (Specific development details held at a higher classification level) ***FY 2013 Accomplishments:*** * Continued Research and Development at the Integrated Testing Facility * Continued Computer Network Attack Capabilities Development (Details held at higher classification level) * Continued Demonstration of Advanced Computer Network Operations Concept (Details held at higher classification level) ***FY 2014 Plans:*** *Develop Cyber tools, techniques, and operators in support of Fleet Cyber Command and Commander, TENTH Fleet requirements. (Specific development details held at a higher classification level). *CNO Research and Development Integration Testing Facility. *Computer Network Attack Capabilities (Details held at a higher classification level). *Demonstration of Advanced Computer Network Operations Concept (Details held at a higher classification level). ***FY 2015 Plans:*** Develop Cyber tools, techniques, and operators in support of Fleet Cyber Command and Commander, TENTH Fleet requirements. (Specific development details held at a higher classification level). *CNO Research and Development Integration Testing Facility. *Computer Network Attack Capabilities (Details held at a higher classification level). *Demonstration of Advanced Computer Network Operations Concept (Details held at a higher classification level).			
Accomplishments/Planned Programs Subtotals	17.867	19.563	22.067

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
• RDTEN/0604270N/1742: *Electronic Warfare Technical Development*	1.702	1.352	1.652	-	1.652	1.642	1.665	1.596	-	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204575N / *Elect Warfare Readiness Supt*	**Project (Number/Name)** 2263 / *Information Warfare System*

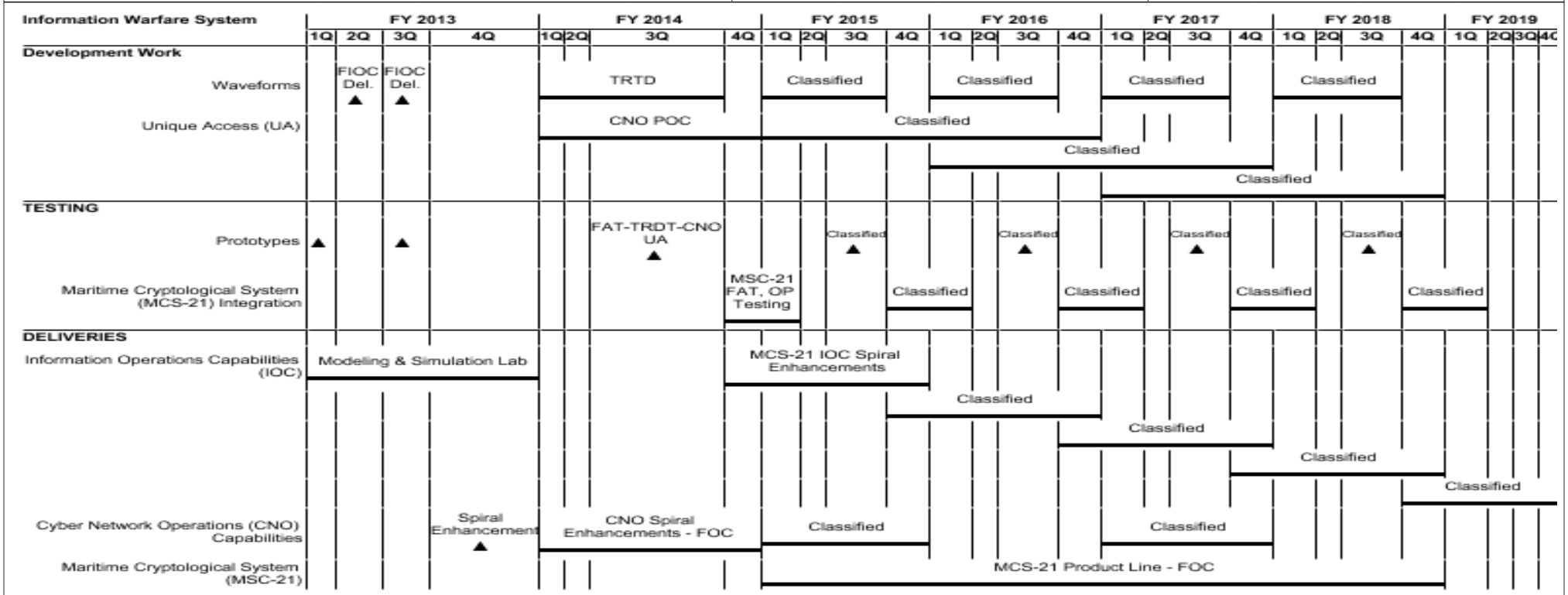
D. Acquisition Strategy

These programs are designated non-ACAT and operate under streamlined acquisition. This designation supports a streamlined acquisition process using the Advanced Concept Technology Demonstration documentation of the Defense Acquisition Guidance.

E. Performance Metrics

Measures include quality and impact of new ideas and approaches, the success of the technology application in satisfying Combatant Commanders and Fleet requirements, and successful cost effective transition of the capability into operational systems. The goal of these investments is to provide to Commanders non-kinetic options to influence adversaries and prevent escalation of crises. Due to the nature and classification of these efforts, qualitative measures are used. It is the intent through the development of modeling and simulation scenarios and capabilities to develop quantitative metrics. The success of this depends heavily on the insight obtained via various intelligence community efforts.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0204575N / *Elect Warfare Readiness Supt*	**Project (Number/Name)** 2263 / *Information Warfare System*



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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0205601N *I Harm Improvement*							
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	731.698	12.586	13.586	17.420	-	17.420	6.982	6.127	6.173	6.314	Continuing	Continuing
1780: *HARM Improvement*	45.058	1.254	1.339	1.343	-	1.343	1.392	1.435	1.432	1.460	Continuing	Continuing
2185: *AARGM*	656.873	8.236	12.247	16.077	-	16.077	5.590	4.692	4.741	4.854	7.615	720.925
3212: *MEDUSA JCTD*	29.767	3.096	-	-	-	-	-	-	-	-	-	32.863
MDAP/MAIS Code: 368												

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

Note

A new Program Element (PE), 0605555N, has been established for the Direct and Time Sensitive Strike Program Office to support research, development, test and evaluation of Strike Weapons to be employed from a multitude of fixed and rotary wing aircraft in support of offensive and defensive land and sea based targets across multiple mission areas. The following projects have been realigned/transferred to this new PE beginning in FY 2014: 3212 - MEDUSA Joint Capability Technology Demonstration (JCTD) and 3412 - Hellfire-Romeo (Hellfire-R) Integration. The Cost to Complete on Exhibits R-2 and R-2a should be $7.615M.

A. Mission Description and Budget Item Justification

Research, Development, Test and Evaluation funding for the Joint Service Anti-Radiation Missile (ARM) program, which will include near and far term performance improvements, cost reduction, and studies that establish future development requirements. Specific initial efforts include lower cost seeker component development and seeker aided fuzing to enhance warhead performance in low angle impacts and against certain ship targets.

These projects are funded under Operational Systems Development because they include development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate funding in the current or subsequent fiscal year.

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 7: *Operational Systems Development*		R-1 Program Element (Number/Name) PE 0205601N *I Harm Improvement*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	11.477	13.586	8.108	-	8.108
Current President's Budget	12.586	13.586	17.420	-	17.420
Total Adjustments	1.109	-	9.312	-	9.312
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.099	-			
• SBIR/STTR Transfer	-0.016	-			
• Rate/Misc Adjustments	-	-	9.312	-	9.312
• Congressional General Reductions Adjustments	-0.974	-	-	-	-

Change Summary Explanation

Technical: FY15 funding increase due to additional funding required to complete follow-on test and evaluation requiremetns for AARGM Block 1.

Schedule:
AARGM, project 2185, experienced a delay in block 1 completion due to funding deferrals and target availability, which then led to a slip in Follow-on Operational Test and Evaluation.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / *Harm Improvement*	Project (Number/Name) 1780 / *HARM Improvement*	

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
1780: *HARM Improvement*	45.058	1.254	1.339	1.343	-	1.343	1.392	1.435	1.432	1.460	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

High-speed Anti-Radiation Missile (HARM) Improvement is a Navy led joint service program with the Air Force. The program commenced production in FY 1983. Program element 0205601N was used until FY 1990 to develop and test one hardware and two software upgrades to the HARM (air-to-ground (AGM)-88B, Block 3 & AGM-88C, Block 4) as Engineering Change Proposals (ECPs). Another ECP software program (Block 3A & 5) was developed (FY 1996 through FY 1999) to modify HARM software in order to meet operational requirements. HARM Block 3A/5 software was distributed to the Fleet in FY 2000. The Block 5 tactical software upgrade gives HARM improved geographic specificity and improved capability against advanced waveforms. HARM Block 5A is currently being deployed in the Fleet.

HARM Improvement includes efforts to conduct Foreign Military Assessment (FMA) analysis and engineering to exploit vulnerabilities of foreign weapon system threats. HARM Improvement includes funding for threat assessment, operational updates and integration efforts.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: HARM Foreign Military Assessment (FMA)	1.254	1.339	1.343
Articles:	-	-	-

FY 2013 Accomplishments:
Continued to conduct FMA analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates and integration efforts.

FY 2014 Plans:
The FMA team will continue to conduct FMA analysis and engineering to exploit vulnerabilities of foreign weapon system threats. Focus will be on new threat systems as they become available as well as theater/country-specific systems of interest, with priorities coordinated through the Anti-Radiation Missile (ARM) Steering Committee (ASC). Expect continued testing on advanced Surface-to-Air weapons and related integrated air defense systems (IADS), jammers and ARM countermeasures, and non-traditional ARM targets. One specific area of attention will be expanding collection, analysis, and definition of radar parametric related to HARM 5A improvements, with feedback from full Fleet fielding in 2013. Team will continue to support Fleet engagement as a key element of engineering and analytical efforts, which includes funding for threat assessment, operational updates and integration efforts.

FY 2015 Plans:
The FMA team will continue to conduct FMA analysis and engineering to exploit vulnerabilities of foreign weapon system threats. Focus will be on new threat systems as they become available as well as theater/country-specific systems of interest, with

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
priorities coordinated through the ARM ASC. Expect continued testing on advanced Surface-to-Air weapons and related IADS, jammers and ARM countermeasures, and non-traditional ARM targets. One specific area of attention will be expanding collection, analysis, and definition of radar parametric related to HARM 5A improvements, with feedback from full Fleet fielding in 2014. Team will continue to support Fleet engagement as a key element of engineering and analytical efforts, which includes funding for threat assessment, operational updates and integration efforts.			
Accomplishments/Planned Programs Subtotals	1.254	1.339	1.343

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

HARM software updates are provided through the Software Support Activity (SSA) at Naval Air Warfare Center - Weapons Division (NAWC-WD), China Lake, CA.

E. Performance Metrics

Successfully complete Developmental Test/Operational Test.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / *Harm Improvement*	Project (Number/Name) 1780 / *HARM Improvement*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWC-WD : China Lake, CA	1.398	1.078	Nov 2012	1.337	Nov 2013	1.341	Nov 2014	-		1.341	Continuing	Continuing	Continuing
Prior Year Prod Dev no longer funded in FYDP	Various	Various : Various	24.732	-		-		-		-		-	-	24.732	-
		Subtotal	26.130	1.078		1.337		1.341		-		1.341	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Eval	WR	NAWC-WD : China Lake, CA	18.527	0.174	Nov 2012	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	18.527	0.174		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	Various : Various	0.401	0.002	Nov 2012	0.002	Jan 2014	0.002	Jan 2015	-		0.002	Continuing	Continuing	Continuing
		Subtotal	0.401	0.002		0.002		0.002		-		0.002	-	-	-

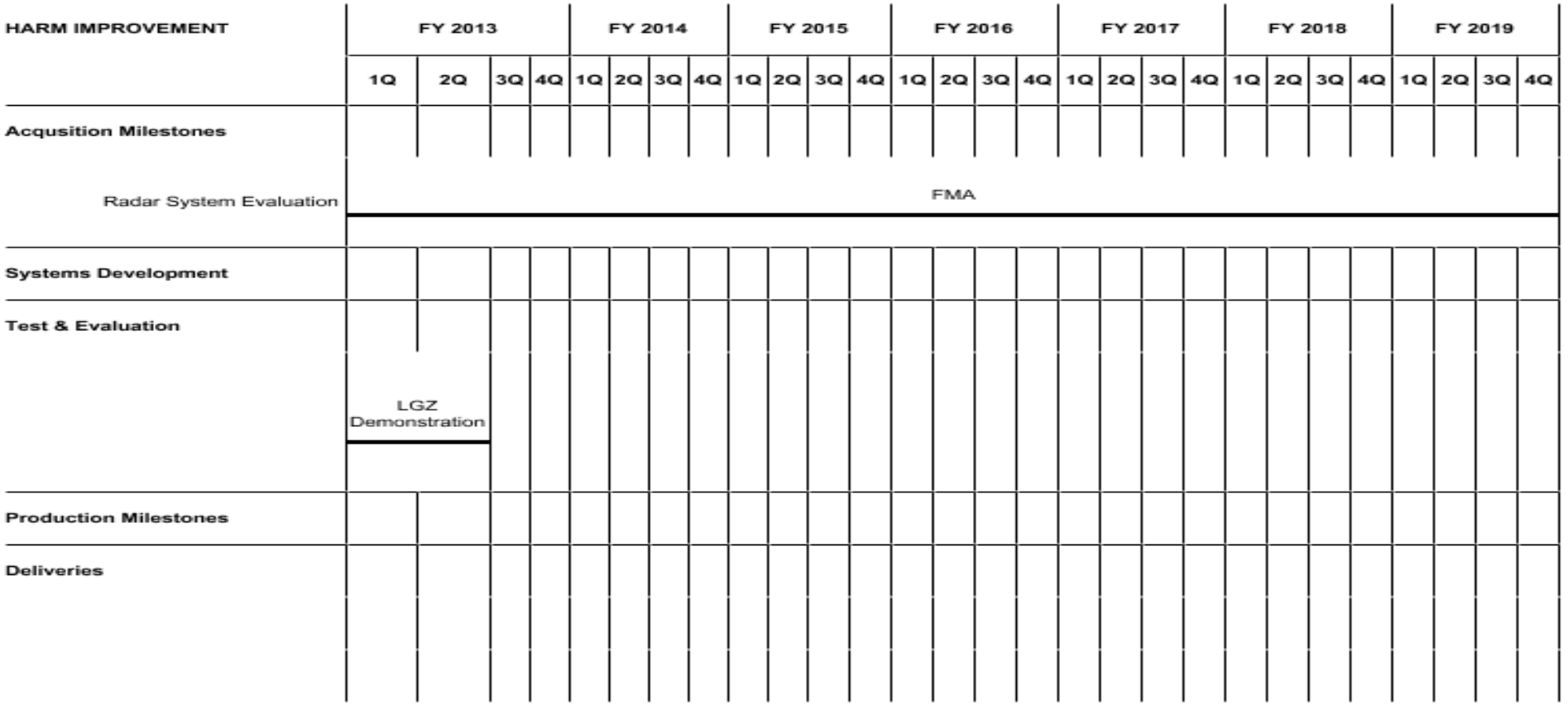
Remarks

Contract Type for Travel is TO

	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	45.058	1.254		1.339		1.343		-		1.343	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205601N / *Harm Improvement*	**Project (Number/Name)** 1780 / *HARM Improvement*



2015PB - 0205601N - 1780

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205601N / *Harm Improvement*	**Project (Number/Name)** 1780 / *HARM Improvement*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
HARM IMPROVEMENT				
Acqusition Milestones: Radar System Evaluation: Radar System Evaluation - Foreign Military Assessment	1	2013	4	2019
Test & Evaluation: Lazer Guided Zuni (LGZ)	1	2013	2	2013

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205601N / *Harm Improvement*				Project (Number/Name) 2185 / *AARGM*			
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**
2185: *AARGM*	656.873	8.236	12.247	16.077	-	16.077	5.590	4.692	4.741	4.854	7.615	720.925
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

Advanced Anti-Radiation Guided Missile (AARGM) transitioned a Phase III Small Business Innovative Research (SBIR) program to develop and demonstrate a multi-mode guidance section on a HARM airframe to System Development and Demonstration (SD&D) in FY 2003. The AARGM SD&D program was designed to integrate multi-mode guidance (passive Anti-Radiation Homing (ARH)/active Millimeter Wave (MMW) Radar/Global Positioning System (GPS)/Inertial Navigation System) on the HARM Air-to-Ground Missile (AGM)-88. AARGM weapon system capabilities include: active MMW terminal guidance, counter shutdown, expanded threat coverage, enhanced ARH, netted targeting real-time feed via Integrated Broadcast System (IBS) prior to missile launch, Weapon Impact Assessment (WIA) transmitted prior to detonation, GPS/point-to-point weapon navigation, and weapon employment with impact avoidance zone/missile impact zones.

In June 2003, a successful Milestone B transitioned AARGM to a SD&D Acquisition Category 1C program. Alliant Techsystems (ATK) Missile Systems Company was awarded the AARGM SD&D contract valued at $222.6M. In May 2004, the contract baseline was increased to $231.9M to accelerate incorporation of an embedded IBS-Receiver, enabling the warfighter to directly receive National intelligence data, increasing overall pilot situational awareness. Recent modifications have changed the current baseline to $232.3M.

The AARGM program includes 40 SD&D test articles with the follow on of 1,879 production modification kits. Milestone C was achieved 4Q FY 2008, followed by a combined FY 2008/FY 2009 Low Rate Initial Production (LRIP) contract award in 1Q FY 2009. Developmental testing was completed in 2009. Initial Operational Test and Evaluation (IOT&E) was completed in 3Q FY 2012. LRIP III contract was awarded 1Q FY 2012, and deliveries have begun 1Q FY 2013. Full-Rate Production (FRP) decision was received 20 August 2012 with FRP contract award on 10 September 2012, and deliveries have begun in January 2014.

The AARGM Block 1 Upgrade program began in FY 2012 and consists of improvements and enhancements through software changes, which will enable the AGM-88E AUR, as well as the Common Munitions Built-in Test (BIT) Reprogramming Equipment (CMBRE) box 4 and 5 to correct IOT&E deficiencies and complete Capability Production Document requirements. Block 1 will improve counter measure identification, and will complete development of Target of Opportunity, Millimeter Wave (MMW), IBS-R capabilities, Navigation, and Weapons Impact Assessment (WIA) messages. In parallel with the Block 1 Upgrade, efforts to complete the development of Phase III equipment (Integrated Broadcast Service (IBS)-R/Embedded Network Tactical Receiver (ENTR) and IBS-R/ENTR antenna) are ongoing.

Follow-on Operational Test and Evaluation/Integrated Test/Operational Test - Development (FOT&E/IT/OT-D) in conjunction with Block 1 Upgrade will complete tactics development and support promulgation of Operational Tactics Guide (OTG). FOT&E includes AGM-88E extension to objective aircraft.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205601N / *Harm Improvement*	**Project (Number/Name)** 2185 / *AARGM*

In FY 2013-FY 2019, the AGM-88E AARGM program plans to develop and demonstrate the capability to engage and destroy non-traditional and Overseas Contingency Operations targets through the Destruction of Enemy Air Defenses (DEAD) missions. These developments continue Future Naval Capability Science and Technology investments by the Office of Naval Research initiated in FY 2006.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Threat Data Library	-	1.383	0.400
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: As part of the AGM-88E Block 1 Upgrade, continue effort to update Electronic Intelligence files and Millimeter Wave signatures to identify track and engage new and/or improved threat radars. Continue test and assessment of threat systems. Develop threat data for new target sets.			
FY 2015 Plans: AGM-88E Block 1 Upgrade continues effort to update Electronic Intelligence files and Millimeter Wave signatures to identify track and engage new and/or improved threat radars. Continue test and assessment of threat systems. Develop threat data for new target sets.			
Title: AARGM Derivative Program (ADP)	0.500	1.000	0.400
Articles:	-	-	-
FY 2013 Accomplishments: Continued to develop the capability to carry-out Destruction of Enemy Air Defenses (DEAD) missions and to attack non-traditional and Overseas Contingency Operations targets. Continued updates to targets.			
FY 2014 Plans: As part of the Block 1 Upgrade to AGM-88E, continue to develop the capability to carry-out DEAD missions and to attack non-traditional and OCO targets. Also develop new propulsion systems and data links to support warfighter needs against advancing threat systems. Develop additional target sets capability.			
FY 2015 Plans: Block 1 Upgrade to AGM-88E continues to develop the capability to carry-out DEAD missions and to attack non-traditional and OCO targets. Develop additional target sets capability.			
Title: Capabilities Procurement Document (CPD) Requirements	5.437	-	-
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205601N / *Harm Improvement*	**Project (Number/Name)** 2185 / *AARGM*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Block 1 Upgrade included development of Key Performance Parameter (KPP-3) and Integrated Broadcast Service-Receiver requirements in accordance with the Capabilities Procurement Document. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Follow-on Operational Test and Evaluation (FOT&E) ***Articles:*** ***FY 2013 Accomplishments:*** Started FOT&E for AARGM. ***FY 2014 Plans:*** Continue FOT&E for AARGM Block 1 utilizing COMOPTEVFOR requirements for suitable and effective for desired flights, targets and locations. ***FY 2015 Plans:*** Continue FOT&E, including Integrated Test (IT) and Operational Test (OT) for AARGM Block 1 utilizing COMOPTEVFOR requirements for suitable and effective for desired flights, targets and locations.	2.299 -	9.864 -	12.828 -
Title: ADVANCED DEVELOPMENT ***Articles:*** ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Continue support for advanced development, analysis activities of testing, configuration control board review, test plan reviews, requirements analysis and weapons integration analysis.	- -	- -	2.449 -
Accomplishments/Planned Programs Subtotals	8.236	12.247	16.077

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205601N / *Harm Improvement*	**Project (Number/Name)** 2185 / *AARGM*

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 2327: *HARM Mods*	83.885	94.060	111.739	-	111.739	123.475	196.727	226.128	235.678	159.984	1,478.404

Remarks

D. Acquisition Strategy

The AARGM program started as a Phase I Small Business Innovative Research (SBIR), Advanced Technology Program, evolved into a Phase III SBIR program, and transitioned into a System Development and Demonstration (SD&D) Acquisition Category 1C program in June 2003. The AARGM SD&D fulfills U.S. Navy operational requirements and incorporates AARGM Advanced Technology Development and Quick Bolt Advanced Concept Technology Demonstration - demonstrated system requirements. Government responsibilities for SD&D have included monitoring, technical assessment, and validation of contractor technology development and testing. Milestone C was achieved 4Q FY 2008, followed by a combined FY08/FY09 Low Rate Initial Production (LRIP) contract award in 1Q FY 2009. LRIP I deliveries commenced 3Q FY 2010. Full-Rate Production (FRP) decision was received 20 August 2012 with FRP contract award on 10 September 2012 and deliveries have begun in January 2014. Block 1 IOC anticipated for 3Q FY 2016.

E. Performance Metrics

Achieved Milestone C in 2008. Completed Developmental Testing in 2009. Successfully completed Operational Test Readiness Review in 2010. Successfully completed Operational Test in 3Q FY 2012. Full-Rate Production approval was granted in 4Q FY 2012, and deliveries will commence in FY 2014.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / *Harm Improvement*	Project (Number/Name) 2185 / *AARGM*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	WR	NSMA : Arlington, VA	1.473	0.500	Jun 2013	-		-		-		-	7.161	9.134	-
Systems Engineering	WR	NAWC-WD : China Lake, CA	63.389	3.108	Nov 2012	3.989	Nov 2013	3.885	Nov 2014	-		3.885	14.432	88.803	-
Software Development	WR	SPAWAR : San Diego, CA	0.263	0.108	Oct 2013	0.100	Mar 2014	0.050	Mar 2015	-		0.050	-	0.521	-
Telemetry Section Development	WR	NAWC-WD : China Lake, CA	1.300	2.099	Jun 2013	1.600	Nov 2013	-		-		-	-	4.999	-
Mission Planning	WR	Various : Various	0.000	-		0.100	Mar 2014	0.100	Mar 2015	-		0.100	-	0.200	-
Prior year Prod Dev no longer funded in the FYDP	Various	Various : Various	527.894	-		-		-		-		-	-	527.894	-
		Subtotal	594.319	5.815		5.789		4.035		-		4.035	21.593	631.551	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analyses	Various	Various : Various	0.711	-		-		-		-		-	0.100	0.811	-
Prior year Support no longer funded in the FYDP	Various	Various : Various	6.436	-		-		-		-		-	-	6.436	-
		Subtotal	7.147	-		-		-		-		-	0.100	7.247	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	WR	NAWC-WD : China Lake, CA	22.435	1.615	Nov 2012	2.000	Nov 2013	-		-		-	1.286	27.336	-
Operational and Integrated Test & Evaluation (IT&OT)	WR	COMOPTEVFOR : Norfolk, VA	9.979	0.130	Nov 2012	3.000	Nov 2013	5.818	Nov 2014	-		5.818	2.213	21.140	-
Development Test & Evaluation	SS/IDIQ	ATK : Woodland Hills, CA	0.505	-		0.800	Feb 2014	0.950	Feb 2015	-		0.950	-	2.255	2.255

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / *Harm Improvement*	Project (Number/Name) 2185 / *AARGM*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior year T&E no longer funded in the FYDP	Various	Various : Various	7.469	-		-		-		-		-	-	7.469	-
Operational and Integrated Test & Evaluation (IT&OT)	WR	NAWC-WD : China Lake, CA	0.000	-		-		4.630	Nov 2014	-		4.630	-	4.630	-
		Subtotal	40.388	1.745		5.800		11.398		-		11.398	3.499	62.830	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	Various : Various	3.091	0.230	Feb 2013	0.207	Feb 2014	0.186	Feb 2015	-		0.186	0.200	3.914	-
Travel	WR	NAVAIR HQ : Patuxent River, MD	1.657	0.021	Nov 2012	0.019	Jan 2014	0.017	Jan 2015	-		0.017	0.100	1.814	-
Government Engineering Support	WR	NAWC AD : Patuxent River, MD	0.021	0.425	Nov 2012	0.432	Nov 2013	0.441	Nov 2014	-		0.441	2.000	3.319	-
Prior year Mgmt no longer funded in the FYDP	Various	Various : Various	10.250	-		-		-		-		-	-	10.250	-
		Subtotal	15.019	0.676		0.658		0.644		-		0.644	2.300	19.297	-

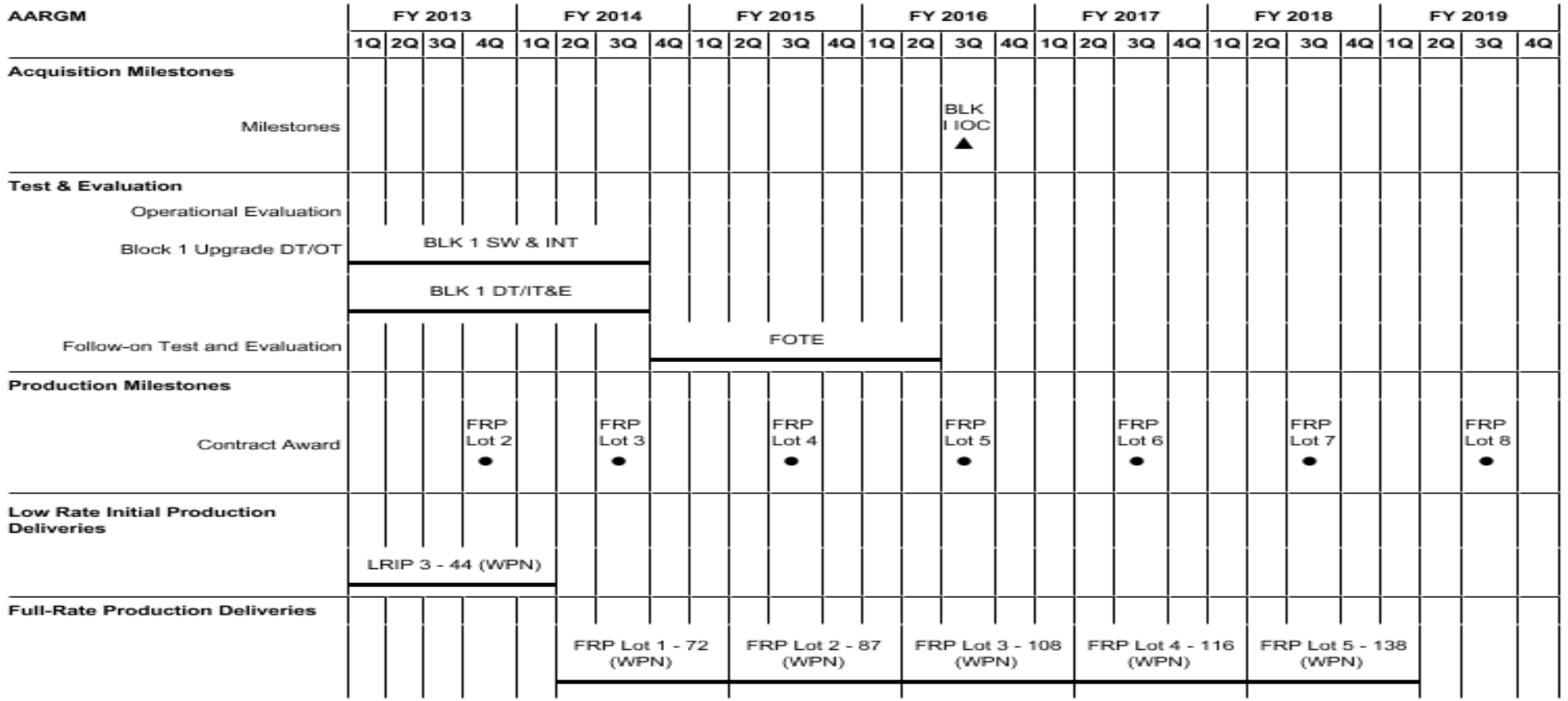
Remarks

Contract Type for Travel is TO

	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	656.873	8.236		12.247		16.077		-		16.077	27.492	720.925	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205601N / *Harm Improvement*	**Project (Number/Name)** 2185 / *AARGM*



2015PB - 0205601N - 2185

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205601N / *Harm Improvement*	**Project (Number/Name)** 2185 / *AARGM*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AARGM				
Acquisition Milestones: Milestones: BLOCK 1 Initial Operating Capability	3	2016	3	2016
Test & Evaluation: Block 1 Upgrade DT/OT: Block 1 Software Development and Integration	1	2013	3	2014
Test & Evaluation: Block 1 Upgrade DT/OT: Block 1 Upgrade Development Test/ Integrated Test and Evaluation	1	2013	3	2014
Test & Evaluation: Follow-on Test and Evaluation: Follow-on Test and Evaluation	4	2014	2	2016
Production Milestones: Contract Award: Full-Rate Production Lot 2	4	2013	4	2013
Production Milestones: Contract Award: Full-Rate Production Lot 3	3	2014	3	2014
Production Milestones: Contract Award: Full-Rate Production Lot 4	3	2015	3	2015
Production Milestones: Contract Award: Full-Rate Production Lot 5	3	2016	3	2016
Production Milestones: Contract Award: Full-Rate Production Lot 6	3	2017	3	2017
Production Milestones: Contract Award: Full-Rate Production Lot 7	3	2018	3	2018
Production Milestones: Contract Award: Full-Rate Production Lot 8	3	2019	3	2019
Low Rate Initial Production Deliveries: Low Rate Initial Production 3 Delivery (WPN)	1	2013	1	2014
Full-Rate Production Deliveries: Full-Rate Production Deliveries - Lot 1 (WPN)	2	2014	1	2015
Full-Rate Production Deliveries: Full-Rate Production Deliveries - Lot 2 (WPN)	2	2015	1	2016
Full-Rate Production Deliveries: Full-Rate Production Deliveries - Lot 3 (WPN)	2	2016	1	2017
Full-Rate Production Deliveries: Full-Rate Production Deliveries - Lot 4 (WPN)	2	2017	1	2018
Full-Rate Production Deliveries: Full-Rate Production Deliveries - Lot 5 (WPN)	2	2018	1	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205601N / *Harm Improvement*				Project (Number/Name) 3212 / *MEDUSA JCTD*			
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**
3212: *MEDUSA JCTD*	29.767	3.096	-	-	-	-	-	-	-	-	-	32.863
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

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

Note

Beginning in FY 2014, a new Program Element (PE) was established (BA 7 - 0605555N) for the Direct and Time Sensitive Strike Program Office to support research, development, test and evaluation of Strike Weapons employed from a multitude of fixed and rotary wing aircraft in support of offensive and defensive land and sea based targets across multiple mission areas. This project unit has been transferred to PE 0605555N.

A. Mission Description and Budget Item Justification

The Medusa Joint Capability Technology Demonstration (JCTD) will demonstrate the Low Cost Guided Imaging Rockets (LOGIR) technology currently being developed at the Naval Air Warfare Center Weapons Division China Lake on the MH-60S. LOGIR provides "fire and forget" capability to 2.75-inch rockets in support of Sea Shield Pillar, increases platform lethality against Fast Attack Craft (FAC)/Fast Inshore Attack Craft (FIAC) threat, provides a low-cost Imaging InfraRed precision guidance section for the existing 2.75-inch unguided rockets and provides maximum precision kills per sortie, low cost, minimum collateral damage, increased efficiency, and increased standoff. Initial Program documentation (i.e. Performance Spec, Capabilities Development Document) will be developed within the scope of the JCTD.

Digital Rocket Launcher (DRL) provides 2.75 inch-rocket capability on MH-60R/S in support of Sea Shield Pillar, increases lethality against FAC/FIAC threat. The addition of the Advanced Precision Kill Weapons System guidance section for the existing 2.75 inch unguided rockets provides maximum precision kills per sortie, minimum collateral damage, increased efficiency and increased standoff.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Digital Rocket Launcher	3.096	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Funding will be used for the development of a DRL for 2.75 rockets. Delivery order with Arnold Defence & Electronics will be awarded for test asset manufacturing. Electronic circuit boards will be assembled, and test plan completed. Aircraft integration, qualification testing and all additional test requirements to include shipboard certification testing will be completed. Class I Engineering Change Proposal will be created and completed. Naval Air Training and Operating Procedures Standardization (NATOPS) manuals, support equipment, maintenance plan and training will be updated to include DRL.			
FY 2014 Plans: N/A			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205601N / *Harm Improvement*	**Project (Number/Name)** 3212 / *MEDUSA JCTD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A			
Accomplishments/Planned Programs Subtotals	3.096	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The MEDUSA Joint Capability Technology Demonstration was performed in FY 2009 through FY 2011. The Digital Rocket Launcher is a Rapid Deployment Capability with Early Operational Capability in FY 2014, which will be a combination of procurement from government and contractor sources for the final product.

E. Performance Metrics

Integration and Demonstration was completed in FY 2012. Performance Spec and Capability Development Document was completed in FY 2012.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / *Harm Improvement*	Project (Number/Name) 3212 / *MEDUSA JCTD*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	WR	NAWC-WD : China Lake, CA	8.778	0.356	Oct 2012	-		-		-		-	-	9.134	-
Systems Engineering (DRL)	Various	NAVAIR : Lakehurst, NJ	0.000	0.110	Jun 2013	-		-		-		-	-	0.110	-
Systems Engineering (DRL)	WR	NAWC-AD : Patuxent River, MD	0.781	0.026	Jan 2013	-		-		-		-	-	0.807	-
Systems Engineering (DRL)	Various	NSWC : Indian Head, MD	2.673	0.696	Nov 2012	-		-		-		-	-	3.369	-
Prior year Prod Dev no longer funded in the FYDP	Various	Various : Various	12.383	-		-		-		-		-	-	12.383	-
		Subtotal	24.615	1.188		-		-		-		-	-	25.803	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation (DRL)	WR	NAWC-AD : Patuxent River, MD	0.000	1.908	Dec 2012	-		-		-		-	-	1.908	-
Prior year T&E no longer funded in the FYDP	Various	Various : Various	4.464	-		-		-		-		-	-	4.464	-
		Subtotal	4.464	1.908		-		-		-		-	-	6.372	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior year Mgmt no longer funded in the FYDP	Various	Various : Various	0.688	-		-		-		-		-	-	0.688	-
		Subtotal	0.688	-		-		-		-		-	-	0.688	-

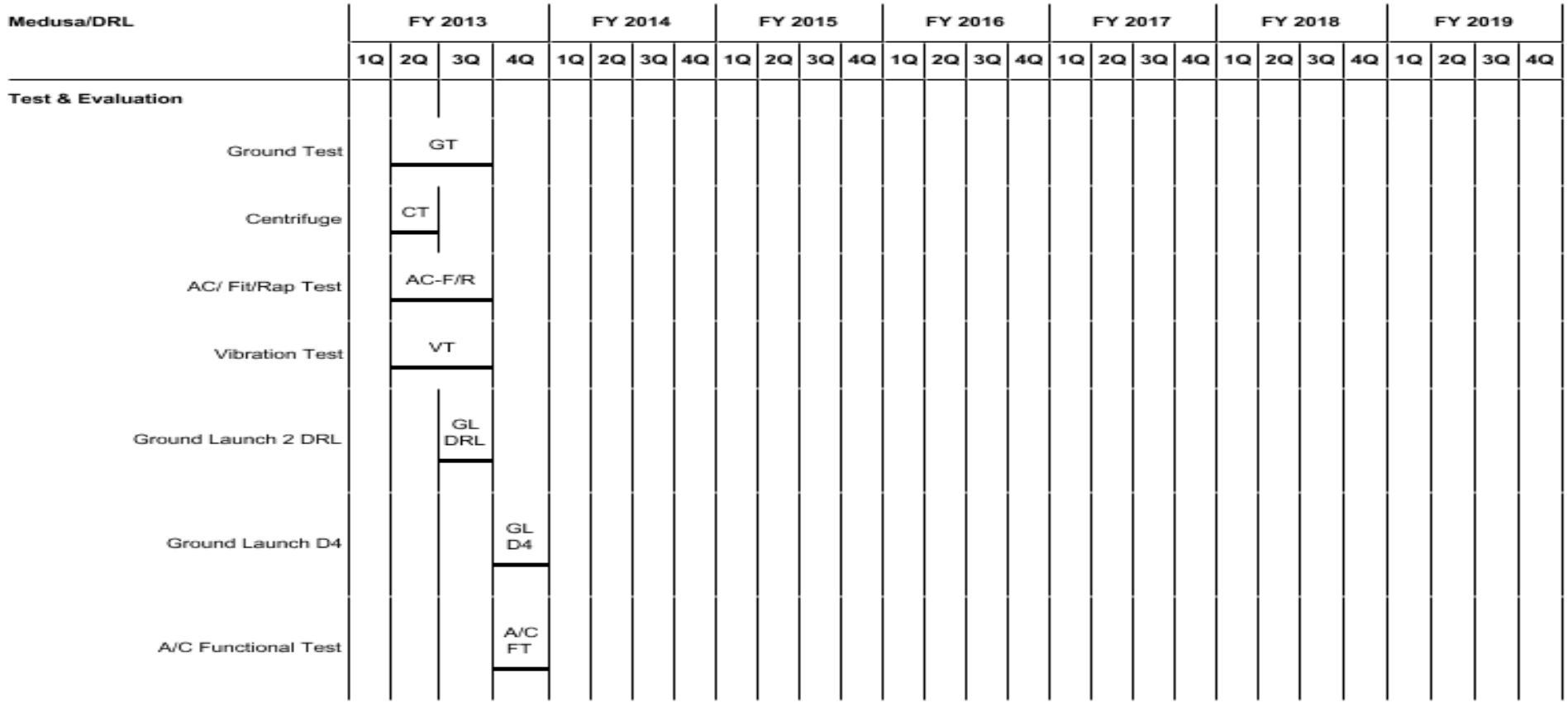
Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205601N / *Harm Improvement*	Project (Number/Name) 3212 / *MEDUSA JCTD*	

	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	29.767	3.096		-		-		-		-	-	32.863	-

Remarks

NOTE: This project has been moved to a new PE - 0605555N - all Cost to Complete information will be reflected under the new PE.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205601N / *Harm Improvement*	**Project (Number/Name)** 3212 / *MEDUSA JCTD*



2015OSD - 0205601N - 3212

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205601N / *Harm Improvement*	**Project (Number/Name)** 3212 / *MEDUSA JCTD*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Medusa/DRL				
Test & Evaluation: Ground Test: Ground Test	2	2013	3	2013
Test & Evaluation: Centrifuge: Centrifuge Test	2	2013	2	2013
Test & Evaluation: AC/ Fit/Rap Test: AC/ Fit/Rap Test	2	2013	3	2013
Test & Evaluation: Vibration Test: Vibration Test	2	2013	3	2013
Test & Evaluation: Ground Launch 2 DRL: Ground Launch 2 DRL	3	2013	3	2013
Test & Evaluation: Ground Launch D4: Ground Launch D4	4	2013	4	2013
Test & Evaluation: A/C Functional Test: A/C Functional Test	4	2013	4	2013

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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0205604N / *Tactical Data Links*							
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	588.372	79.362	169.875	151.208	-	151.208	127.546	79.078	47.596	43.592	Continuing	Continuing
2126: *ATDLS Integration*	576.071	46.242	44.925	54.350	-	54.350	48.962	34.129	37.062	32.849	Continuing	Continuing
3020: *MIDS/JTRS*	0.000	-	116.429	67.196	-	67.196	63.783	30.349	10.534	10.743	Continuing	Continuing
3341: *Network Tactical Common Data Link*	0.000	13.543	3.552	29.662	-	29.662	14.801	14.600	-	-	-	76.158
4022: *Other Tactical Data Link Engineering*	12.301	19.577	4.969	-	-	-	-	-	-	-	-	36.847
MDAP/MAIS Code: 554												

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

A. Mission Description and Budget Item Justification

This Program Element develops and improves the Navy's Tactical Data Link (TDL) systems. It includes the Advanced Tactical Data Link Systems (ATDLS) Integration Programs, specifically Link 16 Network, Command and Control Processor (C2P) and Link Monitoring and Management Tool (LMMT); and Network Tactical Common Data Link (NTCDL) Program which provides the ability to transmit/receive real-time Intelligence, Surveillance, and Reconnaissance (ISR) data simultaneously from multiple sources (surface, air, sub-surface, man-portable), and exchange command and control information (voice, data, imagery, and Full Motion Video (FMV)) across dissimilar Joint, Service, Coalition, and civil networks. The Program Element also develops and tests tactical data link capability to distribute other data types to new and existing platforms.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under Operational Systems Development because it encompasses engineering and manufacturing development for upgrade of existing operational systems.

NTCDL provides warfighters with the capability to support multiple, simultaneous, networked operations with currently fielded CDL-equipped platforms (e.g. F/A-18, P-3, and MH-60R), in addition to next generation manned and unmanned platforms (e.g., P-8, Broad Area Maritime Surveillance (BAMS), Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS), and Fire Scout). NTCDL is a tiered capability providing a modular, scalable, multiple-link networked communications. NTCDL benefits the fleet by providing horizon extension for line-of-sight sensor systems for use in time critical strike missions. NTCDL supports Anti-Access/Area of Denial (A2AD) through its relay capability, and supports Tasking Collection Processing Exploitation Dissemination (TCPED) through its ISR networking capability. Additionally, NTCDL supports Humanitarian Assistance/Disaster Relief (HA/DR) efforts through its ability to share ISR data across dissimilar Joint, Service, Coalition, and Civil organizations.

The Multifunctional Information Distribution System (MIDS) program consists of two products, MIDS Low Volume Terminal (LVT) and MIDS Joint Tactical Radio System (JTRS). MIDS-LVT provides Link 16 capability to platforms that were unable to employ Joint Tactical Information Distribution System (JTIDS) due to space and weight

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*

constraints. The MIDS-LVT effort is multinational (U.S., France, Germany, Italy, and Spain) with joint Service participation (Navy, Army, and Air Force). The Department of Defense (DoD) established the program to design, develop, and deliver low volume, lightweight tactical information system terminals for U.S. and Allied fighter aircraft, bombers, helicopters, ships, and ground sites. MIDS-LVT provides interoperability with North Atlantic Treaty Organization (NATO) users, significantly increasing force effectiveness and minimizing hostile actions and friend-on-friend engagements. The terminal design is smaller, lighter, highly reliable, interoperable with JTIDS Class 2 terminal, compatible with all the participants' designated platforms, affordable, and re-configurable to individual user needs and budgets.

MIDS JTRS, designed as a Pre-Planned Product Improvement (P3I) and executed as an Engineering Change Proposal (ECP) to the production MIDS-LVT configuration, completed qualification in the first quarter of fiscal year 2010. It facilitated the Joint Program Executive Office (JPEO) JTRS incremental approach for fielding advanced JTRS transformational networking capability and transformed the MIDS-LVT into a 4-channel, Software Communications Architecture (SCA) compliant, Joint Tactical Radio. A form-fit-function replacement to MIDS-LVT, MIDS JTRS also adds three programmable 2 Megahertz (MHz) to 2 Gigahertz (GHz) channels capable of hosting the JTRS legacy and networking waveforms. In addition to the Link 16, Tactical Air Navigation, and voice functionality found in MIDS-LVT, MIDS JTRS has four channels and adds capabilities such as Link 16 Enhanced Throughput, four nets Concurrent Multi-Netting (CMN) with Concurrent Contention Receive (CCR) (CMN-4), Link 16 Frequency Re-mapping (FR), software programmability, and Cryptographic Modernization (CM). With CMN-4, MIDS JTRS also utilizes Tactical Targeting Network Technology for MIDS JTRS Naval Integrated Fire Control Counter Air and From the Air Advanced Tactical Data Links. These capabilities provide Joint Airborne Network-Tactical Edge 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.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	118.818	197.538	147.272	-	147.272
Current President's Budget	79.362	169.875	151.208	-	151.208
Total Adjustments	-39.456	-27.663	3.936	-	3.936
• Congressional General Reductions	-	-0.011			
• Congressional Directed Reductions	-	-27.652			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.212	-			
• SBIR/STTR Transfer	-1.499	-			
• Program Adjustments	-	-	29.299	-	29.299
• Rate/Misc Adjustments	-0.001	-	-25.363	-	-25.363
• Congressional General Reductions Adjustments	-7.544	-	-	-	-
• Congressional Directed Reductions Adjustments	-28.200	-	-	-	-

Change Summary Explanation

Schedule:

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*

ATDLS Integration:
Link 16 Network Increment II Dynamic Network Management (DNM) (2126): Additional testing of DNM Time Slot Reallocation (TSR) caused various DNM milestones to slip.

Link 16 Network Increment II Cryptographic Modernization (CM)/Frequency Remapping (FR) (2126): Delays in Multifunctional Information Distribution System (MIDS) Low Volume Terminal (LVT) and Joint Tactical Information Distribution System (JTIDS) contracting actions caused various CM/FR milestone slips.

MIDS (3020):
R2A: Updated verbiage to include Production Representative Terminals delivery and Lot 3 and Lot 4 awards for MIDS JTRS. Clarified Block Upgrade 2 description by including Frequency ReMapping (FR) and Enhanced Throughput (ET) for MIDS-LVT.
R-3: Updated amounts and Contract award dates
R-4: MIDS-LVT LCM Development extended into 1Q15; Renamed DT/OT for BU2 to Service Platform Testing as the services will be performing their own testing and will begin in 1Q17 vice 4Q16. MIDS JTRS Block Cycle 1 extended into 2Q14 and Block Cycle 2 extended into 4Q14.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205604N / *Tactical Data Links*				Project (Number/Name) 2126 / *ATDLS 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**
2126: *ATDLS Integration*	576.071	46.242	44.925	54.350	-	54.350	48.962	34.129	37.062	32.849	Continuing	Continuing
Quantity of RDT&E Articles	0.000	5.000	-	2.000	-	2.000	-	-	-	-		

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

A. Mission Description and Budget Item Justification

This project develops and improves the Navy's Tactical Data Link (TDL) systems. It includes the Advanced Tactical Data Link Systems (ATDLS) Integration Programs, specifically Link 16 Network, Command and Control Processor (C2P) and Link Monitoring and Management Tool (LMMT).

ATDLS Integration Program develops new and improved capabilities for Navy TDL users. The Navy Link 16 Network Increment II consists of Dynamic Network Management (DNM), Cryptographic Modernization (CM) and Frequency Remapping (FR). C2P Technology Refresh (TR) and C2P Interoperability will modernize legacy C2P processing components to address C2P component obsolescence and fleet interoperability issues. C2P is a critical component in the Aegis Ballistic Missile Defense (BMD) architecture. Modernization is a service life extension program required to sustain C2P support of Naval Integrated Air and Missile Defense (IAMD) and BMD capabilities. Link 22 development and integration into the C2P allows for standard data link communication with Coalition forces. LMMT will upgrade commercial off-the-shelf hardware and modernize software operating systems. LMMT will improve TDL performance monitoring and management in support of the Integrated Air & Missile Defense (IAMD) and Ballistic Missile Defense (BMD) missions.

Link 16 Network Increment II funds the following activities: (1) conduct DNM Developmental Test (DT)/Operational Test (OT) and correct DNM deficiencies (2) develop and implement CM and FR mandates as a product improvement into Link 16 terminals and integration into shore sites, ship (NGC2P), and current Navy Joint Tactical Information Distribution System (JTIDS) airborne platforms; (3) DT/OT of Navy platform CM/FR modifications; (4) provide product improvement for continued production capability MIDS-on-ship (MOS) Modernization (MOS Mod) and extensibility to new Tactical Data Link capabilities of shipboard Link 16 terminals.

FY 2015 Justification: Funding will provide for Link 16 DNM software modification to adress TSR issues and Developmental Test/ Follow on Test & Evaluation (DT/ FOT&E) for MOS terminals. JTIDS CM/FR to completion of Test Readiness Review (TRR) and conduct of acceptance testing of five Engineering and Manufacturing Development units to be used for National Security Agency (NSA) Cryptographic Certification and acceptance testing. Software modifications to the shipboard Command and Control Processor (C2P) will continue to support shipboard integration of the CM/FR capability. Similar software modifications to the E-2C host processing will be continued through the E-2C Program Office (PMA-231) for the CM/FR capability. Funding will also provide for MOS CM/FR Preliminary Design Review (PDR) and Critical Design Review (CDR). JTIDS and MOS CM/FR efforts are in support of NSA (NSA Policy 3-9) and Joint Chiefs of Staff mandates (Chairman of the Joint Chiefs of Staff Instruction Notice 6510.02), for the modernization of the cryptographic algorithm used in Link 16 terminals and the Department of Defense and the Department of Transportation Memorandum of Agreement (Regarding the 960-1215 MHz. Frequency Band, 31 December 2002) for the implementation of a capability to remap any 14 of the existing 51 frequencies in order to remain operable within the United States and its possessions. All Link 16 terminals are required to have this capability to support Link 16 Interoperability. To address continued production capability and extensibility to new Tactical Data Link capabilities, funding will provide for continued MOS Mod development leading to a Test Readiness Review (TRR).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 2126 / *ATDLS Integration*

Command and Control Processor (C2P) Technology Refresh (TR) funds a product improvement effort to the legacy C2P hardware components and allows C2P software to execute on modern processors, thereby extending its effective service life. Product improvement efforts will include C2P software development, hardware integration, update of the C2P development environment to promote sustainability and testing to include Developmental Test (DT)/Operational Test (OT) of the C2P TR baseline.

C2P, Phase 3, Increment 3 is planned to include Link 22, which is a modernized replacement for Link 11, providing Beyond Line of Sight (BloS) tactical data communication system utilizing fixed frequency or frequency hopping techniques in the High Frequency (HF) (3-30 Megahertz (MHz)) and/or the Ultra High Frequency (UHF) (225-400 MHz) bands.

FY 2015 Justification: Continue C2P Technology Refresh development and accomplish Inc 3 Link-22 Preliminary Design Review (PDR), Milestone B and Critical Design Review (CDR).

Link Monitoring and Management Tool (LMMT) is a near real-time tactical command and control system delivered on commercial off-the-shelf hardware providing for multiple Tactical Data Link (TDL) interfaces, routing and display of TDL data including Link 16 and Joint Range Extension. LMMT is also capable of performing TDL network planning, monitoring, management, data forwarding between the TDLs and providing tactical data to the Global Command and Control System for establishing the Common Operational Picture. LMMT requirements will be incrementally developed and delivered in capability drops.

FY 2015 Justification: Funding will provide for Capability Drop 1 (CD) DT/OT leading to a Fielding Decision in FY 2016. Funding will also provide for commencement of CD 2 design.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Link 16 Network Increment II (Formerly ATDLS Integration) - Dynamic Network Management (DNM)	0.750	0.500	1.102
Articles:	-	-	-
FY 2013 Accomplishments: Conducted JTIDS DNM Developmental Test Readiness Review (DTRR), Operational Test Readiness Review (OTRR), MOS DNM DTRR, JTIDS DNM DT and Initial Operational Test & Evaluation (IOT&E) leading up to DNM Milestone C. Corrected critical DNM test deficiencies and continued Link 16 Network integrated logistics support. ***FY 2014 Plans:*** Completed JTIDS DNM MS C Decision. Correct critical DNM deficiences. ***FY 2015 Plans:*** Conduct Multifunctional Information Distribution System (MIDS) On Ship (MOS) DNM Developmental Test Readiness Review (DTRR), MOS DNM Operational Test Readiness Review (OTRR), and MOS DNM Follow On Test and Evaluation (FOT&E) leading up to Full Development Decision Review (FDDR) for both JTIDS and MOS. Achieve DNM Initial Operational Capability (IOC). Correct critical DNM test deficiencies.			
Title: Link 16 Network Increment II (Formerly ATDLS Integration) - Cryptographic Modernization (CM) / Frequency Remapping (FR)	25.353 5.000	19.163 -	21.393 2.000

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 2126 / *ATDLS Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:			
FY 2013 Accomplishments: Conducted JTIDS CM/FR Critical Design Review (CDR) and initiated development of JTIDS CM/FR Engineering Manufacturing Development (EMD) units. Initiated development of MOS Modernization (MOS Mod) requirement analysis and design for continued product availability and JTIDS/MOS CM/FR shipboard integration. Continued Link 16 Network integrated logistics support. ***FY 2014 Plans:*** Initiate contractor qualification and certification testing of JTIDS CM/FR on Engineering Manufacturing Development (EMD) unit. Conduct JTIDS/MOS CM/FR shipboard integration effort leading to Preliminary Design Review (PDR) and CDR. Complete design and conduct MOS Mod System Functional Review (SFR). Begin JTIDS CM/FR air integration effort with E-2C Program Office (PMA 231) leading to SRR and PDR. Provide Link 16 Network integration logistics support. ***FY 2015 Plans:*** Conduct JTIDS CM/FR Test Readiness Review (TRR) and complete contractor qualification and certification of JTIDS CM/FR on Engineering Manufacturing Development (EMD) unit. Conduct MOS CM/FR shipboard System Requirements Review (SRR)/ PDR and CDR. Conduct JTIDS Air Integration CM/FR CDR. Conduct MOS Mod Test Readiness Review (TRR) for LRIP units. Continue Link 16 Network integration logistics support.			
Title: Command and Control Processor (C2P)	17.843	19.662	22.032
Articles:	-	-	-
FY 2013 Accomplishments: Supported C2P Interoperability combat system certification. C2P Technology Refresh funding provided for requirements, design, initial development, and integration of C2P TR baseline product improvements in support of SRR; leading to Preliminary Design Review (PDR) and Critical Design Review (CDR), which will occur in FY 2014. Link 22 efforts commenced in support of SRR in FY 2014. ***FY 2014 Plans:*** Accomplish C2P TR PDR and CDR, and commence C2P TR development. Complete Inc 3 Link 22 SRR, and continue efforts leading to Milestone B, PDR and CDR in FY 2015. ***FY 2015 Plans:*** Continue C2P TR development in preparation of DTRR/OTRR and DT/OT. Conduct C2P Inc 3 Link 22 PDR, Milestone B, and CDR.			
Title: Link Monitoring and Management Tool (LMMT)	0.096	3.400	7.623
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 2126 / *ATDLS Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Conducted pre-acquisition efforts leading to commencement of formal design activities in FY 2014. ***FY 2014 Plans:*** Accomplish Capability Drop 1 (CD 1) Building Technical Review (BTR) and Build Design (BD). Commence LMMT software development. ***FY 2015 Plans:*** Conduct LMMT CD 1 Fielding Technical Review (FTR) and CD 1 DT/OT leading to a CD 1 Initial Operating Capability (IOC)/ Fielding Decision Review (FDR) in FY 2016. Commence LMMT CD 2 design and development efforts.			
Title: Joint Aerial Layer Network (JALN)	2.200	2.200	2.200
Articles:	-	-	-
FY 2013 Accomplishments: Commenced Joint Aerial Layer Network (JALN), which is a prototype development of a communications relay capability intended to improve and ensure adequate tactical network communications in a jammed environment. ***FY 2014 Plans:*** Continue development of a communications relay capability intended to improve and ensure adequate tactical network communications in a jammed environment. ***FY 2015 Plans:*** Continue development of a communications relay capability intended to improve and ensure adequate tactical network communications in a jammed environment.			
Accomplishments/Planned Programs Subtotals	46.242	44.925	54.350

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/2614: *ATDLS*	-	3.836	16.768	-	16.768	28.113	44.276	47.372	46.407	Continuing	Continuing

Remarks

D. Acquisition Strategy

The JTIDS Crypto Modernization (CM)/Frequency Remapping (FR) development and Low Rate Initial Production (LRIP) contract was awarded to Data Link Solutions (DLS). The associated production contract for JTIDS CM/FR will be competitively awarded after Operational Test. MOS CM/FR will be accomplished through integration of the MIDS LVT Block Upgrade 2 (BU) into the existing MOS cabinet. Will contract in FY 2015 for MOS CM/FR integration effort. MOS Modernization (MOS MOD)

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 2126 / *ATDLS Integration*

contract will be awarded in FY14. MOS MOD contract will provide three EMD units for developmental and operational testing. The MOS MOD contract will also provide full rate production units.

The C2P Technology Refresh and Link 22 development contract was awarded to Northrop Grumman. The C2P Technology Refresh and Link 22 production contract will be competitively awarded in FY 16 and will support LRIP and Full Rate production units.

The Link Monitoring and Management Tool (LMMT) capability will replace previously-fielded ADSI systems. LMMT will leverage existing Government-off-the-Shelf (GOTS) software and Commercial-off-the-Shelf (COTS) hardware. LMMT capabilities are implemented primarily in software and will be developed in capability drops (CDs). Existing GOTS software will be updated to incorporate network performance monitoring and management capabilities by SPAWAR System Center (SSC). Fielding decisions will be accomplished after CD DT/OT.

E. Performance Metrics

Link 16 Network DNM: Successfully achieve Milestone C. Successfully achieve Initial Operational Capability. Successfully conduct Full Deployment Decision Review. Successfully complete Operation Test Readiness Review. Successfully complete Developmental Test / Operational Test.

Link 16 Network Cryptographic Modernization: Successful implementation of updated cryptographic algorithm as specified by National Security Agency (NSA Policy 3-9) Certification in Joint Tactical Information Distribution System (JTIDS), Multifunctional Information Distribution System (MIDS) on Ship (MOS), and MOS Modernization (MOS Mod) Link 16 terminals.

Link 16 Network Frequency Remapping: Successful implementation of a Frequency Remapping capability as specified in Department of Defense/Department of Transportation Memorandum of Agreement regarding the 960-1215 MHz Frequency Band of 31 Dec 02 in Joint Tactical Information Distribution System (JTIDS), Multifunctional Information Distribution System (MIDS) on Ship (MOS) and MOS Modernization (MOS Mod) Link 16 Terminals.

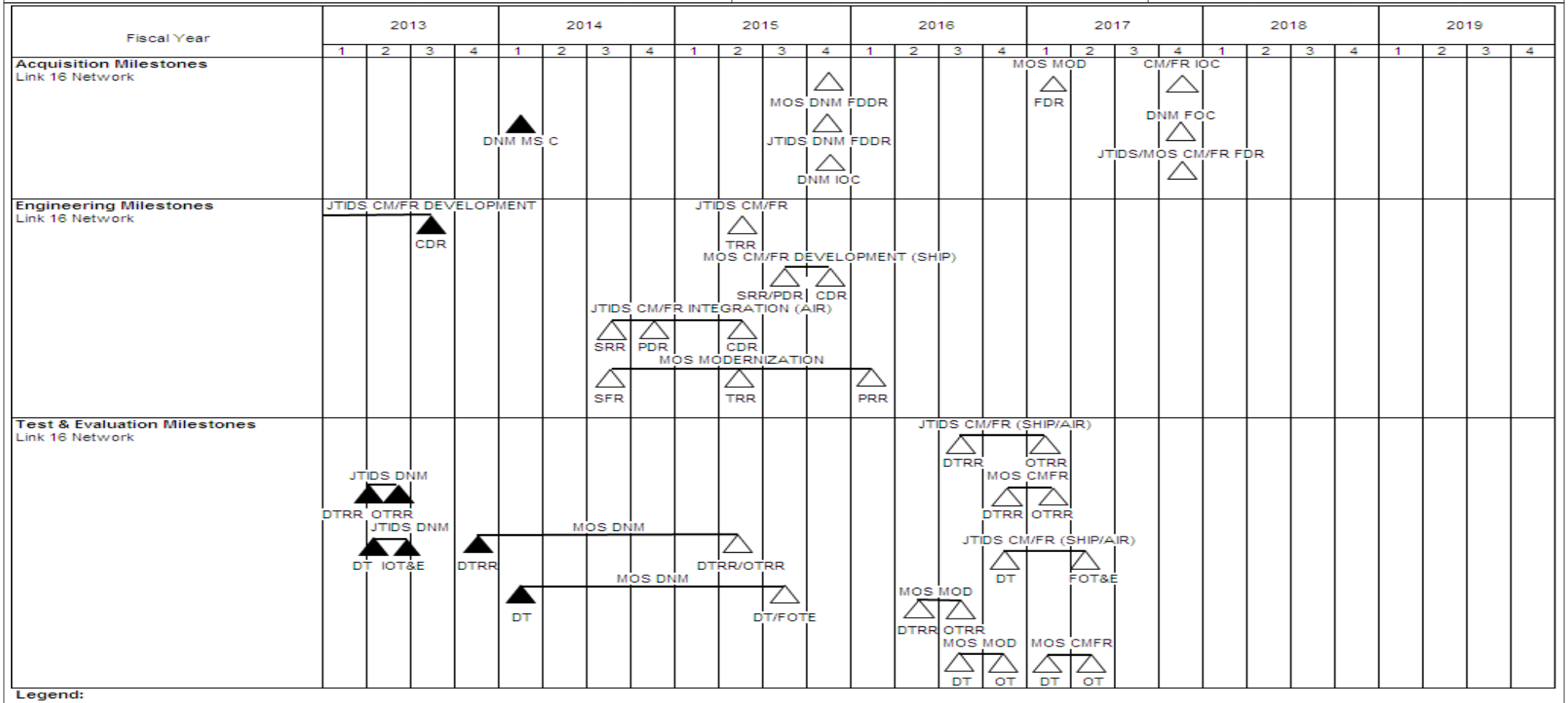
Link 16 Network Production Capability: Production Shipboard Link 16 Terminals available to meet new construction shipboard requirements.

Command and Control Processor (C2P): Successfully achieve C2P Technology Refresh Fielding and thereby maintain operational availability.

Link 22: Successfully achieve Link 22 implementation fielding, meeting operational requirement.

LMMT: Successfully meet operational requirements and achieve Fielding Decision Reviews (FDR) for Capability Drops 1 and 2.

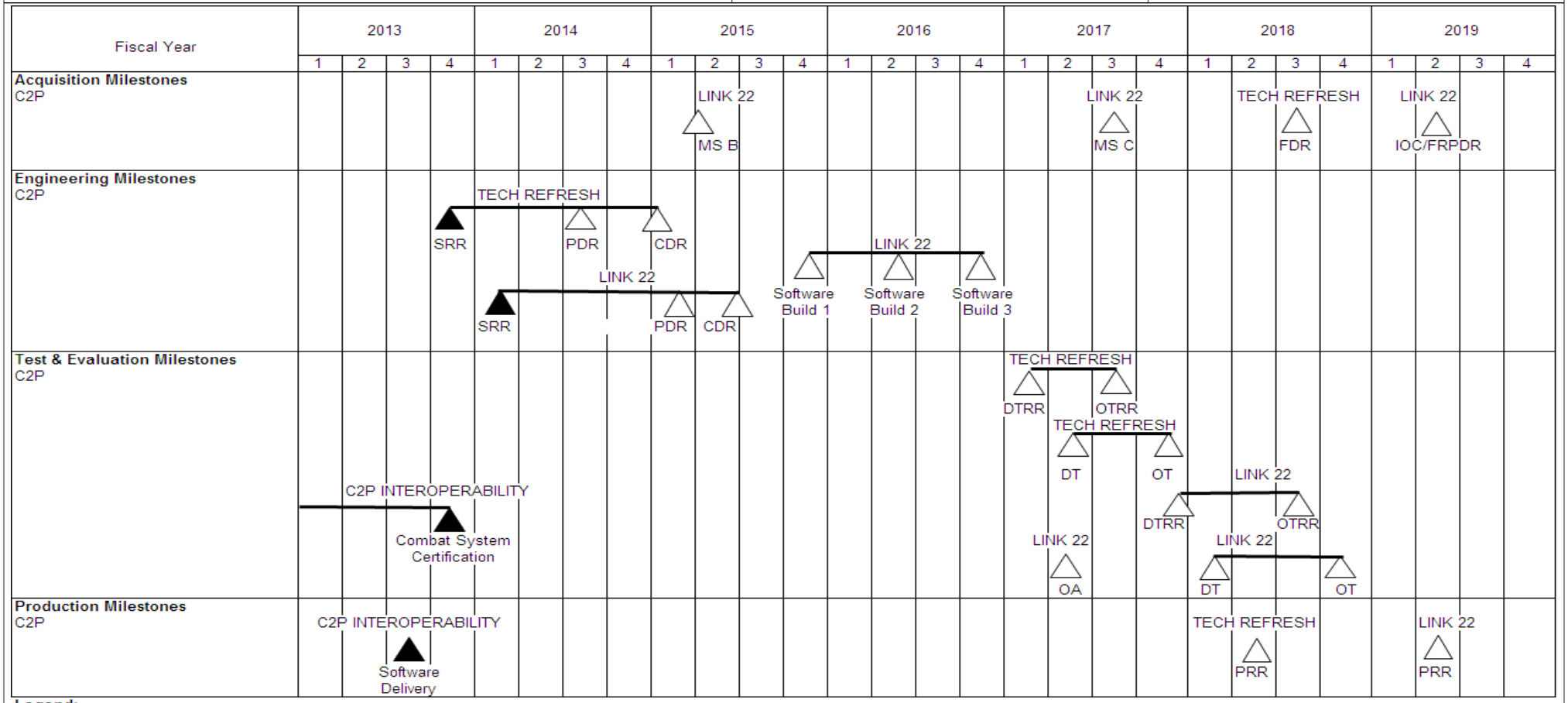
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 2126 / *ATDLS Integration*



Legend:

CDR - Critical Design Review
CM - Cryptographic Modernization
DT - Developmental Test
DNM - Dynamic Network Management
DTRR - Developmental Test Readiness Review
FDR - Fielding Decision Review
FOT&E - Follow-on Operational Test & Evaluation
FR - Frequency Remapping
FDDR - Full Dev. Decision Review
FOC - Full Operating Capability
IOC - Initial Operating Capability
IOT&E - Initial Operational Test & Evaluation
JTIDS - Joint Tactical Information Distribution System
MS - Milestone
MOS MOD - MOS Modernization
OT - Operational Test
OTRR - Operational Test Readiness Review
MOS - Multifunctional Info. Distribution Sys. (MIDS) On Ship (MOS)
PDR - Preliminary Design Review
PRR - Production Readiness Review
SFR - System Functional Review
SRR - System Requirements Review
TRR - Test Readiness Review

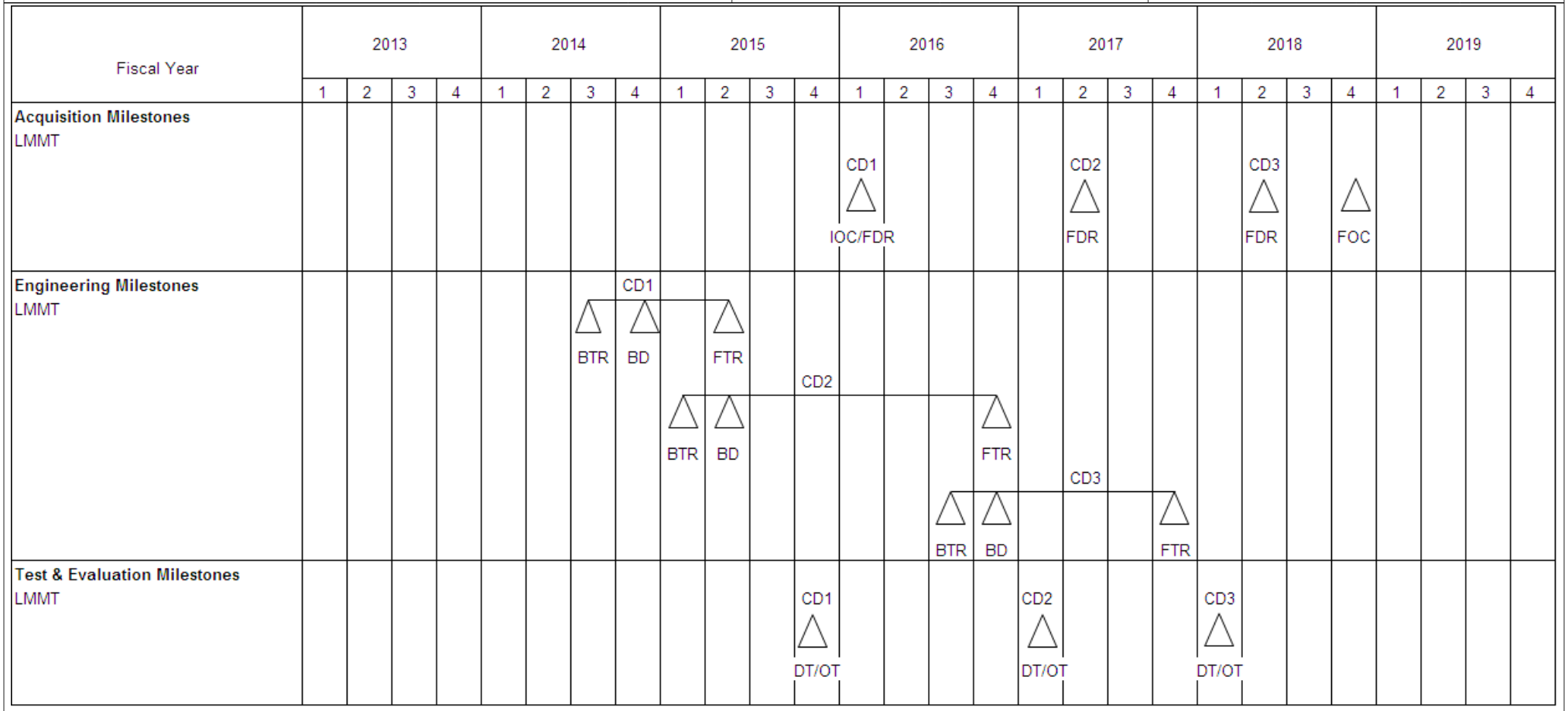
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 2126 / *ATDLS Integration*



Legend:

C2P - Command and Control Processor
CDR - Critical Design Review
DT - Developmental Test
DTRR - Developmental Test Readiness Review
FDR - Fielding Decision Review
FRPDR - Full Rate Production Decision Review
IOC - Initial Operating Capability
MS B - Milestone B
MS C - Milestone C
OA - Operational Assessment
OT - Operational Test
OT - Operational Test Readiness Review
PDR - Preliminary Design Review
PRR - Production Readiness Review
SRR - System Requirements Review

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 2126 / *ATDLS Integration*



Legend:

BD - Building Decision
BTR - Building Technical Review
CD - Capability Drop
DT - Developmental Test
FDR - Fielding Decision Review
FOC - Full Operational Capability
FTR - Fielding Technical Review
IOC - Initial Operating Capability
OT - Operational Test

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / *Tactical Data Links*	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*	-	-	116.429	67.196	-	67.196	63.783	30.349	10.534	10.743	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

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

Note

In accordance with the Acquisition Decision Memorandum dated 11 July 2012, the Joint Tactical Radio Systems Programs of Record (JTRS PORs) transitioned to a Military Department-managed program. MIDS transitioned to the Navy under PE 0205604N but was formerly in PE 0604280N. MDAP code 554.

A. Mission Description and Budget Item Justification

The Multifunctional Information Distribution System (MIDS) program consists of two products, MIDS Low Volume Terminal (LVT) and MIDS Joint Tactical Radio System (JTRS). MIDS-LVT provides Link 16 capability to platforms that were unable to employ Joint Tactical Information Distribution System due to space and weight constraints. The MIDS-LVT effort is multinational (U.S., France, Germany, Italy, and Spain) with joint Service participation (Navy, Army, and Air Force). The Department of Defense (DoD) established the program to design, develop, and deliver low volume, lightweight tactical information system terminals for U.S. and Allied fighter aircraft, bombers, helicopters, ships, and ground sites. MIDS-LVT provides interoperability with North Atlantic Treaty Organization (NATO) users, significantly increasing force effectiveness and minimizing hostile actions and friend-on-friend engagements. The terminal design is smaller, lighter, highly reliable, interoperable with JTIDS Class 2 terminal, compatible with all the participants' designated platforms, affordable, and re-configurable to individual user needs and budgets.

MIDS JTRS, designed as a Pre-Planned Product Improvement (P3I) and executed as an Engineering Change Proposal (ECP) to the production MIDS-LVT configuration, completed qualification in the first quarter of fiscal year 2010. It facilitated the Joint Program Executive Office (JPEO) JTRS incremental approach for fielding advanced JTRS transformational networking capability and transformed the MIDS-LVT into a 4-channel, Software Communications Architecture (SCA) compliant, Joint Tactical Radio. A form-fit-function replacement to MIDS-LVT, MIDS JTRS also adds three programmable 2 Megahertz (MHz) to 2 Gigahertz (GHz) channels capable of hosting the JTRS legacy and networking waveforms. In addition to the Link 16, Tactical Air Navigation, and voice functionality found in MIDS-LVT, MIDS JTRS has four channels and adds capabilities such as Link 16 Enhanced Throughput, Four Net Concurrent Multi-Netting (CMN) with Concurrent Contention Receive (CCR) (CMN-4), Link 16 Frequency Re-mapping, software programmability, and Cryptographic Modernization. With CMN-4, MIDS JTRS also utilizes Tactical Targeting Network Technology for MIDS JTRS Naval Integrated Fire Control Counter Air and From the Air Advanced Tactical Data Links. These capabilities provide Joint Airborne Network-Tactical Edge 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: MIDS	-	116.429	67.196
Articles:	-	-	-
FY 2013 Accomplishments: See PE 0604280N			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 3020 / *MIDS/JTRS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue the development and implementation of Four Net Concurrent Multi-Netting (CMN) with Concurrent Contention receive (CCR) (CMN-4) for MIDS JTRS. Conduct Critical Design Review (CDR) and Technical Readiness Review. Begin hardware and software terminal integration. Begin Contractor First Article Qualification Test and Information Assurance (IA) Certification for the CMN-4 MIDS JTRS Terminal. Award Production Representative Terminal (PRT) contract. Award Lot 3 for MIDS JTRS Production. Award full development effort for Tactical Targeting Network Technology (TTNT) for MIDS JTRS Naval Integrated Fire Control Counter Air and From the Air Advanced Tactical Data Links. Conduct Preliminary Design Review (PDR) and begin TTNT hardware and software development. Continue TTNT waveform development to incorporate version 7.0.4 into the detailed hardware design at PDR. Continue the Crypto Modernization (CM)/Frequency ReMapping(FR)/Enhanced Throughput (ET) for Block Upgrade 2 capability and enhancement efforts for MIDS-LVT to include finalizing the detailed technical and interface information in the Item Performance Specification and the Interface Control Document. Define the performance and interface requirements and provide engineering analysis to finalize interface with the Signal Message Processor (SMP) design. Continue Link 16 CM efforts to replace the current Communications Security/Transmission Security on the SMP to extend the operational lifetime of currently fielded MIDS-LVT terminals. Continue MIDS Modernization efforts to include Small Business Innovation Research transition opportunities including a Small Form Factor terminal. Incorporate new waveforms such as Mutli-Function Advanced Data Link (MADL), Common Data Link (CDL), and others into the MIDS JTRS terminal. Continue MIDS systems engineering, communication security, IA and program management support.			
FY 2015 Plans: Complete the development and implementation of CMN-4 for MIDS JTRS. Begin test and evaluation and collecting Operational Assessment data. Deliver MIDS JTRS CMN-4 PRTs. Award Lot 4 for MIDS JTRS Production. Continue full development effort for Tactical Targeting Network Technology (TTNT) for MIDS JTRS Naval Integrated Fire Control Counter Air and From the Air Advanced Tactical Data Links. Continue the hardware and software development. Conduct CDR for TTNT. Begin integration and certification efforts. Continue the Crypto Modernization (CM)/Frequency ReMapping(FR)/Enhanced Throughput (ET) for Block Upgrade 2 capability and enhancement efforts for MIDS-LVT to include completing the hardware design and development. Complete the software design and development. Begin qualification and certification efforts and first article qualification testing. Begin software bind to incorporate Block Cycle 9 as the baseline for BU2 terminals.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 3020 / *MIDS/JTRS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue MIDS Modernization efforts to include Small Business Innovation Research transition opportunities including a Small Form Factor terminal. Continue to incorporate new waveforms such as Mutli-Function Advanced Data Link (MADL), Common Data Link (CDL), and others into the MIDS JTRS terminal. Continue MIDS systems engineering, communication security, IA and program management support.			
Accomplishments/Planned Programs Subtotals	-	116.429	67.196

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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 FY15 budget supports the development and implementation of Crypto Modernization, Frequency Remapping, and Enhanced Throughput capabilities for the MIDS-LVT terminal. It also supports the development to incorporate Four Net Concurrent Multi-Netting (CMN) with Concurrent Contention Receive (CCR) (CMN-4), Tactical Targeting Network Technology (TTNT) and the TTNT waveform into MIDS JTRS.

E. Performance Metrics

The MIDS-LVT and MIDS JTRS programs are employing mature, software-defined radio technologies and developing hundreds of thousands of lines of code. These software metrics are used to quantify the quality and progress of each software product's development over time. MIDS employs earned value metrics to monitor contract performance on its prime development contracts, as required.

MIDS-LVT: The 11 performance measures are: L16 Waveform Compatibility, L16 Message Standards, L16 IER; Interoperability, L16 Coded Error Message Probability, Weight/Volume, L16 JAM Resistance, L16 Voice Channels, L16 Communication Range Data, L16 Communications Range Voice, L16 Relay.

MIDS JTRS: The 15 performance measures are: L16 Waveform Compatibility, L16 Waveform Standards, L16 Coded Error Message Probability, L16 Jamming Resistance, L16 Communication Range-Data, L16 Communications Range-Voice, L16 Relay, Start-up (Terminal Single Channel), Operational Communications - Passive Synchronization, Operational Communications - Automatic Message Acknowledgement, Operational Communications - Multi-Net, Operational Communications, Crypto Control, Navigation.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / *Tactical Data Links*	Project (Number/Name) 3020 / *MIDS/JTRS*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MIDS JTRS NIFCA TTNT Full Development	C/CPFF	DLS : Cedar Rapids, IA	0.000	-		16.111	Jun 2014	19.754	Mar 2015	-		19.754	Continuing	Continuing	Continuing
MIDS JTRS NIFCA TTNT Full Development	C/CPFF	ViaSat : San Diego, CA	0.000	-		16.110	Jun 2014	19.755	Mar 2015	-		19.755	Continuing	Continuing	Continuing
MIDS JTRS NIFCA TTNT Waveform Development	C/CPFF	Rockwell Collins : Wayne, NJ	0.000	-		7.655	Mar 2014	-		-		-	Continuing	Continuing	Continuing
MIDS-LVT BU2 Full Development	C/CPFF	DLS : Cedar Rapids, IA	0.000	-		17.000	Nov 2013	5.897	Jan 2015	-		5.897	Continuing	Continuing	Continuing
MIDS-LVT BU2 Full Development	C/CPFF	ViaSat : San Diego, CA	0.000	-		23.000	Nov 2013	5.576	Jan 2015	-		5.576	Continuing	Continuing	Continuing
MIDS-LVT BU2 Software Full Development	C/CPFF	BAE : Wayne, NJ	0.000	-		10.000	Nov 2013	9.000	Jan 2015	-		9.000	Continuing	Continuing	Continuing
MIDS-LVT LCM	C/FFP	ViaSat : San Diego, CA	0.000	-		0.095	Jan 2014	-		-		-	-	0.095	-
MIDS JTRS CMN-4 Production Representative Terminals (PRT)	C/FFP	DLS : Cedar Rapids, IA	0.000	-		2.010	Dec 2013	-		-		-	-	2.010	-
MIDS JTRS CMN-4 Production Representative Terminals (PRT)	C/FFP	ViaSat : San Diego, CA	0.000	-		2.020	Dec 2013	-		-		-	-	2.020	-
MIDS JTRS CSS ECP	C/CPFF	DLS : Cedar Rapids, IA	0.000	-		1.750	Mar 2014	-		-		-	-	1.750	-
MIDS JTRS CSS ECP	C/CPFF	ViaSat : San Diego, CA	0.000	-		1.750	Mar 2014	-		-		-	-	1.750	-
TTNT Risk Red/Tech Dev	C/CPFF	DLS : Cedar Rapids, IA	0.000	-		2.420	Jan 2014	-		-		-	-	2.420	-
TTNT Risk Red/Tech Dev	C/CPFF	ViaSat : San Diego, CA	0.000	-		2.599	Jan 2014	-		-		-	-	2.599	-
TTNT Res Modum	C/CPFF	DLS : Cedar Rapids, IA	0.000	-		0.435	Dec 2014	-		-		-	-	0.435	-
TTNT Res Modum	C/CPFF	ViaSat : San Diego, CA	0.000	-		0.407	Feb 2014	-		-		-	-	0.407	-
MIDS JTRS Block Cycle 1	C/CPFF	ViaSat : San Diego. CA	0.000	-		0.502	Nov 2013	-		-		-	-	0.502	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / *Tactical Data Links*	Project (Number/Name) 3020 / *MIDS/JTRS*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MIDS JTRS Block Cycle 1	C/CPFF	DLS : Cedar Rapids, IA	0.000	-		0.548	Nov 2013	-		-		-	-	0.548	-
		Subtotal	0.000	-		104.412		59.982		-		59.982	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MIDS-LVT BU2 Test Terminals	C/FFP	DLS : Cedar Rapids, IA	0.000	-		1.383	Feb 2014	-		-		-	-	1.383	-
MIDS-LVT BU2 Test Terminals	C/FFP	ViaSat : San Diego, CA	0.000	-		0.669	Feb 2014	-		-		-	-	0.669	-
Modeling and Simulation	WR	NAVAIR : China Lake, CA	0.000	-		1.175	Nov 2013	1.175	Dec 2014	-		1.175	-	2.350	-
Link16 TTNT Lab and VV&A	WR	SSC : San Diego, CA	0.000	-		0.587	Mar 2014	-		-		-	-	0.587	-
MIDS JTRS CMN-4 GFAQT and LAB	WR	SSC : San Diego, CA	0.000	-		0.984	Jan 2014	-		-		-	-	0.984	-
TTNT Link 16 Mod/ Simulation	MIPR	Lincoln Labs : Hanscom AFB, MA	0.000	-		0.350	Jan 2014	0.350	Dec 2014	-		0.350	-	0.700	-
		Subtotal	0.000	-		5.148		1.525		-		1.525	-	6.673	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering Support	MIPR	MITRE : Bedford, MA	0.000	-		2.227	Nov 2013	1.673	Oct 2014	-		1.673	-	3.900	-
Government Engineering Support TTNT	WR	SSC : San Diego, CA	0.000	-		2.463	Nov 2013	2.266	Oct 2014	-		2.266	-	4.729	-
Govt Engineering Support BU2	WR	SSC : San Diego, CA	0.000	-		0.610	Nov 2013	0.500	Oct 2014	-		0.500	-	1.110	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / *Tactical Data Links*	Project (Number/Name) 3020 / *MIDS/JTRS*

Management Services ($ in Millions)

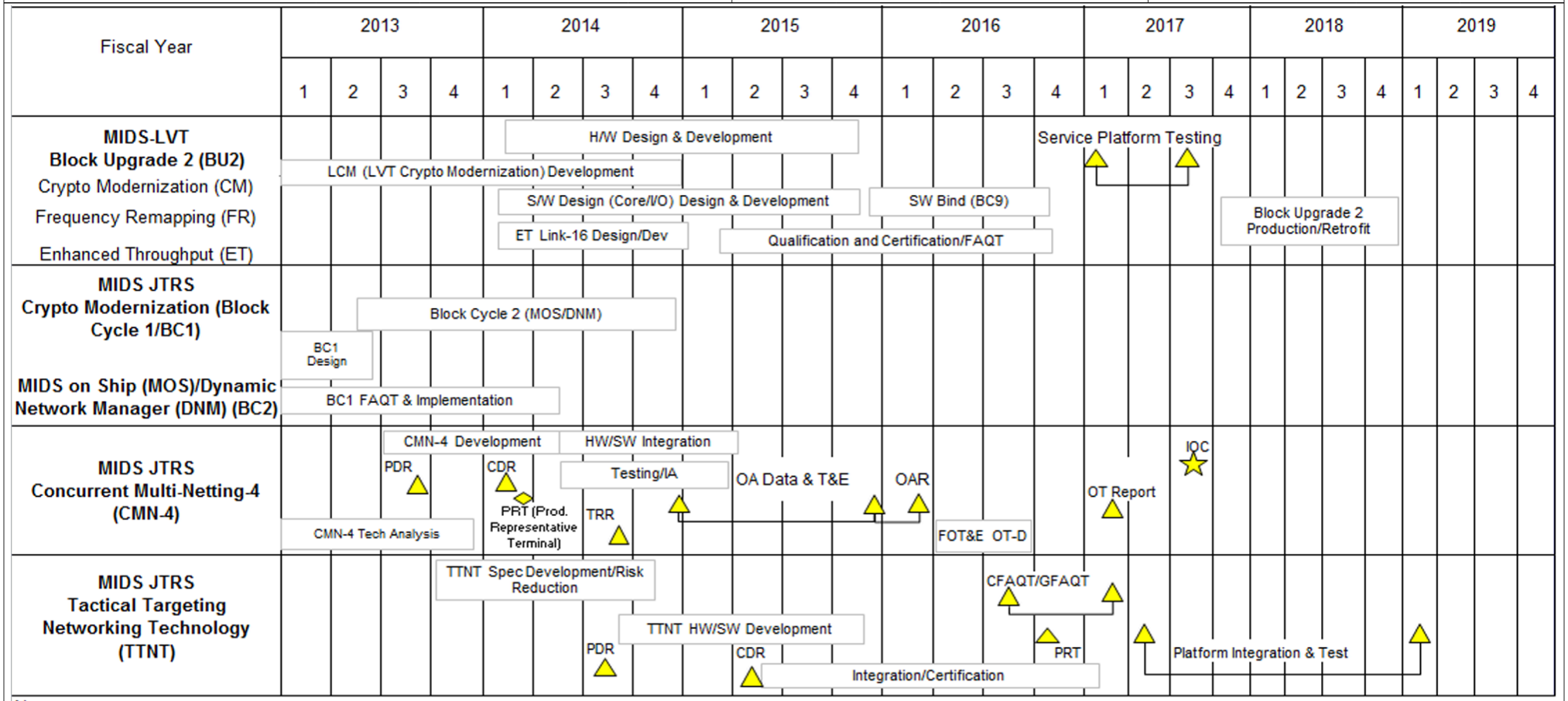
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IA Cert Support	MIPR	NSA : Fort George Meade, MD	0.000	-		0.200	Nov 2013	0.200	Oct 2014	-		0.200	-	0.400	-
Travel	WR	Travel : Pax River, MD /DC	0.000	-		0.050	Oct 2013	0.050	Oct 2014	-		0.050	-	0.100	-
Govt Program Support NIFC-CA	WR	NAVAIR : Pax River, MD	0.000	-		0.185	Dec 2013	0.370	Oct 2014	-		0.370	-	0.555	-
Govt Eng, Logistics and COR Support	WR	SSC : Charleston, SC	0.000	-		0.398	Nov 2013	0.200	Nov 2014	-		0.200	-	0.598	-
Contract Fees TTNT Waveform	MIPR	AFRL : Rome, NY	0.000	-		0.242	Mar 2014	-		-		-	-	0.242	-
Support TTNT Waveform	MIPR	DTIC : Ft Belvoir, VA	0.000	-		0.064	Mar 2014	-		-		-	-	0.064	-
Systems/Software Engineering Suppt	C/CPFF	G2 : San Diego, CA	0.000	-		0.430	Mar 2014	0.430	Oct 2014	-		0.430	-	0.860	-
		Subtotal	0.000	-		6.869		5.689		-		5.689	-	12.558	-

	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	-		116.429		67.196		-		67.196	-	-	-

Remarks

In accordance with the ADM dated 11 July 2012, the Joint Tactical Radio Systems Programs of Record (JTRS PORs) transitioned to a Military Department-managed program.
MIDS transitioned to the Navy under PE 0205604N but was formerly in PE 0604280N.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 3020 / *MIDS/JTRS*



Notes:
In accordance with the ADM dated 11 July 2012, Joint Tactical Radio Systems Programs of Record (JTRS PORs) transitioned to a Military Department-managed program.
MIDS transitioned to the Navy under PE 0205604N for FY14-out but was formerly in PE 0604280N.

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 3020 / *MIDS/JTRS*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MIDS				
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): LCM (LVT Crypto Modernizatoin) Development	1	2013	4	2014
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Hardware (HW) Design and Development	1	2014	4	2015
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Software (SW) Design and Development	1	2014	4	2015
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Enhanced Throughput (ET) Link-16 Design and Development	1	2014	1	2015
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Qualification and Certification/FAQT	1	2015	4	2016
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Software Bind (SW)	4	2015	4	2016
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Service Platform Testing	1	2017	3	2017
MIDS-LVT Block Upgrade 2 (BU2/CM/FR/ET): Block Upgrade 2 Production/Retrofit	4	2017	4	2018
MIDS JTRS Crypto Modernization (Block Cycle 1/BC1): BC1 Software Design (Core I/O)	1	2013	2	2013
MIDS JTRS Crypto Modernization (Block Cycle 1/BC1): BC1 FAQT & Implementation	1	2013	2	2014
MIDS JTRS MIDS on Ship (MOS)/Dynamic Network Manager (DNM) (BC2): Block Cycle 2	2	2013	4	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): CMN-4 Tech Analysis	1	2013	4	2013
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): CMN-4 Development	3	2013	2	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Preliminary Design Review	3	2013	3	2013
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Critical Design Review	1	2014	1	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Hardware/Software Integration	2	2014	2	2015
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Testing/IA Certification	2	2014	1	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 3020 / *MIDS/JTRS*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Technical Readiness Review	3	2014	3	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Production Representative Terminal	1	2014	1	2014
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Integration and DT/T&E	4	2014	4	2015
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): OA Data and T&E/OAR	4	2014	1	2016
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): Full Operational Test and Eval OT-D	2	2016	3	2016
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): OT Report	1	2017	1	2017
MIDS JTRS Concurrent Multi-Netting-4 (CMN-4): IOC (Initial Operational Capability)	3	2017	3	2017
MIDS JTRS Tactical Targeting Networking Technology (TTNT): TTNT Spec Development/Risk Reduction	4	2013	4	2014
MIDS JTRS Tactical Targeting Networking Technology (TTNT): TTNT Hardware/ Software Development	3	2014	4	2015
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Preliminary Design Review	3	2014	3	2014
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Critical Design Review	2	2015	2	2015
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Integration/ Certification	2	2015	1	2017
MIDS JTRS Tactical Targeting Networking Technology (TTNT): CFAQT/GFAQT	3	2016	1	2017
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Production Representative Terminal	4	2016	4	2016
MIDS JTRS Tactical Targeting Networking Technology (TTNT): Platform Integration and Test	2	2017	1	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / *Tactical Data Links*	Project (Number/Name) 3341 / *Network Tactical Common Data Link*	

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
3341: *Network Tactical Common Data Link*	-	13.543	3.552	29.662	-	29.662	14.801	14.600	-	-	-	76.158
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

Network Tactical Common Data Link (NTCDL) provides the ability to transmit/receive real-time Intelligence, Surveillance, and Reconnaissance (ISR) data simultaneously from multiple sources (surface, air, sub-surface, portable), and exchange command and control information (voice, data, imagery, and Full Motion Video) across dissimilar Joint, Service, Coalition, and civil networks. NTCDL provides warfighters with the capability to support multiple, simultaneous, networked operations with currently fielded CDL-equipped platforms (e.g. F/A-18, P-3, and MH-60R), in addition to next generation manned and unmanned platforms (e.g., P-8, Broad Area Maritime Surveillance (BAMS), UCLASS, and Fire Scout). NTCDL is a tiered capability (surface, air, sub-surface, man-portable) providing a modular, scalable, multiple-link networked communications. NTCDL benefits the fleet by providing horizon extension for line-of-sight sensor systems for use in time critical strike missions. NTCDL supports Anti-Access/Area of Denial (A2AD) through its relay capability, and supports Tasking Collection Processing Exploitation Dissemination (TCPED) through its ISR networking capability. Additionally, NTCDL supports Humanitarian Assistance/Disaster Relief (HA/DR) efforts through its ability to share ISR data across dissimilar Joint, Service, Coalition, and Civil organizations.

FY15 will focus on pre-EMD and pre-MS B efforts leading to Contract Award, development of NTCDL system Engineering Development Models (EDMs), and support efforts for airborne terminal research and development activities of High Capacity Backbone (HCB) and air-to-air relay activities in an Anti-Access/Area Denial (A2AD) environment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Network Tactical Common Data Link (NTCDL)	13.543	3.552	29.662
Articles:	-	-	-
Description: Overall program efforts include investigation of emerging technologies through study, development and associated testing for feasibility of program insertion.			
FY 2013 Accomplishments: Initiated development of contract and acquisition documentation including (Capability Development Document (CDD), System Performance Specification (SPS), Test and Evaluation Master Plan (TEMP), and Integrated Master Schedule (IMS).			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 3341 / *Network Tactical Common Data Link*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue preparation of contract and acquisition documentation, systems engineering and development activities in preparation for Milestone B. ***FY 2015 Plans:*** Complete acquisition documentation (to include TEMP, Acquisition Plan, System Engineering Plan, etc.) and contract documentation and technical reviews (to include Prelimary Design Reveiw (PDR)), in support of Pre-EMD, Milestone B, Request for Proposal (RFP) and Contract Award. Initiate system design and the development of all technical documentation and drawings. Develop NTCDL system Engineering Development Models (EDMs). Provide support efforts for airborne terminal research and development activities of High Capacity Backbone (HCB) and air-to-air relay activities in an Anti-Access/Area Denial (A2AD) environment.			
Accomplishments/Planned Programs Subtotals	13.543	3.552	29.662

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/2950: *Network Tactical Common Data Link (NTCDL)*	-	-	-	-	-	19.012	6.859	16.782	14.955	-	57.608

Remarks

D. Acquisition Strategy

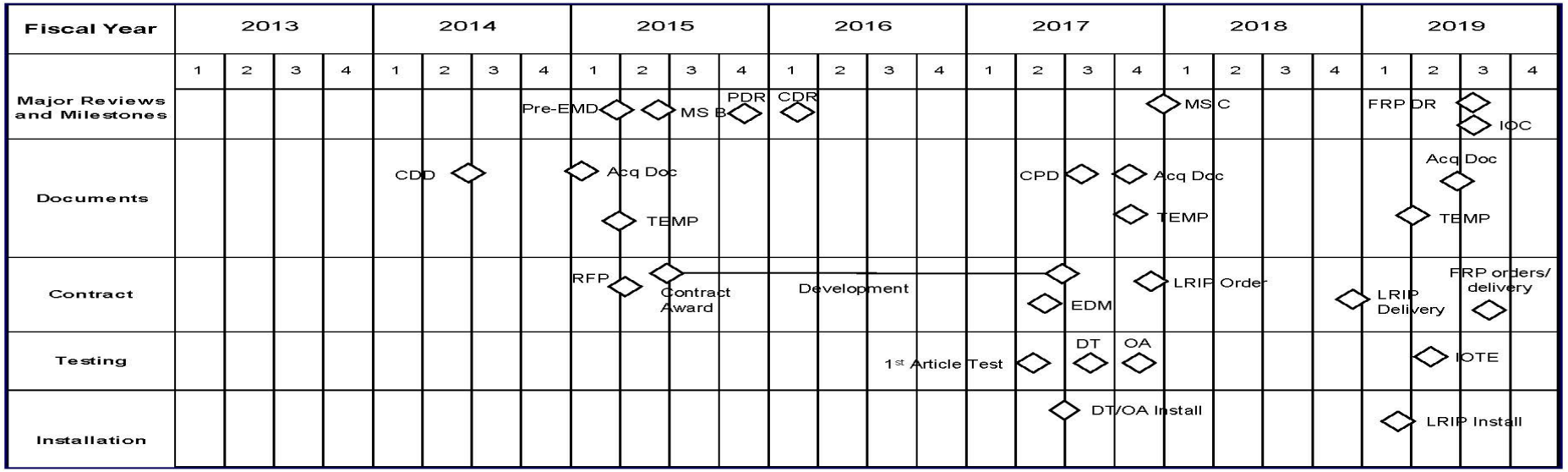
NTCDL will utilize the evolutionary acquisition approach for: surface, air, sub-surface, man-portable.

E. Performance Metrics

Joint Interoperability Test Command (JITC) certification of CDL waveforms number of simultaneous links: Threshold (T) = 5, Objective (O) = 12. Data rate: minimum one 274 Megabit per second (Mbps) link (T), additional links must be 45Mbps or greater

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 3341 / *Network Tactical Common Data Link*

NTCDL
Planning Schedule



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205604N / *Tactical Data Links*	Project (Number/Name) 4022 / *Other Tactical Data Link 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
4022: *Other Tactical Data Link Engineering*	12.301	19.577	4.969	-	-	-	-	-	-	-	-	36.847
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 Adjunct Capability Demo (ACD) is a proof-of-concept that will demonstrate the capability to distribute real-time ballistic missile track data over tactical data links. The effort requires the procurement, installation, integration, and test of software onto an existing platform. Radar software will be developed and tested to provide real-time ballistic missile track updates to the tactical data link management system.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Adjunct Capability Demo Product Development	15.318	1.372	-
Articles:	-	-	-
FY 2013 Accomplishments: - Completed software updates. - Completed Baseline Scenario DIGISIM to test the improved tactical software. ***FY 2014 Plans:*** - Completed software testing and hardware installation. ***FY 2015 Plans:*** N/A			
Title: Adjunct Capability Demo Support	1.930	0.547	-
Articles:	-	-	-
FY 2013 Accomplishments: - Validated the approach with Land-Based Demo and validated discrimination algorithms. ***FY 2014 Plans:*** - Supported target scenario DIGISIM development and data analysis. ***FY 2015 Plans:*** N/A			
Title: Adjunct Capability Demo Test and Evaluation	2.284	3.050	-
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 4022 / *Other Tactical Data Link Engineering*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: - Completed Land-Based Link Test and planning for a Land-Based Link Test regression. ***FY 2014 Plans:*** - Completed Target Scenario DIGISIM. - Completed Land-Based Link Test regression. - Completed At-Sea testing with live target. ***FY 2015 Plans:*** N/A			
Title: Adjunct Capability Demo Management Services	0.045	-	-
Articles:	-	-	-
FY 2013 Accomplishments: - Continued program planning, assessment of technical alternatives, risk identification and mitigation. - Continued cost and schedule development and execution. ***FY 2014 Plans:*** - Completed program planning, assessment of technical alternatives, risk identification and mitigation. - Completed cost and schedule development and execution. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	19.577	4.969	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Execute software development, integration, and testing under existing contracts.

E. Performance Metrics

Successfully develop and test system to prove concept to distribute real-time ballistic missile data in real-time over tactical data links on a Fleet platform. System performance metrics under development.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205604N / *Tactical Data Links*	**Project (Number/Name)** 4022 / *Other Tactical Data Link Engineering*

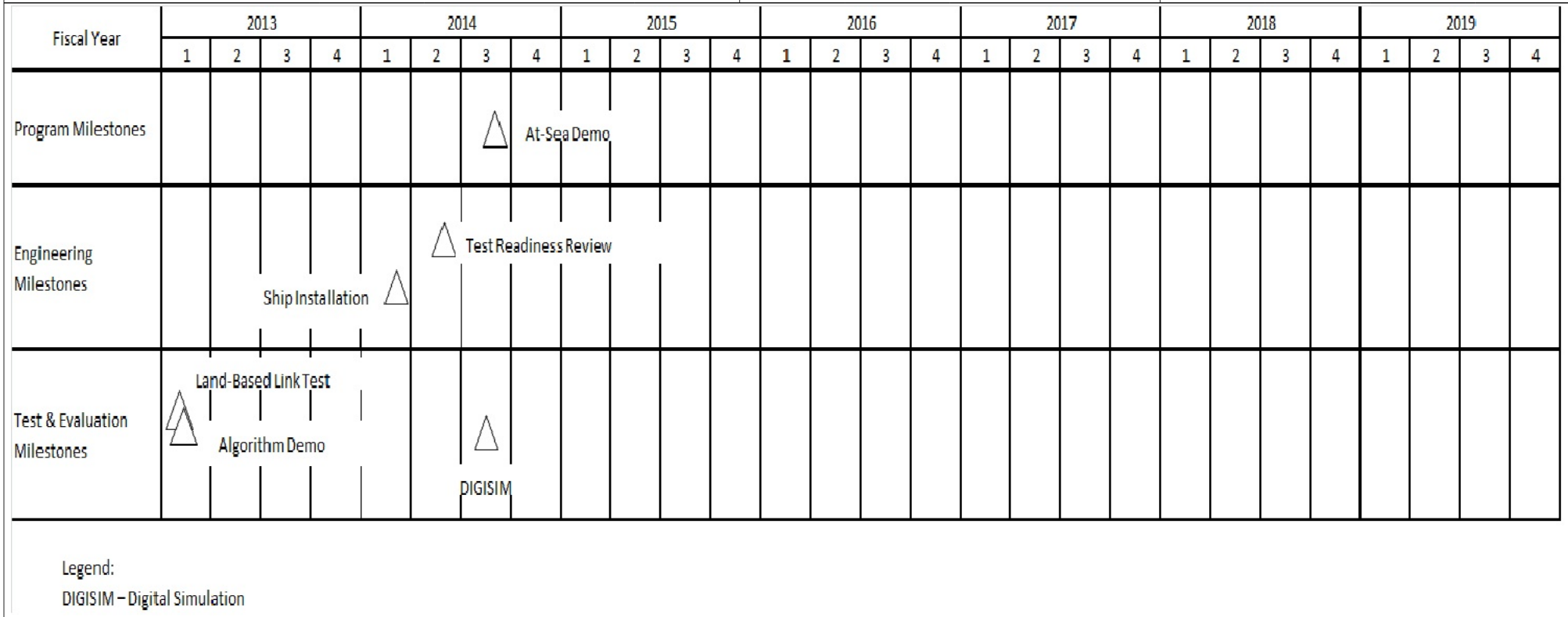


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0205620N *I Surface ASW Cmbt Sys Integr*							
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	135.262	24.465	31.863	26.366	-	26.366	25.356	26.161	27.249	27.875	Continuing	Continuing
1916: *Surface ASW System Improvement*	135.262	24.465	31.863	26.366	-	26.366	25.356	26.161	27.249	27.875	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The Navy's Strategy is to remain the preeminent maritime power, providing the U.S. a global expeditionary force committed to security and prosperity, while defending the Nation's interests. Within this vision, Anti-Submarine Warfare (ASW) remains a Navy core competency in a dynamic and uncertain maritime environment. U.S. adversaries continue to develop asymmetric capabilities and capacities to deter, disrupt, or delay the entry of U.S. and allied naval forces, and pose a constant challenge as we implement the Maritime Strategy. Evolving submarine technologies offer enhanced stealth, speed, endurance, weapons, and operational proficiency, trends foretelling that the adversary submarine of the future will have a significantly larger sphere of influence, while presenting less vulnerability to ASW forces. The effective offensive engagement range of the adversary submarine of the future will continue to match or outrange individual U.S. and multinational platform sensors and weapons in many tactical environments. Submarines are an increasing threat to all Naval and Allied ships, particularly modern diesel subs and faster torpedoes. Not only can the presence of potential hostile submarines delay naval combatant action until they are located and neutralized, submarines can also disrupt all seaborne logistics supply for any ground campaign as well as maritime commerce. ASW forces must be effective in all operating environments, ranging from the deep open ocean to the littorals, and are key to countering adversarial anti-access and area denial strategies.

The objective of this Program Element (PE) is to significantly improve existing Surface Ship Undersea Warfare (USW) sonar system capabilities through quick and affordable development/integration of emergent, transformational technologies in support of Littoral ASW, Theater ASW, Mine Reconnaissance, and overall Sea Shield efforts required to pace the threat. Detection and classification play uniquely vital roles in the success of any ASW campaign. To be effective against increasingly stealthy threats in an often ambiguous undersea environment, future sensors must be environmentally adaptive, have very low false alarm rates, and exploit the full range of current and future submarine detection vulnerabilities.

Project 1916's primary mission is to improve AN/SQQ-89(V) Measures Of Performance (MOP) by enhancing detection, tracking, classification, passive, active, torpedo Detection, Classification, and Localization (DCL) and sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth (Operational Requirements Document #667-76-05 titled 'AN/SQQ-89 Improvement Program', Test and Evaluation Master Plan 802-2 (TEMP 802-2)). Improvements to system simulation, stimulation, Information Assurance (IA), software and network architectures, and safety are included. This project takes advantage of the AN/SQQ-89(V) Open System Architecture (OSA) and Acoustic Rapid Commercial-Off-The-Shelf (COTS) Insertion (ARCI) initiatives to integrate a torpedo DCL and ASW sonar combat system capability improvements. This COTS-based Surface Ship ASW combat system, the AN/SQQ-89A(V)15, is currently planned as a backfit program for both CG47 (select CG59-73 Baseline 3 and 4 ships) and DDG51 (All DDG and follow FLT I/II/IIA) class ships. The Open Architecture (OA) (level 3 compliant) of the AN/SQQ-89A(V)15 system drives the Advanced Capability Build (ACB) spiral development process and provides budget flexibility to make COTS/OA technology solutions and ARCI-type initiatives affordable. This will be accomplished via the incorporation of select Pre-Planned Product Improvements (P3I) and

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0205620N *I Surface ASW Cmbt Sys Integr*

emergent, transformational ASW technologies delivered to the AN/SQQ-89(V) prime integrator every two years. ASW technology implementation will take advantage of improvements developed under the submarine Advanced Processing Build (APB) program and will in turn share unique improvements developed under this program with the submarine and surveillance ASW communities. This project will also contribute to the development of Littoral Combat Ship (LCS) ASW Mission Packages.

Project 1916 also includes funding for the Surface Ship Enhanced Measurement Program (SSEMP), which will measure the performance of existing and new Surface Ship ASW combat systems and enables data-based assessment of the capabilities and shortfalls in the performance of these systems in realistic scenarios.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	27.342	31.863	30.710	-	30.710
Current President's Budget	24.465	31.863	26.366	-	26.366
Total Adjustments	-2.877	-	-4.344	-	-4.344
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.583	-			
• Program Adjustments	-	-	-3.829	-	-3.829
• Rate/Misc Adjustments	-	-	-0.515	-	-0.515
• Congressional General Reductions Adjustments	-2.294	-	-	-	-

Change Summary Explanation

FY15 reductions reflect Department's decision to reduce contracted services as well as a rephasing of program resources to match expected expenditures.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205620N / *Surface ASW Cmbt Sys Integr*				Project (Number/Name) 1916 / *Surface ASW System Improvement*			
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**
1916: *Surface ASW System Improvement*	135.262	24.465	31.863	26.366	-	26.366	25.356	26.161	27.249	27.875	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 Surface ASW Systems Improvements Project will support essential performance enhancements to AN/SQQ-89(V) and Surface Ship Sonar Systems. This project will improve AN/SQQ-89(V) MOP by enhancing detection, tracking, classification, active, passive, torpedo DCL, and sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth (Operational Requirements Document #667-76-05 titled 'AN/SQQ-89 Improvement Program'), TEMP 802-2.

This project will take advantage of the AN/SQQ-89(V) OSA and ARCI initiatives to integrate a TDCL and ASW sonar and combat system capability improvements. This COTS-based Surface Ship ASW combat system, the AN/SQQ-89A(V)15, is currently planned as a backfit program for both CG47 (select CG59-73 Baseline 3 and 4 ships) and DDG51 (All DDG51 and follow FLT I/II/IIA) class ships. This project has delivered the AN/SQQ-89A(V)15 Pre-Production Prototype, performed installation on board CG73, and conducted subsequent Developmental Test & Evaluation (DT&E) and Initial Operational Test & Evaluation (IOT&E) where the system was found 'Operationally Effective' by Command Operational Test and Evaluation Force (COMOPTEVFOR).

The OSA and high performance COTS processing hardware on ships fielded with the AN/SQQ-89A(V)15 combat system provides an opportunity to integrate select P3I as well as emergent, transformational ASW technological improvements that were previously unachievable. The Undersea Warfare (USW) suites on these ships will require periodic upgrades to remain effective well into the 21st century and to pace the threat. Software upgrades target capability increases in high interest areas as prescribed by the Fleet and captured in campaign analysis. To achieve this, this project will package and deliver incremental upgrades every two years to the AN/SQQ-89A(V)15 production program via an ACB spiral development process (ACB-11, ACB-13, etc.) by inserting maturing USW technologies, such as enhancements to improve USW performance in the littoral, reduced manning on AN/SQQ-89(V) equipped ships, operator efficiency upgrades via the implementation of robust embedded data record and replay capability and active/passive sonar simulation/stimulation, DCL active/passive processing upgrades, passive sonar automated detection and classification processing bell-ringers from the ASW Community-of-Interest, detect and track through maneuvers, integration of MH-60R mission systems with the AN/SQQ-89A(V)15 combat system, integration of Mid-Frequency active detection improvements, false-alarm rate reduction, clutter reduction, integration of ASW Community-of-Interest improved acoustic intercept and small-object avoidance, ASW Multi-Sensor integration (acoustic similar-source fusion and implementation of integrated shipboard system data, and ASW combat display architecture), distributed engagement management (Network Centric Enterprise Services implementation, new displays and decision aids, ASW Community-of-Interest model capabilities implementation), Multi-Frequency Acoustic Communications (MF ACOMMS) between Surface Combatants and Submarines, and upgraded technologies such as algorithm improvements, increased Passive Narrow Band (PNB) frequency, Continuous Active Sonar (CAS), and beamformer improvements. A rigorous testing program is also required to ensure that these performance enhancements are operationally effective and suitable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: SQQ-89A(V)15 Surface Ship ASW Advanced Capability Build (ACB) Development	20.465	27.913	22.366
Articles:	-	-	-

Description: Develop enhancements to the AN/SQQ-89A(V)15 Open System Architecture (OSA) via the integration of transformational technologies through an ACB spiral development process. Items include hull-mounted Acoustic Intercept (ACI) sensor, ACI performance predictions and signal injection capabilities, hull array adaptive beamformer and towed array shape compensated beamformer improvements via the Beamformer Functional Segment (BFFS), Mid-Frequency Active (MFA) Cooperative Organic Mine Defense (COMID) mine avoidance upgrades, MFA rapid replay and multi-waveform tracker, Hull Passive Processing Functional Segment (HPPFS) improvements, Sensor Performance Prediction Functional Segment (SPPFS) improvements, Undersea Warfare Control Functional Segment (UCFS) improvements, Supportability Functional Segment (SupFS) improvements, Recording Functional Segment (RecFS) improvements, Common System Services/Mission Package Services (CSS/MPS) improvements, full bandwidth towed array passive ASW and automated torpedo DCL algorithm improvements (active/passive) within the Torpedo Recognition and Alertment Functional Segment (TRAFS) necessary to extend detection ranges and reduce false alert/alarm rates, new Undersea Situational Awareness Workstation (USAW) sensor to reduce the number of displays required for system operation, Multi-Frequency Acoustic Communications (MF ACOMMS) development, integration of MH-60R mission systems with the AN/SQQ-89A(V)15 combat system, explosive source integration with AN/SQQ-89A(V)15 processes, simplification of displays and active processing, and a Sonar Logger capability to significantly reduce operator data logging requirements. These items will be integrated and delivered to the CG47 and DDG51 class AN/SQQ-89A(V)15 backfit production programs via ACB updates. Import advanced development capabilities from the submarine Advanced Processing Build (APB) and Acoustic Rapid Commercial-off-the-Shelf (COTS) Insertion (ARCI) projects. Export advanced capabilities to submarine and surveillance combat system programs.

Resolve/troubleshoot issues/deficiencies that arise from the AN/SQQ-89(V) Surface Ship ASW Test & Evaluation program. Rapidly address and correct problems/deficiencies in processing, capability or operations within the following areas within the AN/SQQ-89(V) USW combat system architecture; sensor processing, acoustics, fire control, contact management, performance prediction, operator productivity and on-board training, MFTA, Digital Fire Control Interface (DFCI), MFA processing, and adaptive beamforming.

FY 2013 Accomplishments:
Continued testing and production of enhancements to the AN/SQQ-89A(V)15 for ACB-13. Land-based testing will include capability and suitability testing in-lab of the integrated system on tactical hardware. Completed development of ACB-13 and delivered the ACB-13 software build to the AEGIS certification process. Initiated development of concepts and capabilities for ACB-15. Development will include completing the first step and starting the second step of the 4 Step ACB process; Step 1 - algorithm assessment by peer review panels of Subject Matter Experts (SMEs) to down-select technologies and assist

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
developers with technical guidance; Step 2 - algorithm/technology testing with open and closed data sets to further down-select and refine capabilities prior to integration and test. ACB-15 will focus on transitioning passive improvements from submarine APB development, improved torpedo detection and classification performance, and integrating MH-60R capability into the SQQ-89. MH-60R integration with ACB-15 is being conducted in alignment with Aegis integration of MH-60R. ***FY 2014 Plans:*** Continue development and integration of enhancements to the AN/SQQ-89A(V)15 for ACB-15. Priority candidates currently planned for ACB-15 include: Active Clutter Reduction, Torpedo Defense, Integration of Submarine Passive improvements, and phased integration of MH-60R. Finish the conduct of independent Step 2 testing of ACB-15 individual technologies to finalize transitions for integration onto the tactical hardware. Following independent testing, begin integration of ACB-15 capabilities into the tactical string. Integrated ACB-15 will be used for land-based testing of the full system. Prepare data collection and test plans for Step 3 land-based testing as part of 4 Step ACB process. Step 3 includes a peer review by SMEs of fully integrated tactical capability. ***FY 2015 Plans:*** Continue development and integration of enhancements to the AN/SQQ 89A(V)15 for ACB-15. Priority candidates will continue to be assessed during the ACB Step process. Individual capabilities which meet Step 2 requirements will be integrated onto tactical hardware. Step 3 land-based testing of full tactical system will test individual capability and system performance of ACB-15. Step 4 at-sea testing of ACB-15 will test system capability with shipboard interfaces prior to production transition. Initiate development of concepts and capabilities for ACB-17.			
Title: AN/SQQ-89(V) Surface Ship ASW Test & Evaluation Program	0.800	0.700	0.800
Articles:	-	-	-
FY 2013 Accomplishments: Conducted ACB-11/Technology Insertion (TI)-11 Development Test (DT) and Operational Assessment (OA) to support fielding of ACB-11. In support of Aegis Modernization (AMOD), provided ACB-11/TI-12 engineering releases for integration and certification. In support of the AN/SQQ-89A(V)15 upgrade onboard DDG 54, completed ACB-11/TI-12 System Qualitication Test (SQT) in 3Q13 and supported AIE in 4Q13. Initiated ACB-13 Step 3. ***FY 2014 Plans:*** Finalize test ship and resources in support ACB-11 Operational Test (OT). Complete ACB-13 Step 3, conduct SQT dry run 1Q14, conduct DT at the Land-Based Test Site (LBTS) prior to formal SQT. ***FY 2015 Plans:*** Plan ACB-13 At-Sea DT events with lead ships. Update TEMP 802-2 to cover ACB-13 DT/OT requirement.			
Title: Surface Ship Enhanced Measurement Program (SSEMP)	3.200	3.250	3.200

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
Description: Analyze the sonar employment in the operational setting and report results for improvement of training/employment guidance. Perform Fleet exercise data reconstruction and post-test analysis each year. Conduct selected at-sea data collection activities by providing planning support, ship riders, and analyst support. Evaluate prototype sonar employment tactics, sonar processing and automation algorithms, and communication protocols for the detection, classification, tracking, and intra-Fleet hand-off to Fleet ASW assets, and provide summary reports to document results. ***FY 2013 Accomplishments:*** Continued ACB-11 performance assessment and operator at-sea testing and analysis of SSEMP cases. Updated lab hardware to TI-12 and installed ACB-11 tactical software. ***FY 2014 Plans:*** Support analysis of ACB-11/ACB-13 Return On Investment (ROI) test. Support ACB-11 IT/OT data collection and analysis of operational performance. Plan ACB-11 and ACB-13 lab-based system and operator performance comparison test and continue analysis of SSEMP cases. ***FY 2015 Plans:*** Commence ACB-13 performance assessment and operator at-sea testing and analysis of SSEMP cases. Update lab hardware to support ACB-13 install on ACB-11/TI-12 hardware. Continue analysis of SSEMP cases.			
Accomplishments/Planned Programs Subtotals	24.465	31.863	26.366

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/2136: *AN/SQQ-89 Surface ASW Combat System*	80.060	83.231	79.802	-	79.802	106.533	116.132	152.367	168.394	Continuing	Continuing
• 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	Continuing	Continuing

Remarks

D. Acquisition Strategy

- Via an ACB spiral development process, incorporate evolutionary and transformational technologies into AN/SQQ-89A(V)15 production systems (planned for select Baseline 3 and 4 CG47 Class and all FLT I/II/IIA DDG51 Class hulls) at scheduled intervals to pace the threat. This project has delivered the AN/SQQ-89A(V)15 Pre-Production Prototype, the AN/SQQ-89A(V)15 ACB-09 to 14 ships and the AN/SQQ-89A(V)15 ACB-11 to 4 ships.

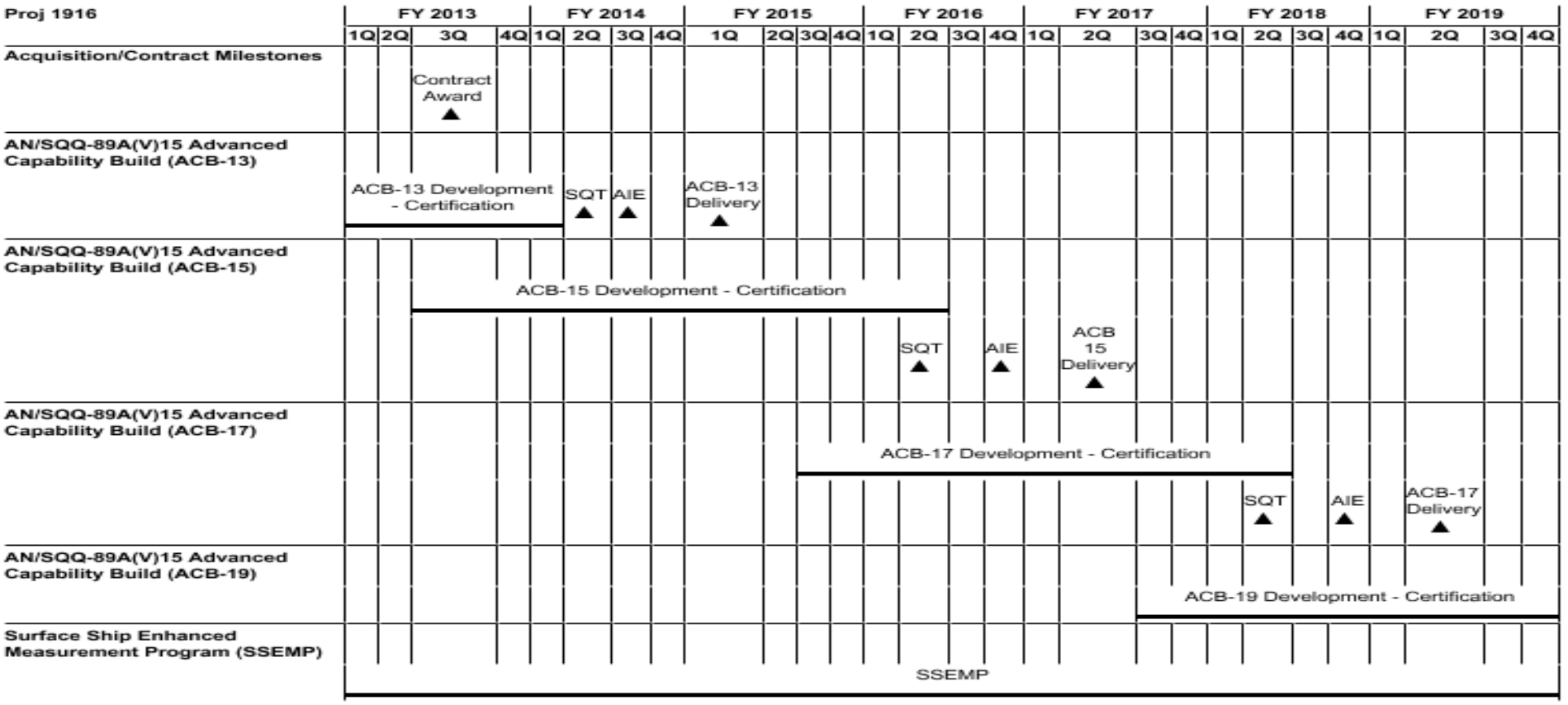
Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*

- Awarded new, competitive contract for AN/SQQ-89(V) prime system integrator and engineering services in FY13.

E. Performance Metrics

- Deliver incremental capability increases in high interest areas, as prescribed by the Fleet and captured in campaign analysis, every two years to the AN/SQQ-89A(V)15 production program via an ACB spiral development process (ACB-09, ACB-11, ACB-13, etc.) by inserting maturing USW technologies.
- Continue ACB-13 development reflecting continued improved clutter reduction, multi-ship operations, improved convergence zone (CZ) detection via improved CAS, improved passive processing via Multi-Function Towed Array (MFTA) Shape Estimation, Improved detection and Classification via Common Displays, False Alarm reduction via Radar Fusion, Improved Classification via Acoustic Fusion, Sonar situational awareness, via Undersea Situational Awareness Workstation (USAW), Contact management via continued depreciation of Undersea Warfare Control Functional Segment (UCFS) non-weapons functions, Operator Probability of Correct Classification (Pcc) Improvements via Common Display Architectures/Common GEO displays, and localization improvements via improved Target Motion Analysis (TMA) and localization algorithms.
- Continue SAST system development, integration and testing to reflect sensor simulation/stimulation improvements in MFTA Active Receive, CAS, and implemented radar tracks.
- Completed AN/SQQ-89A(V)15 Surface Ship ASW Combat System Pre-Production Prototype, performed installation, conducted DT&E, and Initial IOT&E.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205620N / *Surface ASW Cmbt Sys Integr*	**Project (Number/Name)** 1916 / *Surface ASW System Improvement*



2015PB - 0205620N - 1916

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0205632N *I MK-48 ADCAP*							
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	206.635	35.115	10.080	25.952	-	25.952	30.876	29.431	51.922	81.073	Continuing	Continuing
0366: *MK 48 ADCAP*	191.221	25.949	10.080	25.952	-	25.952	30.876	29.431	51.922	81.073	Continuing	Continuing
9999: *Congressional Adds*	15.414	9.166	-	-	-	-	-	-	-	-	-	24.580

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

A. Mission Description and Budget Item Justification

MK-48 ADCAP (Advanced Capability) Research, Development, Test and Evaluation (RDT&E) program executes incremental development of weapon performance improvements in three development product areas: (1) Common Broadband Advanced Sonar System (CBASS), (2) Advanced Processor Builds (APBs), and (3) torpedo technology insertion. The budget enables Acquisition Category (ACAT) III development to address Chief of Naval Operations (CNO) defined capability-based requirements and mission needs. This program is tied to development programs that leverage a joint United States/Australia Armaments Cooperative Project (ACP) to develop MK-48 ADCAP CBASS; and Future Naval Capability (FNC) technologies developed by the Office of Naval Research (ONR).

Countermeasure (CM) sophistication and availability on the open market directly affects ADCAP kill proficiency and its ability to counter rapidly evolving threats. The focus of the MK-48 ADCAP torpedo program from FY 2001 and out shifted from being primarily concentrated on software block upgrade efforts towards coordinated hardware upgrades, rapid Commercial-Off-the-Shelf (COTS) insertion, and APBs to rapidly upgrade the ADCAP to counter evolving threats and maintain robust performance. The CBASS program developed and fielded a broadband sonar capable of identifying CMs and discriminating them from the target. CBASS Phase I achieved IOC in FY 2006 and Phase II was achieved in 2013. The Commonwealth of Australia Royal Navy (RAN) is jointly participating to develop CBASS APB5 to improve shallow water performance and signed a Memorandum of Agreement (MOA) extension November 2009. The MOA extension expires Nov 2019.

The MK-48 ADCAP torpedo program focuses on two specific areas near term; torpedo APBs and hardware tech insertions. The CNO continues to stress shallow water (less than 600 feet) as a critical operating area to counter third world diesel electric submarines. Torpedo testing in shallow water has demonstrated that in-service ADCAP has less than full capability in this difficult environment. However, this testing, in conjunction with laboratory simulation efforts, has shown that significant performance improvements can be made by implementing changes to weapon tactics and software algorithms. Development, implementation, and testing of these changes is being accomplished under the torpedo APB program. The APB program also leverages the RAN joint torpedo program and FNC technologies developed by the ONR in the areas of torpedo broadband signal processing, tactics processing, and alertment. The torpedo tech insertion program will leverage the MK-54 Lightweight Torpedo (LWT) algorithms. Further hardware investment involves development of Guidance & Control (G&C) replacement required to support production and development of automated test equipment replacement to improve comprehensive system testing of full up CBASS torpedoes.

The torpedo technology insertion program will provide for evolutionary torpedo improvements and upgrades (including the transition and testing of advanced technologies from the research and development community). This approach will incorporate developmental testing of the FNC transitioning technologies for ADCAP upgrades in the areas of torpedo sensors, weapon/platform connectivity, warhead lethality, speed and endurance. These efforts will continue torpedo development investment at a lower cost and shorter term than traditional torpedo programs.

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0205632N *I MK-48 ADCAP*

APB5 software upgrades are currently in process for MK-48 ADCAP torpedoes.

Both FNC technologies and MK-54 LWT developments will be transitioned into ADCAP through APBs and technology insertion packages. Priorities for APBs and technology insertion are: (1) improved torpedo effectiveness through advanced processing algorithms, (2) advanced counter-countermeasure capability, and (3) a new array to improve torpedo effectiveness.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	28.717	12.806	24.116	-	24.116
Current President's Budget	35.115	10.080	25.952	-	25.952
Total Adjustments	6.398	-2.726	1.836	-	1.836
• Congressional General Reductions	-	-0.026			
• Congressional Directed Reductions	-	-2.700			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.372	-			
• Rate/Misc Adjustments	-	-	1.836	-	1.836
• Congressional General Reductions Adjustments	-3.230	-	-	-	-
• Congressional Add Adjustments	10.000	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 9999: *Congressional Adds*		
Congressional Add: *Small Business Technology Insertion*	9.166	-
Congressional Add Subtotals for Project: 9999	9.166	-
Congressional Add Totals for all Projects	9.166	-

Change Summary Explanation

FY15 was reduced for contractor services and rephased due to delayed contract awards for the G&C Reconstitution and replacement Automated Test Equipment (ATE) in FY13. These reductions were offset by funding increases to accelerate technology development for APB5/6 and for offensive mining.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205632N / *MK-48 ADCAP*	Project (Number/Name) 0366 / *MK 48 ADCAP*	

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
0366: *MK 48 ADCAP*	191.221	25.949	10.080	25.952	-	25.952	30.876	29.431	51.922	81.073	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

Completed Spiral 4 Operational Testing (OT) and achieved IOC in 3rd Qtr 2013

MK-48 ADCAP program executes incremental development of weapon performance improvements in two development product areas: (1) APBs, and (2) torpedo technology insertion. The budget enables ACAT III development to address CNO defined capability-based requirements and mission needs. This program is tied to development programs that leverage a joint United States/Australia ACP to develop MK-48 ADCAP; and FNC technologies being developed by the ONR.

APB software upgrades will improve torpedo performance in challenging water, countered environments through incorporation of new algorithms designed to address broadband, multiband, classifications and tactics processing changes. Hardware technology insertions will improve weapon availability through development of a G&C replacement and an ATE replacement.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: TORPEDO APB	20.848	5.095	15.383
Articles:	-	-	-
FY 2013 Accomplishments: Continued APB 5 development. Continued development of ATE replacement.			
FY 2014 Plans: Continue APB 5 development. Complete development of ATE replacement			
FY 2015 Plans: Continue APB 5 development.			
Title: OPERATIONAL TEST SUPPORT	5.101	4.985	10.569
Articles:	-	-	-
FY 2013 Accomplishments: Conducted APB 5 developmental testing.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205632N / *MK-48 ADCAP*	**Project (Number/Name)** 0366 / *MK 48 ADCAP*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue APB 5 developmental testing. ***FY 2015 Plans:*** Continue APB 5 developmental testing. Conduct HWT extended range demontration.			
Accomplishments/Planned Programs Subtotals	25.949	10.080	25.952

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/3225: *MK-48 Torpedo ADCAP Mods*	48.769	48.503	46.893	-	46.893	62.245	39.954	44.848	45.700	Continuing	Continuing

Remarks

D. Acquisition Strategy

Sole source production contract awarded in FY 2004 for MK-48 ADCAP MODS, MK-54 LWT, and CBASS kits, including RAN units. A full and competitive procurement for MK46 Mod 7 CBASS production kits was awarded in March 2011 with a FY 2010/2011 base year and four option years for FY 2012-2015.

E. Performance Metrics

Milestone reviews.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205632N / *MK-48 ADCAP*	**Project (Number/Name)** 0366 / *MK 48 ADCAP*

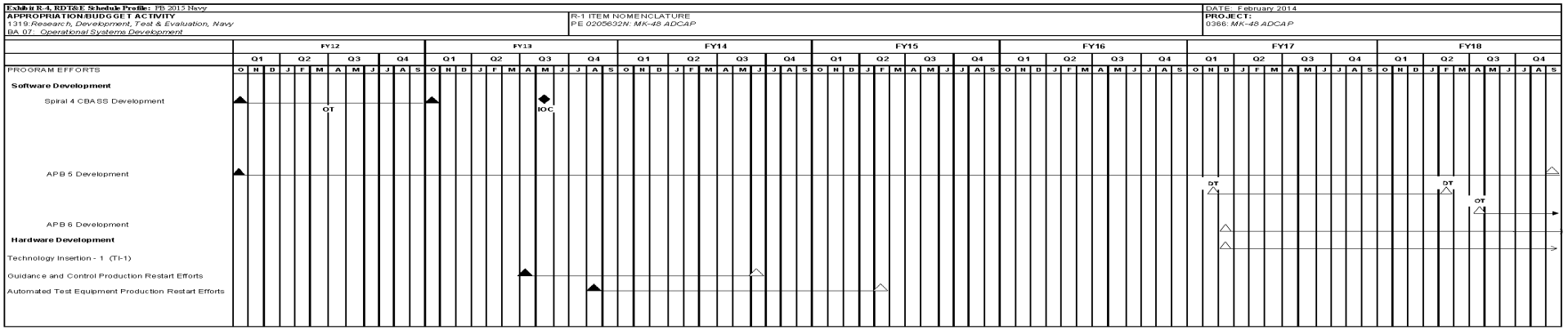


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205632N / *MK-48 ADCAP*				Project (Number/Name) 9999 / *Congressional Adds*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**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*	15.414	9.166	-	-	-	-	-	-	-	-	-	24.580
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

Congressional add for Small Business Technology Insertion.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
Congressional Add: Small Business Technology Insertion	9.166	-
FY 2013 Accomplishments: - Conducted 112 element array demo for the MK 48 heavyweight torpedo and HWT transmitter re-design efforts.		
FY 2014 Plans: - Continue 112 element array demo for the MK 48 heavyweight torpedo and HWT transmitter re-design efforts.		
Congressional Adds Subtotals	9.166	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Congressional adds

E. Performance Metrics

Congressional adds

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0205633N *I Aviation 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	1,005.839	71.945	78.608	106.936	-	106.936	120.820	120.927	123.075	125.478	Continuing	Continuing
0601: *Acft Handling & Service Equip*	27.134	0.194	2.278	2.626	-	2.626	2.626	2.690	2.721	2.784	Continuing	Continuing
0852: *Consolidated Auto Support System*	126.886	12.984	6.496	6.533	-	6.533	6.633	6.775	6.881	7.020	Continuing	Continuing
1041: *Acft Equip Repl/Maint Prog*	37.246	2.930	3.273	3.243	-	3.243	3.338	3.395	3.434	3.503	Continuing	Continuing
1355: *Propulsion and Power Component Improvement Program*	810.574	51.589	61.393	87.150	-	87.150	93.750	95.612	110.039	112.171	Continuing	Continuing
2269: *EAF Matting*	3.999	4.248	5.168	7.384	-	7.384	14.473	12.455	-	-	-	47.727

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

A. Mission Description and Budget Item Justification

Project 0601 - Common Ground Equipment is a Naval Aviation Project to apply new technology to common support equipment necessary to support multiple aircraft.

Project 0852 - Consolidated Automated Support System is a standardized Automated Test Equipment with computer assisted, multi-function capabilities to support the maintenance of aircraft subsystems and missiles.

Project 1041 - Aircraft Equipment Reliability/Maintainability Improvement Program is the only Navy program that provides engineering support for in-service out-of-production aircraft equipment, and provides increased readiness at reduced operational and support cost.

Project 1355 - Aircraft Engine Component Improvement Program develops reliability and maintainability and safety enhancements for in-service Navy aircraft engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, fuel systems, fuels, and lubricants.

Project 2269 - The Expeditionary Airfields (EAF) program designs, develops, tests and fields a sustainment lighting system to replace existing obsolete legacy EAF lighting system.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

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 7: *Operational Systems Development*		R-1 Program Element (Number/Name) PE 0205633N *I Aviation Improvements*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	89.157	88.607	113.421	-	113.421
Current President's Budget	71.945	78.608	106.936	-	106.936
Total Adjustments	-17.212	-9.999	-6.485	-	-6.485
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-9.999			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-7.400	-			
• SBIR/STTR Transfer	-1.952	-			
• Program Adjustments	-	-	-2.071	-	-2.071
• Rate/Misc Adjustments	0.001	-	-4.414	-	-4.414
• Congressional General Reductions Adjustments	-7.861	-	-	-	-

Change Summary Explanation

Cost:

Project 2269: Due to higher program and Navy priorities, Expeditionary Airfields (EAF) budget was reduced by $6.7M. in FY13.

Schedule:

Project 0601: Aircraft Spotting Dolly and Carrier/Amphibious Assault Ship Crash Crane schedule delayed as a result of the majority of FY13 funding being re-directed to a higher priority program within Project 0852. Milestone C moved to 4Q FY16.

Project 0852: eCASS Milestone C moved to 1Q FY14 due to the delayed completion of test analysis of DT-B1 results. Milestone C delay has caused multiple schedule changes within the program, all of which have been approved by the Milestone Decision Authority.

Project 1355: Systems Engineering Propulsion & Power Component Improvement and System Engineering to Correct Flight Safety Deficiencies added.

Project 2269: Due to higher program and Navy priorities, EAF scheduled events and milestones were adjusted accordingly.

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0205633N *I Aviation Improvements*

Technical: Not Applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*				Project (Number/Name) 0601 / *Acft Handling & Service Equip*			
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**
0601: *Acft Handling & Service Equip*	27.134	0.194	2.278	2.626	-	2.626	2.626	2.690	2.721	2.784	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	1.000	1.000	-	1.000	-	-	-	-		

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

A. Mission Description and Budget Item Justification

Common Ground Equipment is a Naval Aviation project to apply new technology to common support equipment necessary to support multiple systems/aircraft within the Navy. The common support equipment items developed with this budget are briefed to the Air Force, Army and Coast Guard for possible use in joint procurement in the production phase.

New Programs are Aircraft Spotting Dolly (ASD) and Carrier/Amphibious Assault Ship Crash Crane (CV/AACC) in FY14. ASD is an R&D program to develop next generation ASD. New ASD requires low profile and alternative power to allow safe spotting of all aircraft aboard carrier/amphibious class ships. CV/AACC is required to remove damaged aircraft from the flight line. R&D resources are needed to identify not only replacements, but new technologies, which can increase the reliability and maintainability of this flight ops critical piece of equipment.

PEMA funding supports the evaluation, testing and integration to develop Portable Electronic Maintenance Aids (PEMA) Commercial Off the Shelf solution for portable device deployments across the Naval Aviation Enterprise. PEMA is a portable device utilized by maintainers with the implementation of digital maintenance capabilities (digital publications, Interactive Electronic Technical Manuals, Internet Protocol based data uploads, Binary digit data downloads, automated diagnostics, and planeside Naval Aviation Logistics Command/Management Information System. PEMAs are a mandatory display device supporting modern day Automated Maintenance Environment implemented for weapon systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Aircraft Spotting Dolly (ASD)	-	0.938	0.616
Articles:	-	-	1.000
Description: There are no commercially available towing vehicles that could even be modified to replace the capabilities of the present SD-2. An R & D effort will be required to design its replacement. Advances in batteries and alternating current motor drive systems in the past decade have made it feasible to design an electrically powered vehicle for the CV, CVN, and L-Class hanger deck spotting missions. Such a vehicle will be inherently more reliable, reduce maintenance, and eliminate the fumes and noise generated by a diesel engine. An electrically driven vehicle will provide much greater motion control for slow speeds to aid in the engagement to the aircraft nose gear. Proximity sensors will be incorporated to automatically stop the spotting dolly prior to accidental impact with the aircraft, other support equipment or bulkheads, increasing the safety of the spotting operations. The legacy ASD is close to thirty years old and experiencing parts obsolescence issues and general efficiency degradation.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Initiate prototype phase and begin contractor and government run test. ***FY 2015 Plans:*** Continue contractor and government run test.			
Title: Carrier/Amphibious Assault Ship Crash Crane (CV/AACC)	-	0.895	1.565
Articles:	-	1.000	-
Description: CV/AACC are required to remove damaged aircraft from the flight line. In 2004, a solicitation for a commerical off the shelf replacement for the existing shipboard crash crane was issued. Two bids were received, and after a complete evaluation with many rounds of discussions with the companies bidding, both proposals were found to be technically inadequate and the procurement effort was discontinued. As a result, the crash cranes have continued operation unchanged. Designed in the late 1980's, major systems are beginning to experience the obsolescence of spare parts and are in need of updating. R&D resources are needed to identify not only replacements, but new technologies, which can increase the reliability and maintainability of this flight ops critical piece of equipment. Systems updates would include the engine/generator and electrical updates to the motor drive/control system. An exploration of power sources other than diesel engines would be considered and a corrosion resistant boom. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Initiate ECP development and begin contractor and government run test. ***FY 2015 Plans:*** Continue ECP development and contractor and government run test.			
Title: Portable Electronic Maintenance Aid (PEMA)	0.194	0.445	0.445
Articles:	-	-	-
Description: Portable Electronic Maintenance Aid (PEMA) funding supports the evaluation, testing and integration to develop PEMA Commercial Off-the-Shelf (COTS) solution for portable device deployments across the Naval Aviation Enterprise. PEMA is a portable device utilized by maintainers with the implementation of digital maintenance capabilities (digital publications, Interactive Electronic Technical Manuals, Internet Protocol based data uploads, Binary digit data downloads, automated			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
diagnostics, and planeside Naval Aviation Logistic Command Management Information System. PEMAs are a mandatory display device supporting modern day Automated Maintenance Environment implemented for weapon systems. ***FY 2013 Accomplishments:*** Evaluate, test and integrate evolving COTS solutions. Conduct test & evaluation of Type/Model/Series peculiar software/hardware requirements and network connectivity compliance across the Global Information Grid prior to deployment to the fleet by a yearly release cycle. ***FY 2014 Plans:*** Evaluate, test and integrate evolving COTS solutions. Conduct test & evaluation of Type/Model/Series (T/M/S) peculiar software/ hardware requirements and network connectivity compliance across the Global Information Grid (GIG) prior to deployment to the fleet by a yearly release cycle. ***FY 2015 Plans:*** Evaluate, test and integrate evolving COTS solutions. Conduct test & evaluation of T/M/S peculiar software/hardware requirements and network connectivity compliance across the GIG prior to deployment to the fleet by a yearly release cycle.			
Accomplishments/Planned Programs Subtotals	0.194	2.278	2.626

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/0705: *Ground Support Equipment*	111.505	102.599	127.717	-	127.717	122.741	126.983	128.266	131.056	Continuing	Continuing
• OPN/4264: *Portable Electronic Maintenance Aids*	7.303	7.969	-	-	-	-	-	-	-	-	39.499
• OPN/4268: *Other Aviation Support Equipment*	-	-	7.746	-	7.746	7.862	7.990	8.126	8.285	Continuing	Continuing

Remarks

D. Acquisition Strategy

Common Ground Equipment: This is a non ACAT program. Field activities propose tentative projects. Internal panel merits and selects projects. Field activities develop projects and submit results. Operational Advisory Group process selects projects to transition to procurement.

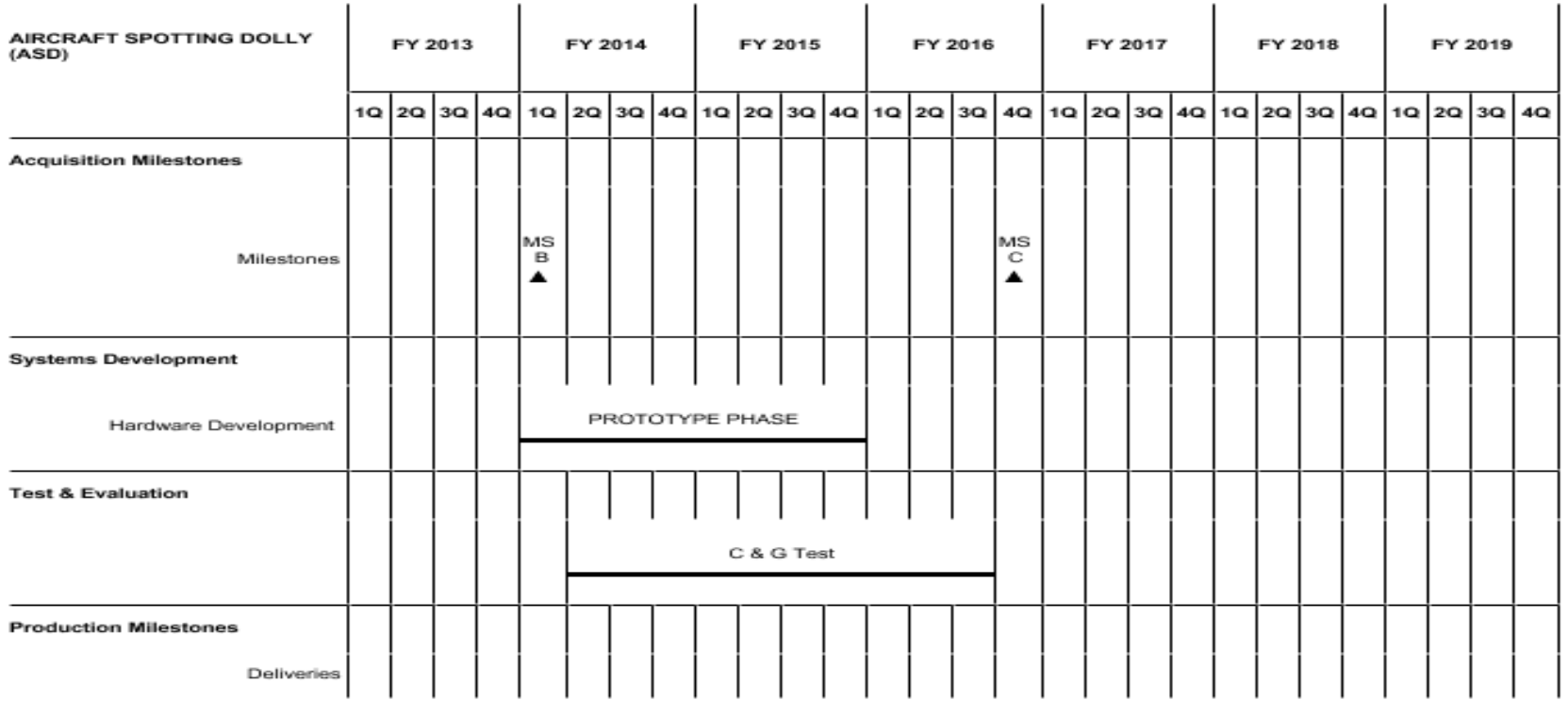
Portable Electronic Maintenance Aids: The management approach includes the Program Management Office residing at NAVAIR with Milestone Decision Authority delegated to the NAVAIR CIO. The evolutionary development approach will be used to execute requirements. Contracting for the prime integrator will be via competitively awarded Indefinite Delivery/Indefinite Quantity contracts.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

E. Performance Metrics

Milestone Reviews

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

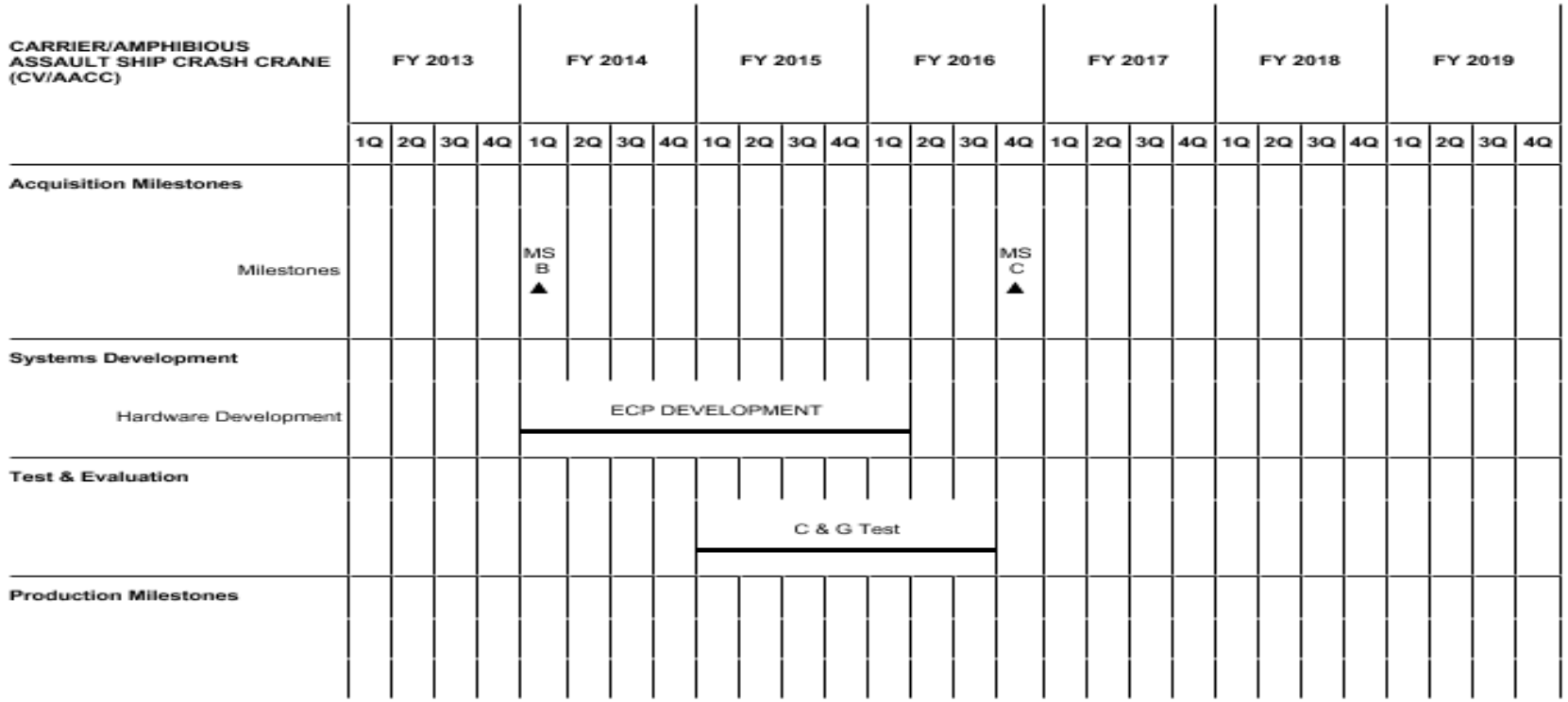


2015DON - 0205633N - 0601

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*

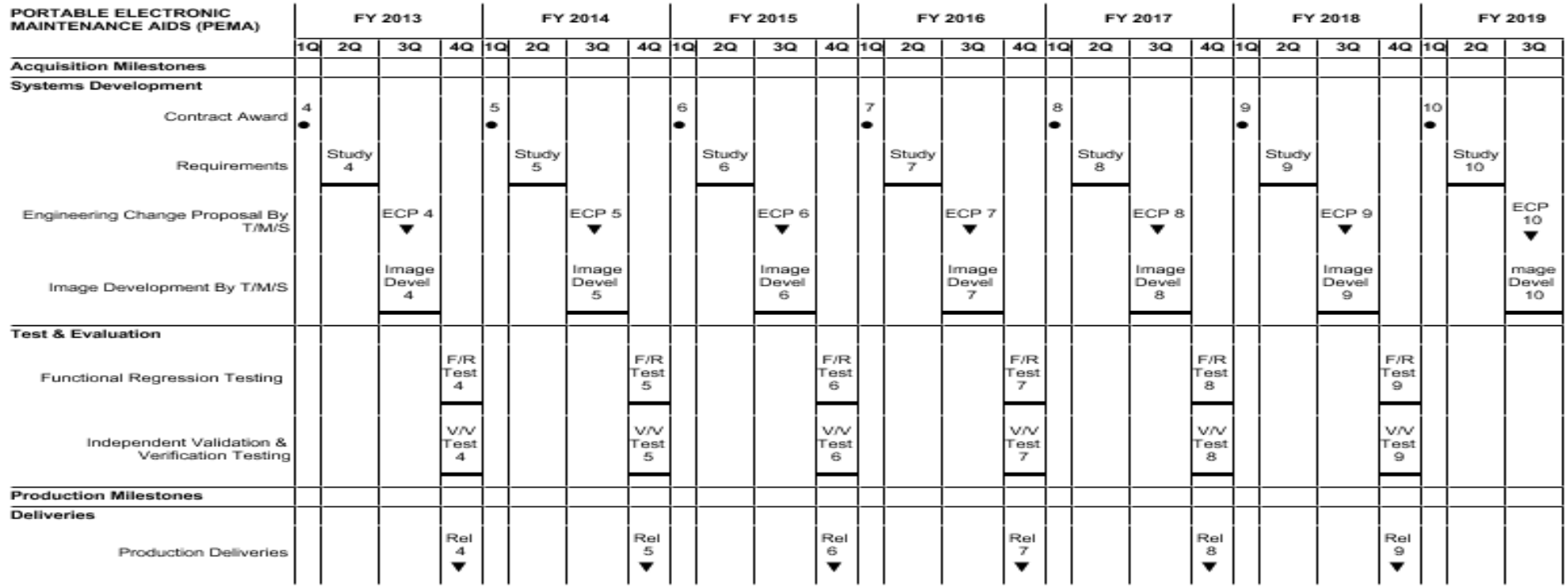


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*



2015DON - 0205633N - 0601

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0601 / *Acft Handling & Service Equip*



2015DON - 0205633N - 0601

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 0852 / *Consolidated Auto 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
0852: *Consolidated Auto Support System*	126.886	12.984	6.496	6.533	-	6.533	6.633	6.775	6.881	7.020	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 electronic Consolidated Automated Support System (eCASS) project is the system design and development of the latest generation of the US Navy's CASS family of automatic test systems. The legacy CASS system was designed and developed in the 1980's and commenced fielding in 1992. As such, it is reaching the end of its useful life due to obsolescence issues. eCASS is the replacement system for legacy CASS systems, which provides Naval aircraft avionics component maintenance and repair support at Intermediate and Depot maintenance facilities both shore-based and afloat. As a CASS replacement program, the eCASS program objectives remain the same as that of CASS. Specifically: (1) increase material readiness; (2) reduce life cycle costs; (3) improve tester sustainability at depot and intermediate maintenance levels; (4) reduce proliferation of unique test equipment, and (5) provide test capability for existing and emerging avionics/electronics aircraft weapon systems.

The Test Technology Development project involves analysis, application, maturation, integration and testing of emerging electronic, mechanical and optical test technologies for potential military utility in support of Naval avionics testing and repair. Specific technologies being developed include synthetic instruments, new Advanced Targeting Forward Looking Infrared electro-optics capabilities, multi-analog test capability to enable functional testing, and modernization elements for the CASS family of automatic test systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: eCASS Development	12.984	6.196	6.233
Articles:	-	-	-
Description: Develop, integrate and test an Automatic Test System (ATS) to replace legacy CASS systems. The new ATS will be compatible with and capable of hosting the hundreds of existing Test Programs that are currently utilized on legacy CASS at the Intermediate and Depot levels of maintenance, as well as any emerging Test Programs that may require greater test capability than provided by legacy CASS.			
FY 2013 Accomplishments: Continue Test Program Set integration. Conduct test events.			
FY 2014 Plans: Conduct Milestone C Review. Conduct test events. Award LRIP Option(s) (APN-7).			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0852 / *Consolidated Auto Support System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue test events.			
Title: Test Technology Development	-	0.300	0.300
Articles:	-	-	-
Description: Develops, integrates, and evolves enhanced test capabilities and technologies for insertion into the Consolidated Automated Support System (CASS) family of test systems. As weapon system electronics evolve, new test capabilities are required to support advanced systems. Existing test capabilities must be extended in range, accuracy, time and frequency domains in order to sustain the required test accuracy ratios for weapon systems support (the automatic test system must be four times as accurate as the asset being tested). ***FY 2013 Accomplishments:*** Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems. ***FY 2014 Plans:*** Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems. ***FY 2015 Plans:*** Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems.			
Accomplishments/Planned Programs Subtotals	12.984	6.496	6.533

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/0705: *Common Ground Equip APN-7*	93.063	89.662	80.908	-	80.908	103.375	94.499	96.116	98.014	Continuing	Continuing

Remarks

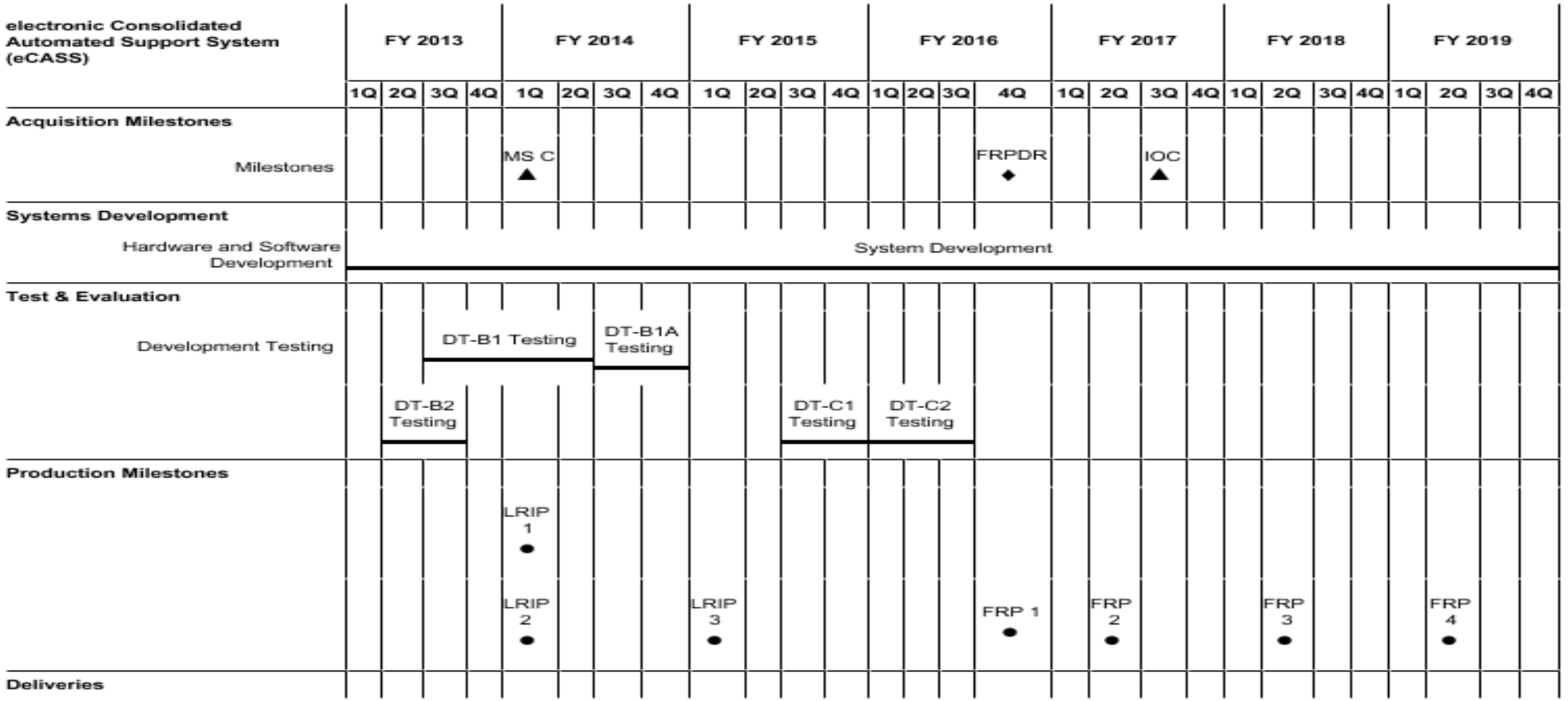
D. Acquisition Strategy

Formal test technology reviews with industry are conducted annually (cooperative Joint Services initiative) to define maturity of needed technologies. Further studies are conducted as needed. Procurement strategy is determined by market survey and cooperative opportunities.

E. Performance Metrics

Milestone Reviews

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 0852 / *Consolidated Auto Support System*



2015PB - 0205633N - 0852

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*	Project (Number/Name) 1041 / *Acft Equip Repl/Maint 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
1041: *Acft Equip Repl/Maint Prog*	37.246	2.930	3.273	3.243	-	3.243	3.338	3.395	3.434	3.503	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

Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP) is the only Navy program which provides Research, Development, Test & Evaluation engineering support specifically for in-service, out-of-production aircraft equipment. AERMIP increases readiness through reliability, maintainability, and safety improvements to existing systems and equipment installed in Naval aircraft. It also provides a transition vehicle to deploy Total Ownership Cost reduction initiatives through flight-test support and Fleet Test & Evaluation. It meets affordable readiness objectives by providing a cost-effective solution to obsolescence problems encountered when service lives are extended. AERMIP promotes commonality and standardization across aircraft platform lines and among the services through extension of application and use of non-developmental items. AERMIP also decreases life cycle costs through reduced operational and support costs. AERMIP facilitates the Operational, Safety and Improvement Program by applying proven low-risk solutions to current fleet problems. AERMIP also funds high-priority flight testing which is not associated with any acquisition or development program under the Flight Test General task.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Avionics and Wiring	0.465	0.596	0.534
Articles:	-	-	-

FY 2013 Accomplishments:

Performed sustained operational testing on materials, equipment, and the procedures/process required for their implementation, continuing to refine their operation in real-world environments, including off-board equipment for generator and battery diagnostics and prognostics. Continued to enhance algorithms for multiple battery models covering additional legacy platforms. Pursued next-generation wiring, battery, and generator diagnosis and prognostics methods, and prove the applicability to Naval aviation. Addressed emergent avionics and wiring-related reliability issues impacting multiple aircraft platforms.

FY 2014 Plans:

Perform sustained operational testing on materials, equipment, and the procedures/process required for their implementation, continuing to refine their operation in real-world environments, including off-board equipment for diagnostics and prognostics. Pursue next-generation technologies that reduce maintenance burden, including diagnosis and prognostics methods, and prove the applicability to Naval aviation. Address emergent avionics and wiring-related reliability issues impacting multiple aircraft platforms.

FY 2015 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1041 / *Acft Equip Repl/Maint Prog*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Qualify additional material or pieces of equipment and the procedures or processes required for implementation. Test and evaluate equipment for effectiveness of wiring diagnostics and prognostics. Purse technology advances in ultra-high density power storage from industry. Address avionics related reliability/maintainability issues impacting multiple aircraft platforms while continuing to investigate high value return on investment initiatives. Begin to review and investigate high speed data connector reliability in aircraft subsystems.			
Title: Air Vehicle	1.700	1.786	1.821
Articles:	-	-	-
FY 2013 Accomplishments: Performed sustained operational testing on materials, equipment, and the procedures/process required for their implementation, continuing to refine their operation in real-world environments. Developed expanded methods of structural repair with focus on low cost and reduced labor procedures that can be done in fleet environments. Continued expansion of human factors focus and advanced materials and coatings in corrosion prevention control. Based on advancement in material sciences, test and qualify new materials or equipment technologies and the procedures/process required for their implementation to improve operational reliability, while containing cost growth.			
FY 2014 Plans: Perform sustained operational testing on materials, equipment, and the procedures/process required for their implementation, continuing to refine their operation in real-world environments. Continue development of expanded methods of structural repair with focus on low cost and reduced labor procedures that can be done in fleet environments. Continue expansion of human factors focus and advanced materials and coatings in corrosion prevention control. Based on advancement in technology, test and qualify new materials or equipment and the procedures/process required for their implementation to improve operational reliability, while containing cost growth. Begin efforts addressing rapid composite tooling, multi-layer sacrificial film laminates, and expanded qualification of electro-discharge machine drilling.			
FY 2015 Plans: Based on advancement in technology, test and qualify new materials or equipment and the procedures/process required for their implementation to improve operational reliability, while containing cost growth. Continue development of expanded methods of structural repair with focus on low cost and reduced labor procedures that can be done in fleet environments. Address rapid composite tooling and expansion of human factors focus through enhanced maintainer performance. Continue to qualify multi-layer sacrificial film laminates, expanded qualification of electro-discharge machine drilling and advanced materials/coatings for corrosion prevention control. Address subsystem related reliability/maintainability issues impacting multiple aircraft platforms while continuing to investigate high value return on investment initiatives. Begin efforts to qualify improved cold spray component repair, high performance paint strippers, structural adhesive bond primer, structural component life improvement through cold-work, and maintainability of aircraft slip resistant surface treatment.			
Title: Systems Engineering Revitalization	0.765	0.891	0.888

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1041 / *Acft Equip Repl/Maint Prog*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 Accomplishments: Performed continuous and systematic update of the Systems Engineering Technical Review (SETR) web-based checklist tool. Continued to identify web-tool critical limitations and implement changes and improvements within the tool to increase the effectiveness and efficiency of the tool. Continued to investigate systems engineering processes and tools across Naval Air Systems Command domains, inclusive of end item performance derivation from operational requirements and the associated concept of operations, with the derivation remaining relevant to the mission and system architectures and the goals of improving operational reliability while containing life-cycle costs.			
FY 2014 Plans: Perform continuous and systematic update of the Systems Engineering Technical Review (SETR) web-downloadable checklist tool. Continue to identify critical limitations and implement changes and improvements within the tool to increase the effectiveness and efficiency of the tool. Continue to investigate systems engineering processes and tools across Naval Air Systems Command domains, inclusive of the end item performance derivation from operational requirements and the associated concept of operations, with the derivation remaining relevant to the mission and system architectures and the goals of improving operational reliability while containing life-cycle costs.			
FY 2015 Plans: First, continue improvements in the SETR process by adopting Model Based Systems Engineering techniques and begin socializing changes with functional engineering competencies gaining support. Second, continue checklist implementation and maintenance. Improve user interfaces, possible cloud hosting, update checklist to every changing policy direction, and explore implementation on SIPRNET. Third, develop, improve, and maintain the NAVAIR Systems Engineering (SE) Web Portal to assist in dissemination of SE Policy, SE Tools and Checklists.			
Accomplishments/Planned Programs Subtotals	2.930	3.273	3.243

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This is a non-ACAT program. Procurement strategy is determined by market survey and cooperative opportunities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1041 / *Acft Equip Repl/Maint Prog*

E. Performance Metrics

The Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP) program will, at a minimum, fund 8 to 15 projects a year that investigate and evaluate reliability and maintainability improvements to in-service, out-of-production aircraft equipment. AERMIP projects will have a greater than 75% success rate of insertion into Department of the Navy warfighting systems or support infrastructure.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1041 / *Acft Equip Repl/Maint Prog*

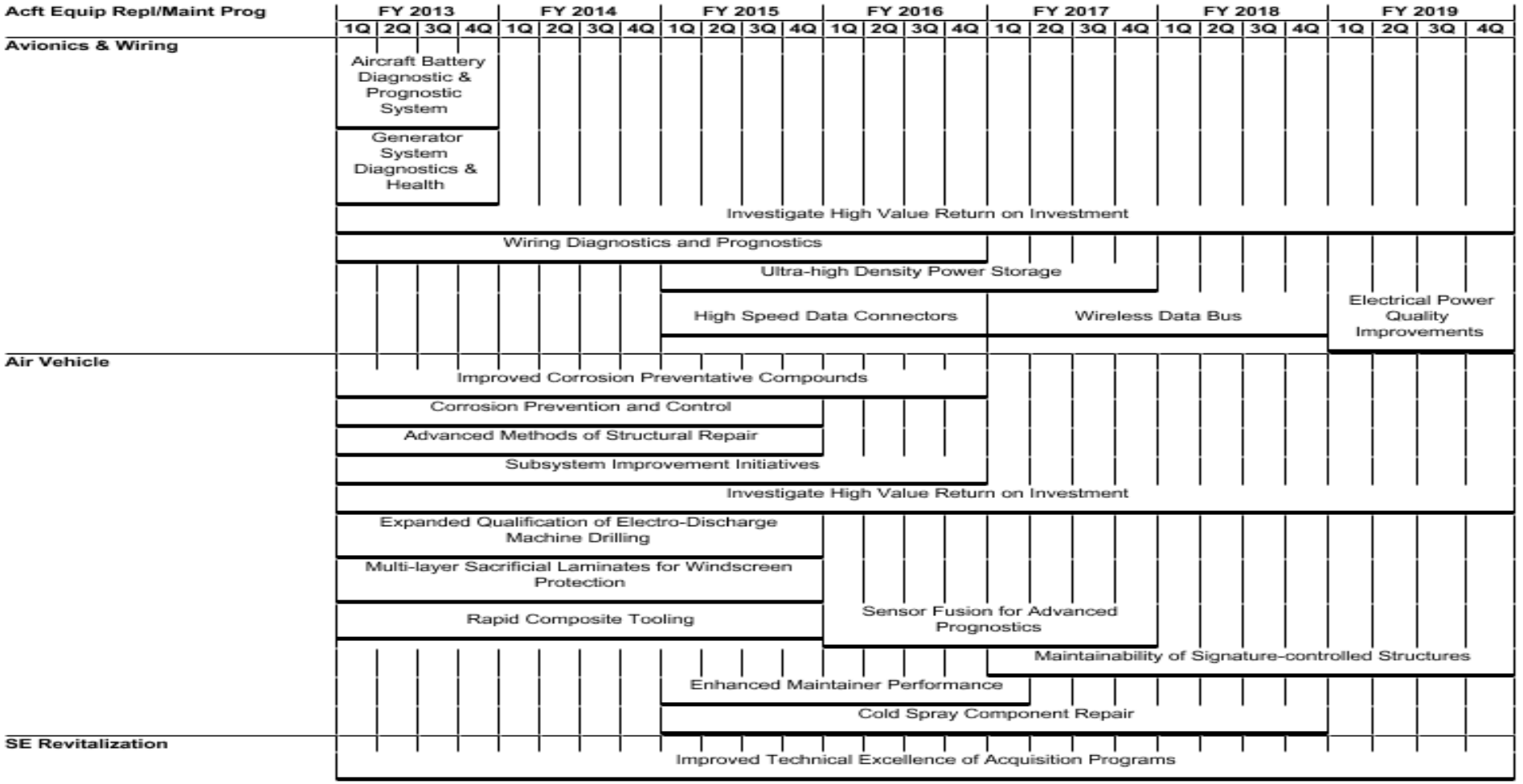


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1041 / *Acft Equip Repl/Maint Prog*



Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*				Project (Number/Name) 1355 / *Propulsion and Power Component 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**
1355: *Propulsion and Power Component Improvement Program*	810.574	51.589	61.393	87.150	-	87.150	93.750	95.612	110.039	112.171	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 Propulsion and Power (P&P) Component Improvement Program (CIP) provides the only source of critical design and development engineering support to resolve safety, reliability and maintainability deficiencies of in-service Navy and Marine Corps aircraft propulsion systems. The highest priority issues P&P CIP addresses concern safety-of-flight deficiencies, which account for approximately 80% of P&P CIP efforts. The program also corrects service-revealed deficiencies, improves Operational Readiness and Reliability and Maintainability, and reduces platform Life Cycle Cost. Budgets are allocated across platform-specific teams and multi-platform product support teams based upon long term strategies to achieve safety and affordable readiness goals; the R-3 exhibit details annual portions of those long-term strategies. P&P CIP tasks have reduced the rate of in-flight aborts, safety incidents, non-mission capable rates, scheduled and unscheduled engine removals, maintenance work hours, and overall cost of ownership. This is accomplished through the maintenance and validation of specification performance, testing to qualify engineering changes, verifying life limits, and improving the inherent reliability of the propulsion and power systems as an integral part of Reliability Centered Maintenance initiatives. Historically, the missions, tactics, and environmental exposure of military aircraft systems change to meet new threats or operational demands, and often result in unforeseen problems, which if not corrected, can cause critical safety/readiness degradation, such as those experienced during OPERATIONS DESERT SHIELD/DESERT STORM, ENDURING FREEDOM, and IRAQI FREEDOM due to sand erosion. In addition, new problems arise through actual fleet deployment and usage of the aircraft. System development programs, while geared to resolve as many problems as possible before deployment, cannot duplicate actual operations or account for the vast array of environmental and usage variables, particularly when aircraft missions vary from those that the aircraft was designed to perform. Therefore, it has been found that P&P CIP can provide an immediate engineering response to these flight-critical problems and accelerated engine testing can avoid potential problems. P&P CIP starts after development and Navy acceptance of the first production article and addresses usage and life problems not covered by warranties. P&P CIP addresses engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, aircraft wiring, and fuel and lubricant systems. These efforts continue over the system's life, gradually decreasing to a minimum level sufficient to maintain the reliability, and decrease the operating costs, of older inventory. P&P CIP is a highly leveraged and cooperative tri-service program with Foreign Military Sales participation.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2013**	**FY 2014**	**FY 2015**
Title: P3, E2, C2, C130 (T56)	6.980	7.828	9.050
Articles:	-	-	-
FY 2013 Accomplishments: Complete redesign the Aft Cone-Adaptor significant engine removal contributor. Continue design and fabrication of a replacement to the current electronic control system which will no longer be repairable due to obsolescence. Complete the Analytical Condition			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1355 / *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Inspections program. Complete qualification of redesigned combustor liner. Continue to investigate all service revealed deficiencies. Complete Gearbox improvements. Complete turbine vane durability project. ***FY 2014 Plans:*** Develop requirements and initiate design for an engine oil health monitoring system. Initiate design of more robust external scavenge pump. Continue development and testing of compressor blade/vane coating to improve corrosion and erosion resistance. Complete redesign and qualification of 3-4 turbine spacer. Complete qualification and begin incorporation of new reduction gearbox assembly planet gear bearing assembly. Complete incorporation of front compressor bearing labyrinth seal. Complete down-select program for new propeller brake. Complete redesign and begin incorporation of new front turbine bearing cage. Complete improvement and being incorporation of front turbine bearing support. ***FY 2015 Plans:*** Qualify and incorporate redesigned 3-4 turbine spacer to eliminate vibrational response at low-speed ground idle. Complete qualification and begin incorporation of compressor blade erosion corrosion-resistive coating. Complete qualification of oil health monitoring system. Begin redesign of fuel nozzles to eliminate coking and prevent hot section component damage.			
Title: E2/C2/C130/P3 (Props)	3.000	1.900	1.930
Articles:	-	-	-
FY 2013 Accomplishments: Complete research and testing of potential NP2000 Blade Erosion Coatings. Complete build of NP2000 Control System Working Model. Continue to investigate all service revealed deficiencies. ***FY 2014 Plans:*** Conduct flight testing of NP2000 modernized pump housing. Complete Fleet service evaluation of NP2000 blade erosion film. Continue to investigate all service revealed deficiencies. Begin fleet incorporation of P-3/C-130 taper bore plug. ***FY 2015 Plans:*** Complete flight testing of NP2000 modernized pump housing. Complete research and testing of potential NP2000 blade erosion prevention. Continue to investigate all service revealed deficiencies.			
Title: EA-6B (J52)	1.940	2.300	1.410
Articles:	-	-	-
FY 2013 Accomplishments: Complete incorporation of torque value and torque tooling. Complete development of a Thermal Barrier Coating for the combustion chamber interior surfaces. Develop updated repair and inspection criteria for fielded components. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1355 / *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Incorporate thermal barrier coating combustion chambers into the fleet assets. Implement and continue updating repair and inspection criteria for fielded components. Implement fuel flow-meter bracket redesign. ***FY 2015 Plans:*** Implement and continue updating repair and inspection criteria for fielded components. Manage parts obsolescence issues.			
Title: SH-60B/F, HH-60H, MH-60R/S (T700)	1.480	3.575	4.090
Articles:	-	-	-
FY 2013 Accomplishments: Continue redesign work to reduce impact of cost and readiness drivers for the T700 engine. Complete a Fleet Leader of the Automatic Wire Analyzer at Naval Air Station North Island to train operators, develop procedures, and measure effectiveness. Complete the redesign of the Main Transmission Gearbox from Magnesium to Aluminum. ***FY 2014 Plans:*** Implement safety changes (Stage 1 Blades, Dual Auto-Contingency). Develop and qualify corrosion reduction efforts on the H-60 intermediate and tail gearboxes. Develop new Li-Polymer battery for the H-60 to decrease maintenance man-hour requirements and total ownership costs. ***FY 2015 Plans:*** Continue redesign work to reduce impact of cost and readiness drivers for the T700 engine. Initiate T700 accelerated simulated mission endurance testing to demonstrate newly redesigned ceramic matrix composite shrouds and cutback diffuser. Conduct lithium battery development testing.			
Title: H-1 (T400/T700)	0.625	1.105	1.080
Articles:	-	-	-
FY 2013 Accomplishments: Complete development of T700-401 engine harness testor. Continue support of common T700 engine projects. ***FY 2014 Plans:*** Complete qualification of T700-401 engine harness tester. Continue support of common T700 engine projects. ***FY 2015 Plans:*** Continue support of common T700 engine and air turbine starter projects. Complete qualification and safety testing of the AH-1W lithium battery.			
Title: AV-8B (F402)	7.334	8.174	5.640
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1355 / *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Complete effort for low plasticity burnishing of low pressure compressor stage one, two and three blades. Complete fuel leak redesign of EVICS, HMU permanent magnet alternator, fuel manifold pipe leakage redesign, meandering wire magnetometer inspection technique for low pressure compressor stage one blade dovetails. ***FY 2014 Plans:*** Complete Low Pressure Compressor 1 blade redesign program, complete effort for low plasticity burnishing of low pressure compressor stage two and three blades, prepare for accelerated simulated mission endurance test, and prepare engine performance recovery plan. ***FY 2015 Plans:*** Complete flight test evaluation of redesigned low pressure compressor stage one blade and damper. Complete evaluation and qualification of engine variable inlet control system hydromechanical unit permanent magnet alternator ceramic bearing. Complete tasking for application of low plasticity burnishing on low pressure compressor stage two and three blades.			
Title: H-53/H-46/H-3 (T58/T64)	5.703	2.000	4.940
Articles:	-	-	-
FY 2013 Accomplishments: H-46/H-3 (T58) Continue to develop inspection and repair criteria for fielded components. H-53 (T64) Complete modernized torque sensor effort. Complete Fuel control reliability improvement program. Continue life management program, Prognostic Diagnostic based management analysis and Reliability Centered Maintenance efforts. ***FY 2014 Plans:*** Complete fuel control reliability and main engine carbon seal improvement programs. Continue life management analysis and reliability centered maintenance efforts. Continue to develop inspection and repair criteria for fielded components. ***FY 2015 Plans:*** H-46/H-3 (T58) Continue to develop inspection and repair criteria for fielded components. H-53 (T64)			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1355 / *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue life management analysis and reliability centered maintenance efforts. Continue to develop inspection and repair criteria for fielded components. Continue cost of ownership reduction programs. Complete accessory gearbox free-wheel unit lubrication improvement.			
Title: F-18 C/D/E/F (F414/F404)	13.811	16.281	13.960
Articles:	-	-	-
FY 2013 Accomplishments: Complete flameholder attachment redesign. Complete Full Authority Digital Electronic Control obsolescence redesign. Complete turbine disk dovetail edge of contact improvements. Complete Main Fuel Control improvements to reduce mission aborts. Begin mission analysis updates. Continue to develop lifting model. Continue life limited part life extension. Continue to develop inspection and repair criteria.			
FY 2014 Plans: Test cell performance management process to improve operability and reduce unscheduled engine removals, Variable Exhaust Nozzle (VEN) pump cover life improvement, pilot spraybar flow optimization to improve light off times, AB spraybar heat shield durability improvements, fuel nozzle life increase, alternate compressor blade rub coats to improve repairability and blade tip sealing performance, low plasticity burnishing qualification complete and approved for future stage 2 fan blade procurements, improved VEN pump and anti-ice valve qualified and available to Fleet.			
FY 2015 Plans: Complete test cell performance management process to improve operability and reduce unscheduled engine removals. Complete Variable Exhaust Nozzle pump cover life improvement, pilot spraybar flow optimization to improve light off times, and afterburner spraybar heat shield durability improvements. Implement fuel nozzle life increase, alternate compressor blade rub coats to improve repairability, and blade tip sealing performance.			
Title: T-45 (F405)	4.673	6.625	3.700
Articles:	-	-	-
FY 2013 Accomplishments: Complete to address safety issues reported from fleet. Analysis and redesign components based on service revealed deficiencies.			
FY 2014 Plans: Continue redesign work to reduce impact of cost and readiness drivers for the F405 engine based on service revealed deficiencies and address safety issues reported from fleet. Complete component testing and initiate engine testing of low pressure compressor blade improvements to mitigate blade root cracking in-service and reduce scrap rate at overhaul. Complete high			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1355 / *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
pressure compressor redesigns to improve corrosion resistance and continue redesigns to improve performance retention. Continue redesign of engine correct rotation system to reduce high failure rate and reduce cost of ownership. ***FY 2015 Plans:*** Continue redesign work to reduce impact of cost and readiness drivers for the F405 engine based on service revealed deficiencies and address safety issues reported from fleet. Complete component testing and initiate engine testing of low pressure compressor blade improvements to mitigate blade root cracking in-service, and reduce scrap rate at overhaul. Complete high pressure compressor redesigns to improve corrosion resistance and continue redesigns to improve performance retention. Continue redesign of engine correct rotation system to reduce high failure rate and reduce cost of ownership.			
Title: V-22 Propulsion	0.595	1.792	0.850
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Continue to support the V-22 propulsion system in funding valid propulsion and power component improvement program efforts to address safety, reliability, and/or maintainability issues. ***FY 2015 Plans:*** Begin implementation of nacelle blower and machined impellers to mitigate safety issue and increase scheduled maintenance interval by 2x. Upgrade engine control hardware-in-the-loop (HWIL) simulation with updated engine control software and transition to "Software" full authority digital engine control to reduce future costs of maintaining the HWIL capability. Kick off auxiliary power unit redesign efforts per FY14 trade study.			
Title: Multi-Platform Product Support Teams	4.112	9.228	7.401
Articles:	-	-	-
FY 2013 Accomplishments: Continue projects to provide common support to multiple platforms in the areas of improved drive systems, secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants, and refueling equipment; and improve electrical system product support, wiring, and battery systems. Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1355 / *Propulsion and Power Component Improvement Program*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue projects to provide common support to multiple platforms in the areas of improved drive systems; secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improved products and processes for fuels, lubricants, and refueling equipment; and improved electrical system product support, wiring, and battery systems. Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing. ***FY 2015 Plans:*** Continue projects to provide common support to multiple platforms in the areas of improved drive systems, secondary power, and mechanical systems; improve tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants, and refueling equipment; and improve electrical system product support, wiring, and battery systems. Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing. Study data system solutions for the Naval Power Avionics Thermal and Hydraulics Lab and install full control system solution. Provide support for growing modeling capability with large storage solutions for the research, development, test, and evaluation connected devices.			
Title: Adversary (J85) (F100)	1.336	0.585	1.200
Articles:	-	-	-
FY 2013 Accomplishments: Continue contribution to common Component Improvement Program (CIP) tasks with United States Air Force (USAF) for F100 and J85 Engine. J85 unique tasks include rotating part life update and fuel control redesign. ***FY 2014 Plans:*** Continue contribution to common CIP with the USAF and Foreign Military Sales group for the J85 engine. The most prevalent tasks for the J85 engine are Stage 1 turbine nozzle durability, compressor life cycle fatigue life update, and high-pressure turbine second-stage shroud heat shield. ***FY 2015 Plans:*** Continue contributing to the common CIP with the USAF and Foreign Military Sales group for the J85 engine. Investigate improvements on support equipment, revision of the life cycle fatigue life of rotating components, definition of optimal maintenance and schedule requirements, and optimization of engine functional and trim procedures and software.			
Title: Joint Strike Fighter (F135 Engine)	-	-	31.899
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1355 / *Propulsion and Power Component Improvement Program*

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:*** Work with Joint Program Office and U.S. Air Force (USAF) to prioritize and develop engineering project descriptions that resolve Fleet revealed deficiencies that are not part of system development. In concert with the USAF, support Joint service Lead-the-Fleet (LTF) engine testing on the conventional takeoff and landing/aircraft carriers system. Procure the short takeoff/vertical landing hardware to initiate LTF testing.			
Accomplishments/Planned Programs Subtotals	51.589	61.393	87.150

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

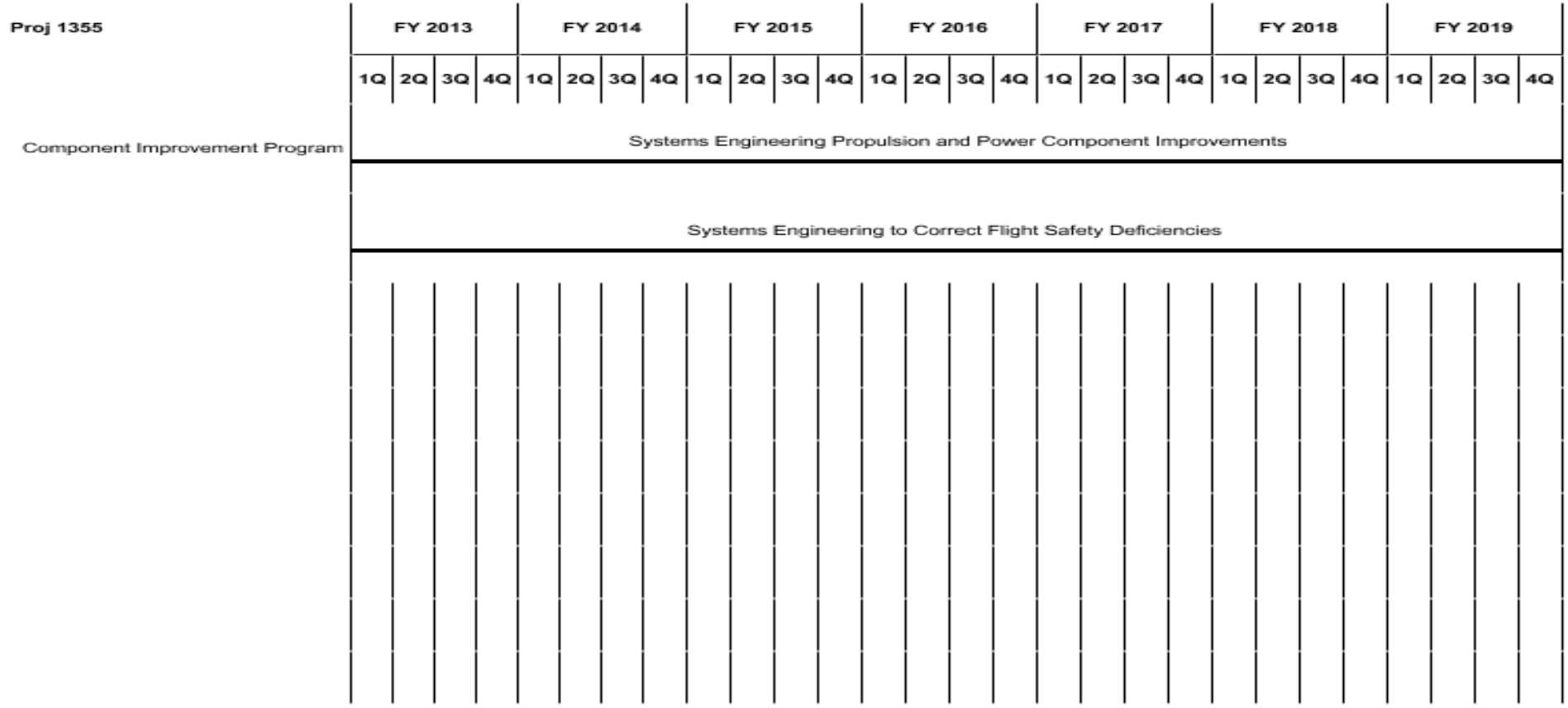
This is a NON-ACAT program. Procurement strategy is determined by market survey and cooperative opportunities.

E. Performance Metrics

The Propulsion and Power Component (P&P) Improvement Program (CIP) will support engineering design and development efforts for 100% of the safety of flight issues on in-service propulsion and power systems covered under the program. Over the past two years, this equated to more than 275 individual Engineering Project Descriptions (EPDs). P&P CIP will also address reliability and maintainability deficiencies equating to at least another 100 individual EPDs. Similar projects have increased the aggregate engine reliability across the USN/USMC fleet, as measured by the mean flight hours between engine removals, by 40% over the past eight years.

Program execution will be actively managed on 100% of the projects via contractor earned value data and overall obligation and expenditure rates as reflected in Navy ERP. Data will be analyzed and measured against OSD/FMB benchmarks on a monthly basis.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 1355 / *Propulsion and Power Component Improvement Program*



2015PB - 0205633N - 1355

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0205633N / *Aviation Improvements*				Project (Number/Name) 2269 / *EAF Matting*			
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**
2269: *EAF Matting*	3.999	4.248	5.168	7.384	-	7.384	14.473	12.455	-	-	-	47.727
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 Expeditionary Airfields (EAF) program was a FY2012 New Start, with funding released to the project in May 2012. The EAF program designs, develops and tests a Sustainment Lighting System (SLS) to replace the obsolete legacy EAF lighting system. This system will provide EAF Marine Aircraft Wing Support Squadrons with the required EAF equipment to install Forward Operating Bases and Forward Arming and Refueling Points. With the deployment of this equipment, the Marine Aircraft Wing Support Squadrons can support all United States Marine Corps (USMC) aircraft allowing the Combatant Commanders the flexibility to deploy Aircraft Combat Elements to meet anticipated threats.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Expeditionary Airfields Improvements	4.248	5.168	7.384
Articles:	-	-	-
Description: The EAF program designs, develops, tests and fields a Sustainment Lighting System (SLS) to replace the obsolete legacy EAF lighting system. This system will provide EAF Marine Aircraft Wing Support Squadrons with the required EAF equipment to install Forward Operating Bases and Forward Arming and Refueling Points. With the deployment of this equipment the Marine Aircraft Wing Support Squadron can support all USMC aircraft allowing the Combatant Commanders the flexibility to deploy Aircraft Combat Elements to meet anticipated threats.			
FY 2013 Accomplishments: Developed and released a Request for Proposal package for the Sustainment Lighting System (SLS), including a system specification, Statement of Work (SOW), and a Contract Deliverable Requirement List (CDRL) package. Development of an approved, Milestone Decision Authority (MDA), acquisition strategy.			
FY 2014 Plans: Evaluate offer or proposals for the SLS leading to contract award. Begin the design, development and integration of the SLS program. Achieve milestone B with MDA.			
FY 2015 Plans: Continue the design, development and integration of the SLS program leading to a System Requirement Review (SRR) and Preliminary Design Review (PDR).			
Accomplishments/Planned Programs Subtotals	4.248	5.168	7.384

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 2269 / *EAF Matting*	

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
• 0204161N/4208: *Expeditionary Airfields.*	33.687	4.677	-	-	-	-	-	-	-	-	288.774
• 0204161N/4213: *ASE-Expeditionary Airfields*	-	-	8.423	-	8.423	8.517	8.693	8.790	8.966	Continuing	Continuing

Remarks

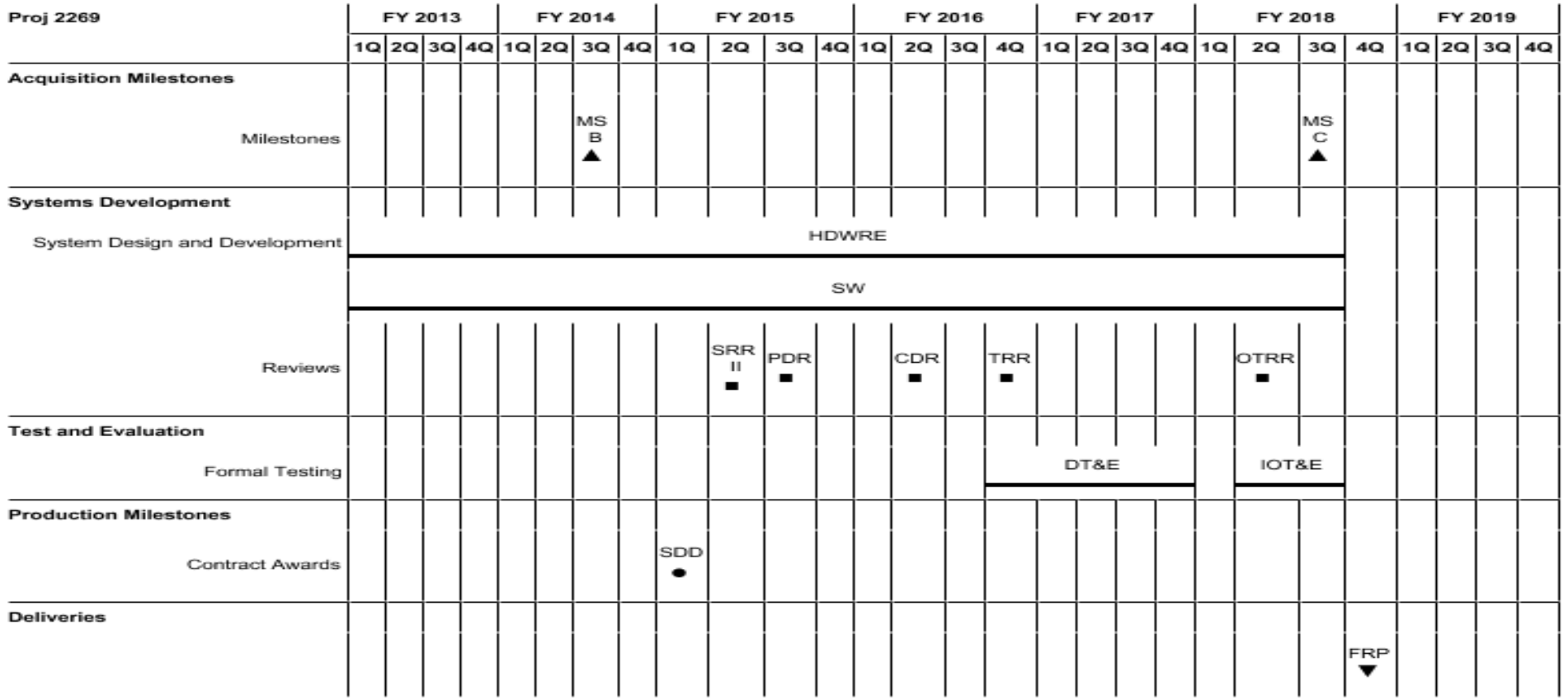
D. Acquisition Strategy

Expeditionary Airfields (EAF): The program will use a Full and Open competition contract strategy for the system design, development, integration and testing of the Sustainment Lighting System (SLS).

E. Performance Metrics

Milestone Reviews

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205633N / *Aviation Improvements*	**Project (Number/Name)** 2269 / *EAF Matting*



2015DON - 0205633N - 2269

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0205658N *I Navy Science Assistance Progr*							
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	15.325	3.131	-	-	-	-	-	-	-	-	-	18.456
0834: *LAB Fit Support*	15.325	3.131	-	-	-	-	-	-	-	-	-	18.456

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

A. Mission Description and Budget Item Justification

The Naval Science Advisor Program ensures the Fleet/Force (F/F) helps shape the Department of the Navy (DoN) investment in Science and Technology (S&T), develops teaming relationships to rapidly demonstrate and transition technology, supports development of technology-based capability options for naval forces, and enables warfighting innovations based on technical and conceptual possibilities. This is accomplished through proactive connectivity and collaboration between DoN S&T and Joint, Navy, and Marine Corps commands worldwide. The program accomplishes this through several methods. It provides Science Advisors to Joint, Navy, and Marine Corps operational and strategic planning commands. Science Advisors facilitate and disseminate Joint Capabilities Integration and Development System (JCIDS) requirements provided by the F/F Commanders to the Director of Navy Test and Evaluation and Technology Requirements (OPNAV N091). Science Advisors collaborate with the F/F to identify specific solutions to known operational capability needs and provide the means to develop and demonstrate prototype systems. As a result, Science Advisors provide insight into issues associated with Naval Warfighting Capabilities that influence S&T program decision making. The program develops leaders among civilian scientists and engineers in the Naval Research Enterprise (NRE). Upon completion of their tours, Science Advisors return to the NRE with first hand knowledge of the F/F, warfighting issues, and strategic decision making. The Office of Naval Research (ONR) Science Advisor program enables continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

Effective FY14, funding for the Naval Science Advisor Program moved to PE 0602236N

B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	3.450	-	-	-	-
Current President's Budget	3.131	-	-	-	-
Total Adjustments	-0.319	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.024	-			
• SBIR/STTR Transfer	-0.006	-			
• Rate/Misc Adjustments	-0.001	-	-	-	-

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 7: *Operational Systems Development*		R-1 Program Element (Number/Name) PE 0205658N *I Navy Science Assistance Progr*			
• Congressional General Reductions Adjustments	-0.288	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0205658N / *Navy Science Assistance Progr*	Project (Number/Name) 0834 / *LAB Fit 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
0834: *LAB Fit Support*	15.325	3.131	-	-	-	-	-	-	-	-	-	18.456
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 Science Advisor (SA) Program under 6.7 funding ensures the critical Naval Fleet/Forces input help shape the Department of the Navy (DON) investment in Operational Systems Development S&T. This is accomplished by providing technical experts into Joint, Navy, and Marine Corps operational and strategic planning commands worldwide to connect and collaborate with DON S&T.

SAs facilitate and disseminate Joint Capabilities Integration and Development System (JCIDS) requirements and Future Naval Capabilities (FNC) engagement, providing the Fleet/Forces Commander recommendations to the Director of Navy Test and Evaluation and Technology Requirements for systems development. SAs collaborate with the Fleet/Forces to identify specific solutions to known operational needs and provide the means to develop and demonstrate prototype systems. As a result, SAs provide critical insight into issues associated with naval warfighting capabilities that influence S&T program decision making. The SA Program enables continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: NAVAL SCIENCE ADVISOR PROGRAM	3.131	-	-
Articles:	-	-	-

FY 2013 Accomplishments:

The Science Advisors (SA) are a conduit between the Fleet Forces, Office of Naval Research (ONR) and the Naval Research Establishments (NRE). Specific Fleet/Forces Science Advisors activities included the following:

Commander Seventh Fleet (C7F) SA engaged with ONR and the Naval Research Enterprise (NRE) as follows: briefed senior level audiences, participated in discussions on relevant technology and S&T gaps in the areas of Information Operations (IO), Electronic Warfare, Computer Network Operations, Information Analysis & Communications, Survivability & Self Defense, Strike, and Anti-Submarine Warfare in the context of the Navy's S&T Focus Areas and Sea Power 21 Pillars.

Commander US Naval Forces Central Command (C5F) SA provided leadership and guidance towards identification and response of C5F warfighting capability gaps based on threats having a critical impact on major campaign operations and combat readiness in the CENTCOM Area of Responsibility (AOR).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205658N / *Navy Science Assistance Progr*	**Project (Number/Name)** 0834 / *LAB Fit Support*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Commander US Fleet Forces Command (USFFC) SA facilitated integration and articulation of Fleet warfighter and readiness requirements influencing DOD RDT&E resourcing by leading a team from the Fleet, force providers and Naval Component Commands articulating the requirements to the S&T community. Commander Submarine Forces (CSF) SA established a team based structure to advance Undersea Enterprise (USE) S&T needs to achieve warfighting capabilities through the USE Chief Technology Officer (CTO), OPNAV N87, and the NRE. Evaluated, refined, and supported FY-13 FNC proposals and four Enabling Capabilities (EC) were approved for new start; Towed Array Reliability Improvement, ASW Fusion for Remote sensors, Alternate Anti-Surface Warfare Torpedo Homing and Target Discrimination, and Simulation Toolset for Analysis of Mission, Personnel, and Systems. Commander Naval Surface Forces (SURFOR) SA provided continuous engagement with ONR, and Fleet and Systems Command senior leaders in the creation, modification, and promulgation of Total Ownership Cost, Anti-Surface Warfare (ASW) and Integrated Air and Missile Defense (IAMD) gaps used as the basis for the development of FNC EC products. Commander Third Fleet (C3F) SA led the demonstration planning efforts for an IO Technology Demonstration that was tasked by the CNO. Completed a survey of game changing or disruptive S&T efforts throughout the NRE, and as result of the survey, developed a Future Capabilities Needs List, detailing areas of future S&T investment. This IO demonstration will continue to build on gained knowledge to implement new technologies and tactics. US Naval Forces Europe/Africa, C6F SA managed the deployment of the Computer Aided Maritime Threat Evaluation System, a rules based information technology to aid C6F in assessing the risk of commercial shipping within the AOR. Codified an enduring technical exchange with the NATO Undersea Research Center (NURC) under a memorandum of agreement to facilitate greater interoperability and the transition of NURC technologies into Naval Forces Europe/Africa, C6F exercises and operations. Commanding General 1st Marine Expeditionary Force and Marine Forces Central Command (CG I MEF/MARCENT) SA supported deployed force requirements definition and innovation insertion into Iraq and Afghanistan. Commander, US Marine Corps Forces Command (MARFORCOM) SA continued a cohesive and close teaming relationship with ONR Global SA at I MEF, II MEF, III MEF, and MARFORPAC that coordinated United States Marine Corps operating force's voice on S&T matters. Commander, Naval Air Forces (NAVAIRFOR) SA continued the development and installation efforts of weapons systems EO/IR upgrade on 2 aircraft carriers and one amphibious assault ship for detection and identification of small boat threats to aircraft carrier strike groups.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205658N / *Navy Science Assistance Progr*	**Project (Number/Name)** 0834 / *LAB Fit Support*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
III Marine Expeditionary Force (III MEF) SA worked with other USMC SAs to establish a new Operational Advisory Group (OAG) for the Marine Corps in Operational Science Technology and Experimentation (OSTE). Designed and proposed a new Science and Technology Review Committee (STC) at III MEF that will be used to inform the new OSTE OAG of MEF requirements and provide oversight, guidance and ownership of S&T work at III MEF in Okinawa, Japan. Commanding General II Marine Expeditionary Force (II MEF) SA provided support to the standup and deployment of II MEF FWD, briefing the Operations Officers and S&T Officers on emerging technology/ capabilities to be encountered in Afghanistan during II MEF FWD rotation. Commander, USMC, Pacific (MARFORPAC) SA focused on addressing operational and strategic needs with technology by engaging with the joint S&T community both within the Pacific and across DOD. Proposed, secured funding, and started installation of Micro Auto Gasification System (MAGS), a small scale in-situ waste management system for tactical and garrison environments. Commander Pacific Fleet (PACFLT) SA improved capabilities across the Pacific AOR through rapid technology pull in various mission areas including Maritime Security Operations, ASW and Counter-Intelligence Surveillance Reconnaissance. Engaged S&T, acquisition, industry, university, other government agencies, and coalition partners to identify warfighting gaps and possible long-term solutions and collaborative efforts. US Pacific Command (USPACOM) SA developed a command-wide S&T strategy to address operational shortfalls and synchronize S&T engagement with the USPACOM Theater Campaign Plan. Established and executed multi-phase action plan to inform service RDT&E enterprise of command warfighting shortfalls and identify candidate mitigation capabilities via USPACOM S&T Integrated Priority List. Commander Submarine Forces Pacific Fleet (SUBPAC) SA continued to expand the capabilities of the Unmanned Aerial System (UAS, aka SOTHOC, Submarine Over-The-Horizon Organic Capability). Two successful tactical development exercises with the UAS have occurred to evaluate counter detection. These exercises used UAS for over-the-horizon targeting of high-valued units in a multi-ship formation. SA, Commander, Navy Expeditionary Combat Command (NECC), updated the NECC S&T Strategy Plan as the warfighters demand signal to the Navy Expeditionary Combat Enterprise (NECE). Conducted technical demonstrations and the operational demonstration of the Riverine and Intercoastal Operations (RIO) JCTD unattended sensor system.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205658N / *Navy Science Assistance Progr*	**Project (Number/Name)** 0834 / *LAB Fit Support*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
SA, Commander, C10F, served as the senior representative/liaison in all interactions with S&T oriented government, military, academia, and industry organizations. Functioned as the FORCEnet Operational Agent S&T representative, Naval Space Operations S&T. SA, Commander Second Fleet (C2F), led the planning efforts for two Sea Trial sponsored events. Coordinated the MK 38 Laser Weapons System initiative which demonstrates the capabilities of a ship based directed energy weapon system for self-defense against small watercraft, UAS and other threats. Commander Fourth Fleet (C4F) SA was responsible for concepts of operation, science and technology, experimentation, exercises and programs of record relating to all aspects of Joint, Naval and Coalition warfare in support of the Maritime Strategy, U.S. SOUTHERN COMMANDs Campaign Plan with a focus on Countering Transnational Organized Crime (CTOC) and Theater Security Cooperation Plan, and Maritime Operations Center (MOC) capabilities. For successful implementation, the C4F SA was required to engage with personnel from USNAVSOs COCOM, U.S. SOUTHERN COMMAND, Navy Warfare Development Command, the other Navy Operational Agents (THIRD Fleet, NNWC), the platform agents (Submarine Forces, Naval Air Forces, Surface Forces, Navy Expeditionary Combat Command), US Fleet Forces Command and others as necessary. The C4F SA worked closely with SOUTHCOMS experimentation cell to integrate new technology for CTOC missions. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	3.131	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not Applicable.

E. Performance Metrics

Goal: Provide leadership with timely S&T advice on issues.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0205658N / *Navy Science Assistance Progr*	**Project (Number/Name)** 0834 / *LAB Fit Support*

Metric: Monthly reports by Science Advisors to the Office of Naval Research and senior leadership within their assigned commands.

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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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0205675N *I Operational Nuclear Power 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
Total Program Element	0.000	79.229	116.928	104.023	-	104.023	102.138	104.448	127.155	116.959	Continuing	Continuing
1303: *Operational Nuclear Power System*	0.000	79.229	116.928	104.023	-	104.023	102.138	104.448	127.155	116.959	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The details of this program element are classified CONFIDENTIAL and are submitted annually to Congress in the classified budget justification books.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	86.435	116.928	104.764	-	104.764
Current President's Budget	79.229	116.928	104.023	-	104.023
Total Adjustments	-7.206	-	-0.741	-	-0.741
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-0.741	-	-0.741
• Congressional General Reductions Adjustments	-7.206	-	-	-	-

Change Summary Explanation

Technical: Not applicable.
Schedule: 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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0206313M *I Marine Corps Comms 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	1,009.061	162.537	160.773	77.398	-	77.398	75.412	80.063	81.214	79.444	Continuing	Continuing
2270: *Exp Indirect Fire Gen Supt Wpn Sys*	195.921	23.381	28.863	28.822	-	28.822	27.070	29.938	30.557	30.143	Continuing	Continuing
2273: *Air Ops Cmd & Control (C2) Sys*	287.573	51.302	65.069	8.811	-	8.811	8.805	11.116	11.250	8.996	Continuing	Continuing
2274: *Command & Control Warfare Sys*	38.698	12.619	8.630	7.080	-	7.080	9.415	6.189	6.345	6.554	Continuing	Continuing
2275: *Marine Corps Tactical Radio Systems*	11.442	8.307	18.832	4.036	-	4.036	3.539	3.956	2.712	2.771	Continuing	Continuing
2276: *Comms Switching and Control Sys*	28.401	6.844	12.446	3.715	-	3.715	3.769	3.546	4.064	5.124	Continuing	Continuing
2277: *System Engineering and Integration*	16.638	10.774	11.137	5.188	-	5.188	5.070	4.803	4.825	4.860	Continuing	Continuing
2278: *Air Defense Weapons System*	35.829	1.872	3.041	3.453	-	3.453	2.876	2.936	2.984	3.615	Continuing	Continuing
2510: *MAGTF CSSE & SE*	246.180	22.372	3.142	4.124	-	4.124	3.055	2.393	1.238	1.012	Continuing	Continuing
3099: *Radar System*	148.379	25.066	9.613	12.169	-	12.169	11.813	15.186	17.239	16.369	Continuing	Continuing

MDAP/MAIS Code:
Other MDAP/MAIS Code(s): 582

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

A. Mission Description and Budget Item Justification

This program element provides funding to develop the command and control (C2) support and information infrastructures for the Fleet Marine Force and supporting establishment. Doctrinally, the C2 support system and the information infrastructure form two parts of a triad of capabilities which permits command and control systems to be transformed into a complete operating system. The third element of the triad is command and control organization and is not covered in this program element. USMC command and control is divided into seven functional areas and one supporting functional area as follows: intelligence C2, fire support C2, air operations C2, radio systems C2, combat service support C2, warfare C2, radar systems C2, and C2 support (information processing and communications).

Within this program element, subprojects have been grouped by C2 functional area for more efficient planning. Air defense weapons systems have been added to facilitate planning and a separate project is used for systems assigned to the supporting establishment. Subprojects which support the commander's decision processes

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0206313M *I Marine Corps Comms Systems*

have been collected into the Command Post Systems project since these systems must work in close cooperation to ensure effective C2 of Marine Air Ground Task Forces.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	219.054	178.753	162.231	-	162.231
Current President's Budget	162.537	160.773	77.398	-	77.398
Total Adjustments	-56.517	-17.980	-84.833	-	-84.833
• Congressional General Reductions	-	-0.280			
• Congressional Directed Reductions	-	-17.700			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-22.774	-			
• SBIR/STTR Transfer	-5.499	-			
• Program Adjustments	-	-	-10.474	-	-10.474
• Rate/Misc Adjustments	0.001	-	-74.359	-	-74.359
• Congressional General Reductions Adjustments	-19.245	-	-	-	-
• Congressional Directed Reductions Adjustments	-9.000	-	-	-	-

Change Summary Explanation

The funding decrease from FY14 to FY15 can be attributed to the Common Aviation Command and Control System (CAC2S) program moving into PE 0206335M, other programs transitioning past RDT&E needs, and the realignment of resources to other Marine Corps priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
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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**
2270: *Exp Indirect Fire Gen Supt Wpn Sys*	195.921	23.381	28.863	28.822	-	28.822	27.070	29.938	30.557	30.143	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 Air Ground Task Force (MAGTF) Command and Control (C2) Systems Applications (SA) - MAGTF C2 SA merges the development, integration and testing of 45 existing C2 systems and applications into one common enterprise capability. They reside in all Combat Operations Centers (COCs) and related USMC C2 platforms. This effort provides greater economies of scale/affordability with system developers, technical design agents, integration agents and individual program offices. MAGTF C2 SA efforts are in alignment with the combat developers requirements for: Net-Centric systems, Development of reusable Open Architecture components, Data exposure, Enhancing the warfighter's Situational Awareness and Increasing/Maximizing the Commander's decision space.

Joint Battle Command - Platform (JBC-P) Family of Systems (FoS) - JBC-P FoS is a joint Army led ACAT II program. It is a product line comprised of systems and products formerly associated with the Blue Force Tracker (BFT) FoS and JBC-P. It comprises L-Band SATCOM and terrestrial Command and Control (C2) and Situational Awareness (SA) systems that use graphic displays to identify friendly units by providing Position Location Information (PLI) while facilitating tactical level C2.

Blue Force Situational Awareness (BFSA) - The Marine Corps' Situational Awareness Blue Force Tracker family of systems is comprised of the Mounted and Dismounted variants of a terrestrial Enhanced Position Location Reporting System/Single Channel Ground Airborne Radio System (EPLRS/SINCGARS) and the mounted celestial (SATCOM) system. In FY14, the BFSA and JBPC funding lines are merged into the JBCP FoS line.

Tactical Command Operations System (TCO) - TCO is the principle tool within the Marine Air Ground Task Force (MAGTF) for situational awareness through distribution of the Common Tactical Picture (CTP). It supports tactical operations providing information via high speed computer systems in a timely manner and includes the Intel Operations Workstations/Servers. R&D funds provide science and technology advanced concepts to be applied to the system for an increase in functional capabilities to the warfighter, to include Joint Command and Control (JC2) development efforts within Tactical Service Oriented Architecture (TSOA).

Identity Dominance System-MC (IDS-MC) - IDS-MC is a multi-modal (fingerprint, iris and face) biometric collection system that provides the USMC a reliable and effective capability to collect, share, match, access, verify and store identity information. IDS-MC will enable the Marine to collect appropriate biometric, biographical and reference information on an individual and match this locally developed information with pre-existing information available to the expeditionary force. The system will display match results with linkage to the respective individual's biographical and reference information as well as help analyze the response, update records as appropriate, create reports and disseminate updated information in accordance with current MAGTF policy. The primary mission of IDS-MC is to provide the MAGTF with the means to identify persons encountered in the battle space. While IDS-MC is not an intelligence analysis system, it does provide identification information in support of military intelligence and law enforcement operations by providing positive identification of persons of interest. IDS-MC is an enabler in the areas of detainee

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management and questioning, base access, counterintelligence screening, border control, law enforcement, displaced persons' management and aiding in humanitarian assistance missions. IDS-MC supports the tactical application of identity dominance and fully supports a forward presence, crisis response and contingency response capability. IDS-MC will incrementally phase out the Biometric Automated Toolset (BAT).

Advanced Field Artillery Tactical Data Family of Systems (AFATDS FoS) - AFATDS FoS consists of three programs, AFATDS, Back Up Computer System (BUCS) and Mobile Tactical Shelter (MTS). The AFATDS automates the fire planning, tactical fire direction, and fire support coordination required to support maneuver from the sea and subsequent operations ashore. AFATDS integrates all supporting arms assets within the MAGTF such as mortars, cannon artillery, rockets and missiles, close air support, and naval surface fire support systems. BUCS is a hand-held computer system designed to provide a backup to the AFATDS in computing ballistic firing solutions, as well as provide survey and Meteorological functions in support of artillery. Additionally BUCS is the primary ballistic firing solution system during Ship To Objective Maneuver (STOM) and for the Expeditionary Fire Support System (EFSS). The MTS is a Lightweight Multi-purpose Shelter (LMS) mounted on a High Mobility Multipurpose Wheeled Vehicle (HMMWV) which protects both the AFATDS and operators from the environment. MTS enables rapid emplacement and displacement of fire support elements and provides networked communications on the move. Target Hand-Off System (THS) - Previously identified as the entire Target Location Designation and Hand-Off System. The THS is the portion of TLDHS that provides Fire Support Observer/Controllers with the ability to view video, manipulate, and digitally transmit (hand-off) target data to Fire Support platforms and agencies.

Handheld Command and Control (H2C2) - H2C2 project vision outlines a collective and efficient mobile computing Acquisition Strategy in order to ensure economies of scale and scope. The H2C2 portfolio consists of two specific capabilities - secure wireless access to multiple networks and handheld communication platforms. The handheld capability provides low cost (commercially available) platforms (smartphones and tablets) for use on every network regardless of the operational environment. The emerging technologies will enable access to both classified and unclassified systems on a single device. The secure wireless capability enables Marines burdened by wired implementations an option to leverage wireless mediums. This capability provides wireless communication between a variety of devices.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: *MAGTF C2: Engineering, research, and software development for MAGTF capability release	7.854	16.423	10.362
Articles:	-	-	-
FY 2013 Accomplishments: Focus of effort was initiating adaptation, development and integration of entity, task and presentation services from multiple programs of record to operate with the Tactical Service Oriented Architecture (TSOA). Initiated activities to incorporate functionality from the Fires, Logistics and Intelligence communities. Initiated build 5. Build 5 introduces enhanced collaboration, imagery functionality, and a federation prototype.			
FY 2014 Plans: Increase in FY14 funding supports enhancing services capability from builds 4 and 5 with the addition of user-facing applications, to include the Battle Command Display. Incorporate services which interoperate with logistics and intelligence systems and initiate build 6.			
FY 2015 Plans:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Deploy build 6 and initiate and deploy build 7, continuing to improve and enhance MAGTF interoperability by reducing inefficiencies between disparate tactical data systems by linking them via the TSOA. Continued presentation layer application development in conjunction with Warfighter input via the Rapid Response and Integration (R2I) process. Selected Command and Control Personal Computer (C2PC)/Joint Common Operational Picture Tactical Workstation (JTCW) application functionality transitioned into services hosted on the Tactical Service Oriented Architecture framework and C2 software packages. Continued research and development to transfer legacy stove-piped MAGTF C2 systems and functionality to interoperable applications in order to create more efficient Joint and Coalition C2 environment for the MAGTF. JTCW support, development, improvement and transition to TSOA environment.			
Title: *MAGTF C2: Program Support. Software engineering program support	1.671	2.132	1.889
Articles:	-	-	-
FY 2013 Accomplishments: Federally Funded Research Center (FFRDC) software engineering support provided appropriate government direction in design and development of software, conduct of source code reviews and prime vendor oversight.			
FY 2014 Plans: Federally Funded Research Center (FFRDC) will continue software engineering support to provide appropriate government direction in design and development of software, conduct of source code reviews and prime vendor oversight.			
FY 2015 Plans: Federally Funded Research Center (FFRDC) will continue software engineering support to provide appropriate government direction in design and development of software, conduct of source code reviews and prime vendor oversight.			
Title: *JBC-P: Software Development/Integration.	0.637	1.689	1.069
Articles:	-	-	-
FY 2013 Accomplishments: Personnel integrated into the software development team at the Software Engineering Directorate in Huntsville, AL in order to assist in the development and integration of the JBC-P capability. Federally Funded Research Center (FFRDC) software engineering support funded to provide appropriate government direction in design and development of software. Support provided to assist and serve as subject matter experts in this effort. Existing documentation and logistics support analyzed for supportability of JBC-P and follow on increments of the capability.			
FY 2014 Plans: The increase in FY14 is a result of the BFSA and JBCP funding merged with funding for JBCP FoS Line. The increase will continue the coordination with the software development team at the Software Engineering Directorate in Huntsville, AL in order to assist in the development and integration of the JBCP software capability. Federally Funded Research Center (FFRDC) software			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
engineering support funded to provide appropriate government direction in design and development of software. Support provided to assist and serve as subject matter experts in this effort. Existing documentation and logistics support analyzed for supportability of JBC-P and follow on increments of the capability. ***FY 2015 Plans:*** Continue the coordination with the software development team at the Software Engineering Directorate in Huntsville, AL in order to assist in the development and integration of the JBCP software capability. Federally Funded Research Center (FFRDC) software engineering support funded to provide appropriate government direction in design and development of software. Support provided to assist and serve as subject matter experts in this effort. Existing documentation and logistics support analyzed for supportability of JBC-P and follow on increments of the capability.			
Title: *JBC-P: Training Development. ***Articles:*** ***FY 2013 Accomplishments:*** Evaluated and updated existing documentation for re-use as JBC-P evolves in support of training development. ***FY 2014 Plans:*** Continue evaluation and updating of existing documentation for re-use as JBC-P evolves in support of training development. ***FY 2015 Plans:*** N/A	0.200 -	0.225 -	- -
Title: *JBC-P: Developmental Test (DT)/Operational Test (OT) ***Articles:*** ***FY 2013 Accomplishments:*** Laboratories integration with Huntsville Software Engineering Directorate (SED) and Marine Corps Tactical Systems Support Activity (MCTSSA) in order to facilitate test and network integration test events. Marine Corps Operational Test & Evaluation Activity (MCOTEA) support for developmental test (DT) and planning/support for operational test (OT). ***FY 2014 Plans:*** Continue laboratories integration with Huntsville SED and MCTSSA in order to facilitate test and network integration test events. MCOTEA DT/OT evaluation and documentation. ***FY 2015 Plans:*** Continue laboratories integration with Huntsville SED and MCTSSA in order to facilitate test and network integration test events. MCOTEA DT/OT evaluation and documentation.	0.153 -	0.900 -	0.600 -
Title: *JBC-P: Information Assurance	0.450	0.525	0.453

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 Accomplishments: Information assurance activities supported certification and accreditation efforts of JBC-P software. ***FY 2014 Plans:*** Information assurance activities to support certification and accreditation efforts of JBC-P software. ***FY 2015 Plans:*** Information assurance activities to support certification and accreditation efforts of JBC-P software.			
Title: *JBC-P: System Engineering Support	0.350	0.396	0.861
Articles:	-	-	-
FY 2013 Accomplishments: Engineering Support personnel and travel. ***FY 2014 Plans:*** Engineering Support personnel and travel. ***FY 2015 Plans:*** The FY15 increase is for Naval Surface Warfare Center (NSWC) Engineering, Test and Evaluation Support personnel and travel. NSWC will plan and document test events, provide safety testing support, and will provide extensive systems engineering and software engineering support for JBC-P FoS.			
Title: *BFSA: Software Development, Integration and Testing	1.769	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Software and network developmental efforts for USMC specific requirements and associated risk reduction events. BFSA funding is merged into the Joint Battle Command - Platform (JBC-P) Family of Systems (FoS) beginning in FY14. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: *BFSA: Information Assurance	0.141	-	-
Articles:	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Information assurance activities to support certification and accreditation efforts of Joint Capability Release (JCR) software upgrades. BFSA funding is merged into the Joint Battle Command - Platform (JBC-P) Family of Systems (FoS) beginning in FY14. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: *TCO: System testing and integration to develop additional functional capabilities. ***Articles:*** ***Description:*** Hardware upgrade solutions were researched and documented, in preparation for seamless transition to future technology and increased software capability. ***FY 2013 Accomplishments:*** Updated Global capability as enhanced Command Operation Picture (COP) service. Integrated and tested ability to exchange data with multiple Command and Control (C2) systems. Executed interoperability between Global and modules. ***FY 2014 Plans:*** Develop services linking the COP from GCCS-TCO to other COP viewing tools as a service inside the Combat Operations Center. The GCCS-TCO software will improve interoperability with the Tactical Service Oriented Architecture, allowing COP and Situational Awareness data to be shared between the GCCS-TCO and other C2 systems. ***FY 2015 Plans:*** Continue the development of services linking the COP from GCCS-TCO to other COP viewing tools as a service inside the Combat Operations Center. The GCCS-TCO software will improve interoperability with the Tactical Service Oriented Architecture, allowing COP and Situational Awareness data to be shared between the GCCS-TCO and other C2 systems.	1.247 -	1.194 -	0.878 -
Title: *TCO: Testing and validations of advanced concepts and technologies. ***Articles:*** ***FY 2013 Accomplishments:*** Tested and validated advanced concepts and technologies. ***FY 2014 Plans:***	1.187 -	1.053 -	1.171 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue testing and validation of advanced concepts and technologies. ***FY 2015 Plans:*** Continue testing and validation of advanced concepts and technologies.			
Title: *IDS: System Development and Testing	3.170	0.946	0.764
Articles:	-	-	-
FY 2013 Accomplishments: Provided system integration, testing, and technical program development documentation in preparation for Developmental Testing (DT). ***FY 2014 Plans:*** Provide system integration, software development, testing, validation and verification, systems engineering and technical program support ***FY 2015 Plans:*** Provide system integration, software development, testing, validation and verification, systems engineering and technical program support			
Title: *AFATDS: Software Development and Integration	1.714	1.515	5.363
Articles:	-	-	-
FY 2013 Accomplishments: Completed limited AFATDS/BUCS software and interface enhancements and interoperability testing. ***FY 2014 Plans:*** Initiate development of Increment 2, adding limited AFATDS/BUCS USMC capabilities or interface enhancments with other C2 systems. Limited interoperability testing. ***FY 2015 Plans:*** Continue development of Increment 2, adding USMC capabilities or interface enhancments with other C2 systems and initiate interoperability testing for AFATDS and BUCS (Centaur and Sensor Programs) software.			
Title: *THS: Software Development	2.252	0.710	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued the development of the next major software release and migrated to a new operating system. ***FY 2014 Plans:***			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue the development of the next major software release and early protyping of the next operating system migration. ***FY 2015 Plans:*** N/A			
Title: *AFATDS: Information Assurance ***Articles:*** ***FY 2013 Accomplishments:*** Information Assurance Certification and Accreditation activities to ensure confidentiality, integrity, and availability of AFATDS/ BUCS S/W. ***FY 2014 Plans:*** Information Assurance Certification and Accreditation activities to ensure confidentiality, integrity, and availability of AFATDS/ BUCS S/W and MTS Accreditation. ***FY 2015 Plans:*** N/A	0.108 -	0.200 -	- -
Title: *THS: Information Assurance ***Articles:*** ***FY 2013 Accomplishments:*** Software Certification and Accreditation activities to obtain Authority to Operate (ATO) to operate on the Marine Corps Enterprise Network for new major software releases. ***FY 2014 Plans:*** Software Certification and Accreditation activities to obtain ATO to operate on the Marine Corps Enterprise Network for new major software releases. ***FY 2015 Plans:*** N/A	0.230 -	0.250 -	- -
Title: *THS: Engineering Research in Support of Software Development ***Articles:*** ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:***	- -	0.280 -	3.387 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Analysis of trade studies and market research integrating video receive software with THS software. ***FY 2015 Plans:*** Analysis of Alternatives (AoA) of prototypes and first article test models to determine viable hardware candidates capable of hosting a future THS software application.			
Title: *THS - Video Down Link Receiver Prototypes	-	0.125	-
Articles:	-	5.000	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Procure Video Down Link Receiver Prototypes to develop a cable interface with existing system, develop a software interface with existing software and perform Electromagnetic Inteferance (EMI) and Environmental Testing. ***FY 2015 Plans:*** N/A			
Title: *THS: Testing and Evaluation	0.248	0.300	0.325
Articles:	-	-	-
FY 2013 Accomplishments: Performed software interoperability testing. ***FY 2014 Plans:*** Continue software interoperability testing. ***FY 2015 Plans:*** Continue software interoperability testing.			
Title: *H2C2: Integration Engineering	-	-	1.700
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:***			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Develop, design, and integrate various emerging capabilities across the H2C2 portfolio. The funding will provide support for sustained engagement with various industry providers, quick look technology excursions, and experimentation demonstrations for high risk emerging technology.			
Accomplishments/Planned Programs Subtotals	23.381	28.863	28.822

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/4631AA: *JBC-P*	9.405	40.109	10.685	-	10.685	12.754	16.114	10.288	8.499	Continuing	Continuing
• PMC/4631BB: *AFATDS*	2.523	21.168	6.049	-	6.049	2.729	2.862	16.007	15.757	Continuing	Continuing
• PMC/4631CC: *THS*	4.781	4.224	6.427	-	6.427	6.401	-	-	2.408	Continuing	Continuing
• PMC/4631DD: *GCCS-TCO*	7.224	9.836	11.692	-	11.692	8.471	8.862	9.027	9.218	Continuing	Continuing
• PMC/4631FF: *GCCS*	1.667	-	-	-	-	-	-	-	-	-	84.163
• PMC/4631GG: *BFSA*	6.886	-	-	-	-	-	-	-	-	-	349.694
• PMC/643800: *IDS*	-	1.808	1.654	-	1.654	1.183	0.501	0.501	1.008	Continuing	Continuing

Remarks

D. Acquisition Strategy

MAGTF C2 SA: MAGTF C2 SA is delivering command and control capabilities through bi-annual software releases with major releases in FY13 and FY15 through multiple programs of record. Currently the initial focus is developing the Tactical Service Oriented Architecture (TSOA) software, which provides a common software infrastructure through which services and applications from other programs of record can begin the process of interfacing with in order to maximize software commonality across echelons and missions. The long term goal is a software capability that will enable data discovery and data sharing across mission areas, a common standards-based viewer, core services and applications, and access to the GIG and other Joint networks, data and services.

JBC-P: JBC-P is leveraging the Army's (PM Joint Battle Command-Platform (PM JBC-P)) development of the JBC-P software and the Marine Corps' program is contingent upon the Army's development and acquisition strategy. PM JBC-P will fund research and development for JBC-P unless there are Service unique requirements, which the Marine Corps program office will fund. The Marine Corps' program office will participate in all design and readiness reviews and joint operational testing events.

BFSA: BFT FoS is leveraging an Army (PM Joint Battle Command-Platform (PM JBC-P)) ACAT II program to deliver a critical battlefield command and control system to the operating forces. These systems operate on both a terrestrial and celestial network and enable tactical units to move more effectively by providing friendly unit identification and location, as well as friendly intent and status. The current focus is on testing and evaluating improved software which will make possible type-1

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encryption and a greater bandwidth network. The long term goal is a secured reduced latency system that will greatly improve the battlefield commander's situational awareness and reduce the potential of fratricide.

TCO: Contracting is performed with various vendors for software test and integration, COTS evaluation and documentation to develop advanced concepts and additional functional capabilities. The PMO conducts quarterly performance reviews. Specific hardware is also procured for test purposes which include environmental, shock, compatibility, and interoperability testing.

Identity Dominance System (IDS): Currently, the IDS-MC Program Office acquisition strategy is to leverage the Navy's IDS Program and provide funding to meet Marine Corps requirements. The Marine Corps' program office will participate in all design and readiness reviews as well as the DOT&E activities. The long-term goal is to equip the Marine with a user-friendly biometric authentication technology that will be employed throughout DoD to deny the enemy freedom of movement within the populace and positively identify known insurgents within an Area of Responsibility (AOR). In FY13 the program provided funding to PMS408 to enhance the Navy IDS software to meet the IDS MC unique requirements.

AFATDS: AFATDS is a Cost Plus Award Fee contract through Army CECOM, Aberdeen Proving Ground, MD. R&D efforts will be a combined effort between the software developer (Raytheon), the Army PM and the USMC of software enhancements for the next planned versions of AFATDS.

THS: The acquisition of components (software/hardware) for the THS initiative will maximize the use of existing COTS, GOTS, NDI, and GFE. Software development is conducted utilizing a sole source small-business contract. Software must maintain compatibility with five Programs of Record (POR) and seven Operational Flight Programs (OFP).

H2C2: H2C2 will use an evolutionary approach for technology insertion. The approach will leverage and mature Commercial off-the-shelf (COTS) and Non-development Item (NDI) technologies to rapidly transition a handheld data capability to other acquisition programs. H2C2 inserts mature technology into existing programs in order to fill capability gaps and requirement shortfalls. These technologies will be inserted at different times along gaining program acquisition cycles. This strategy will apply to available technology at different proposed technology insertion points for each gaining program.

E. Performance Metrics

Milestone Reviews

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GCCS-TCO Schedule

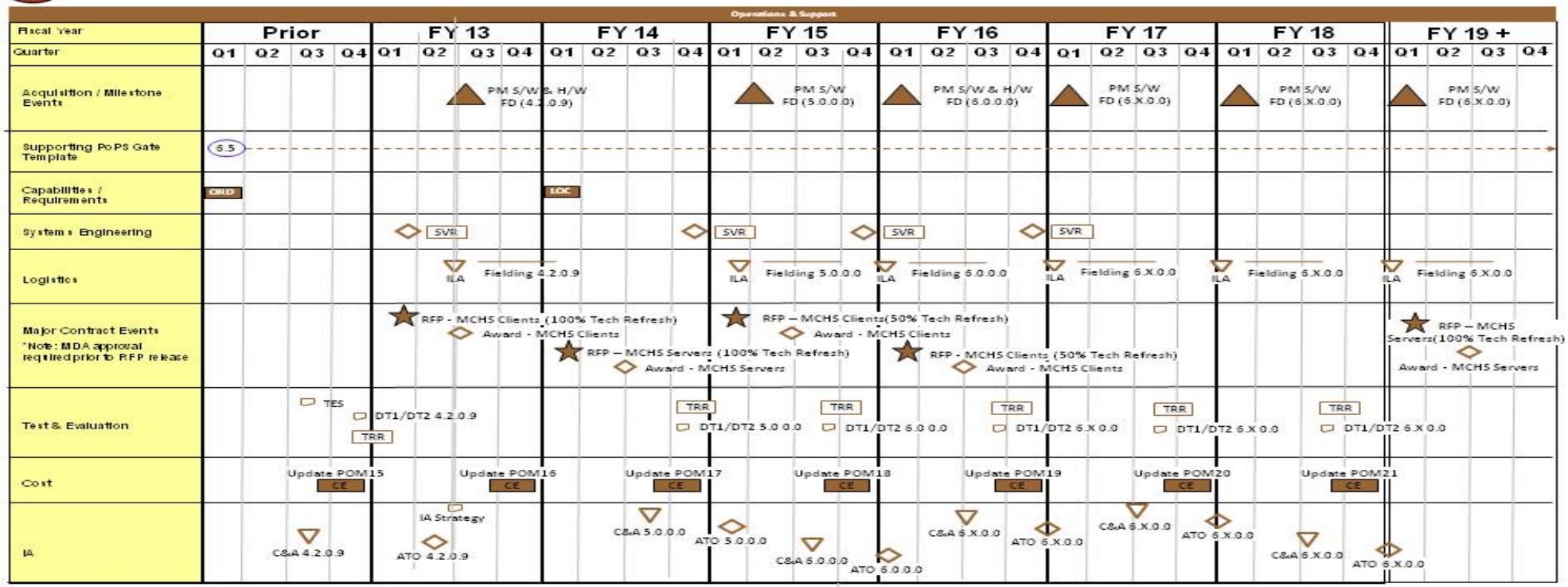
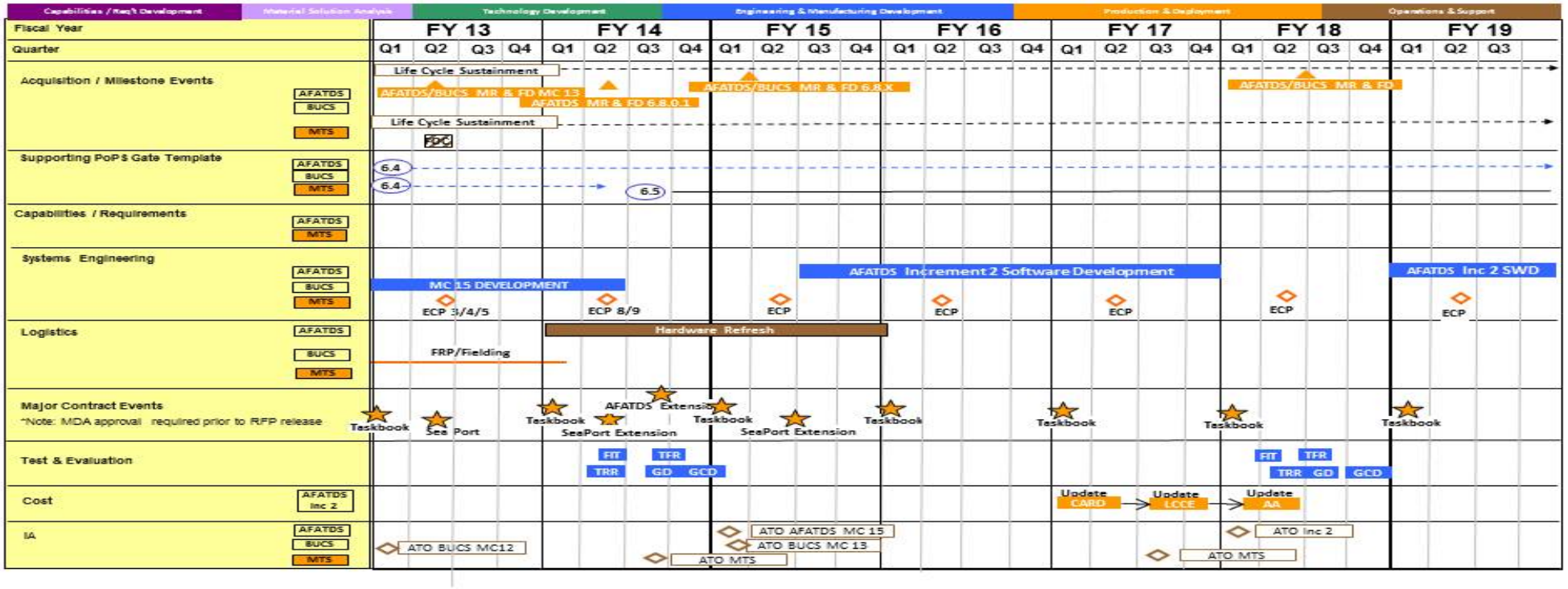


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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AFATDS FoS Schedule

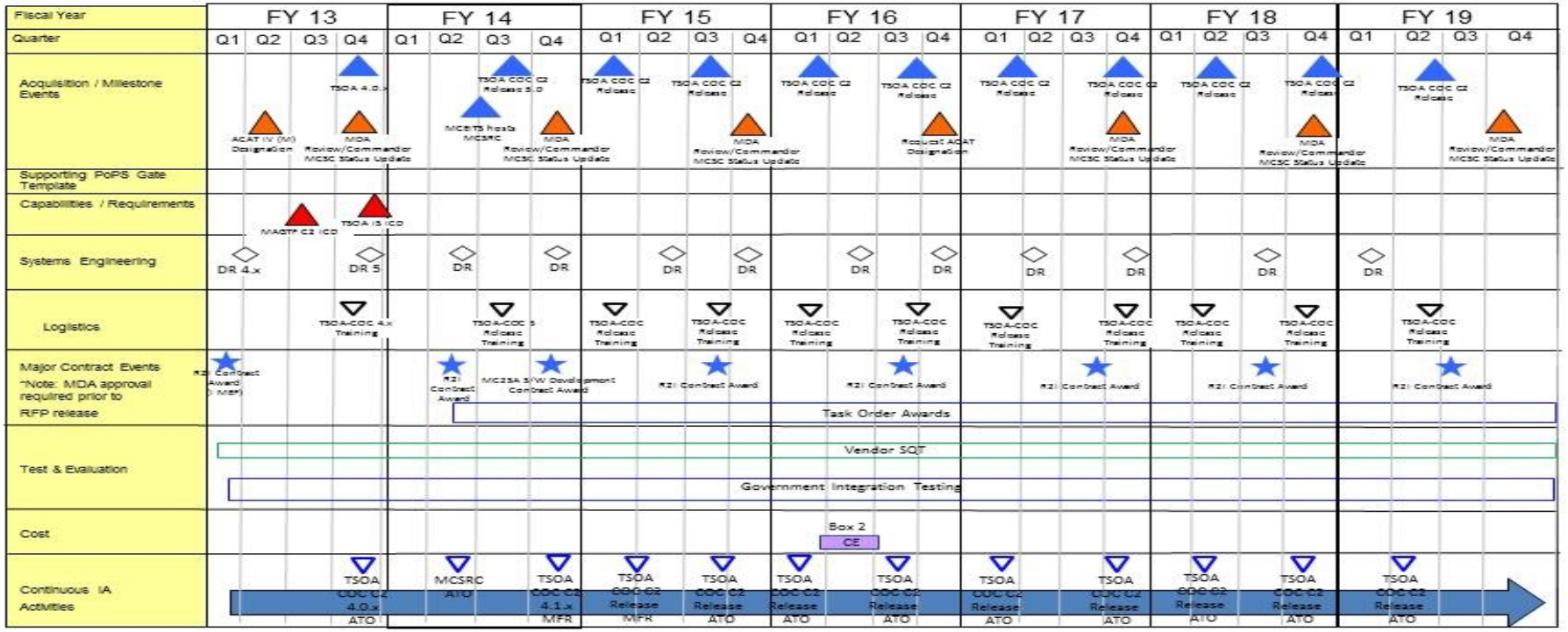


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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

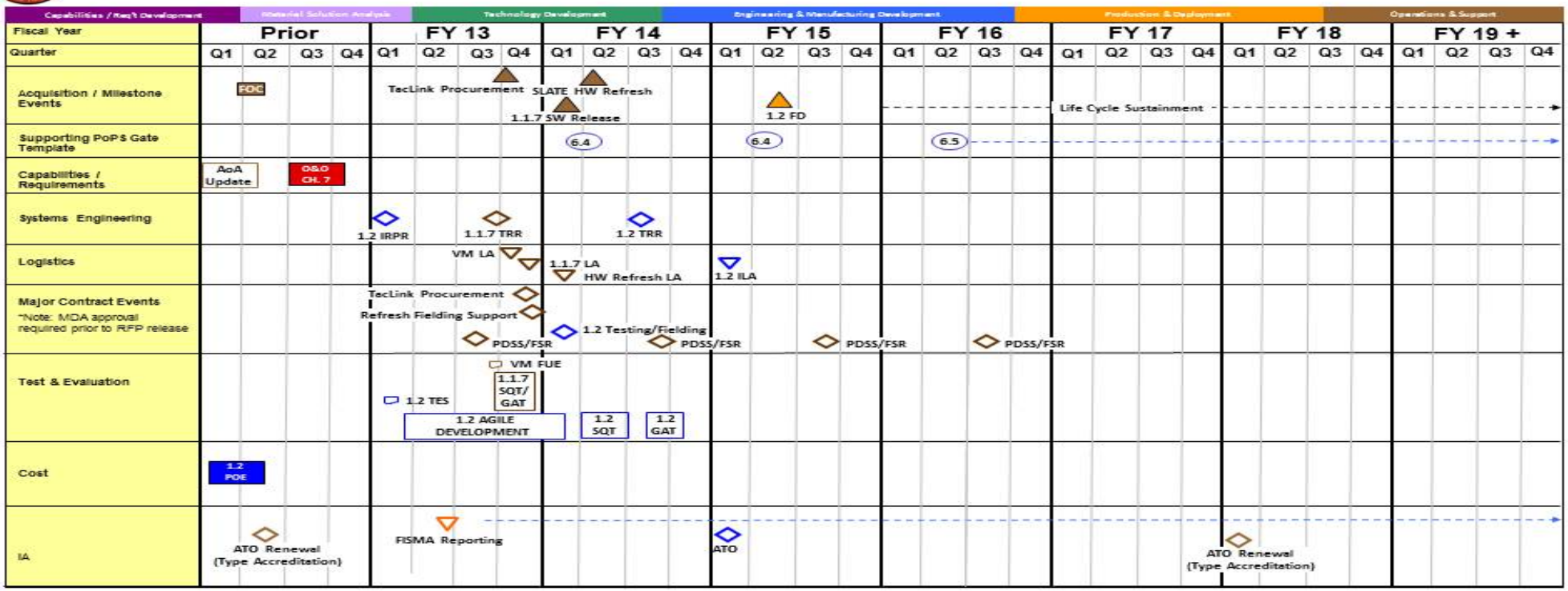
MAGTF C2 Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

THS Schedule



Unclassified

1

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

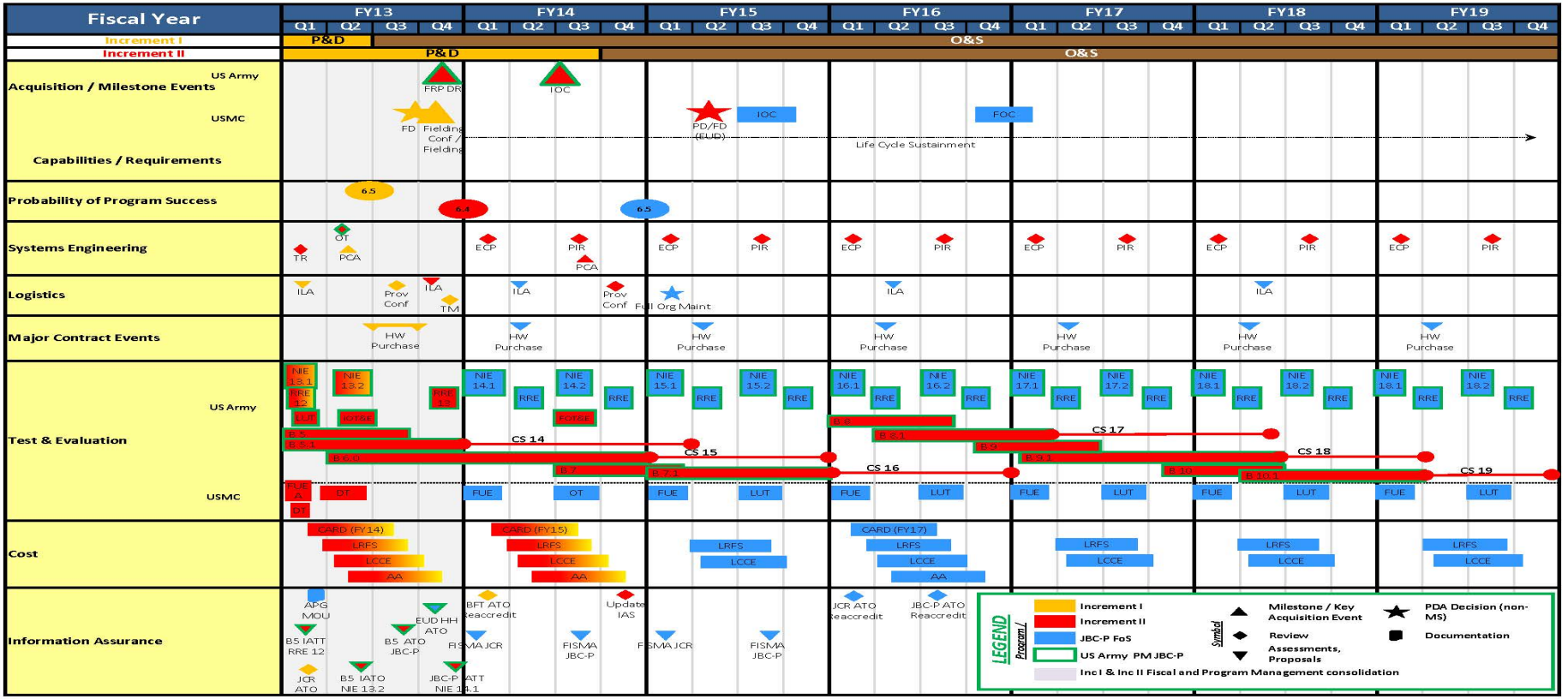


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

Program Schedule H2C2

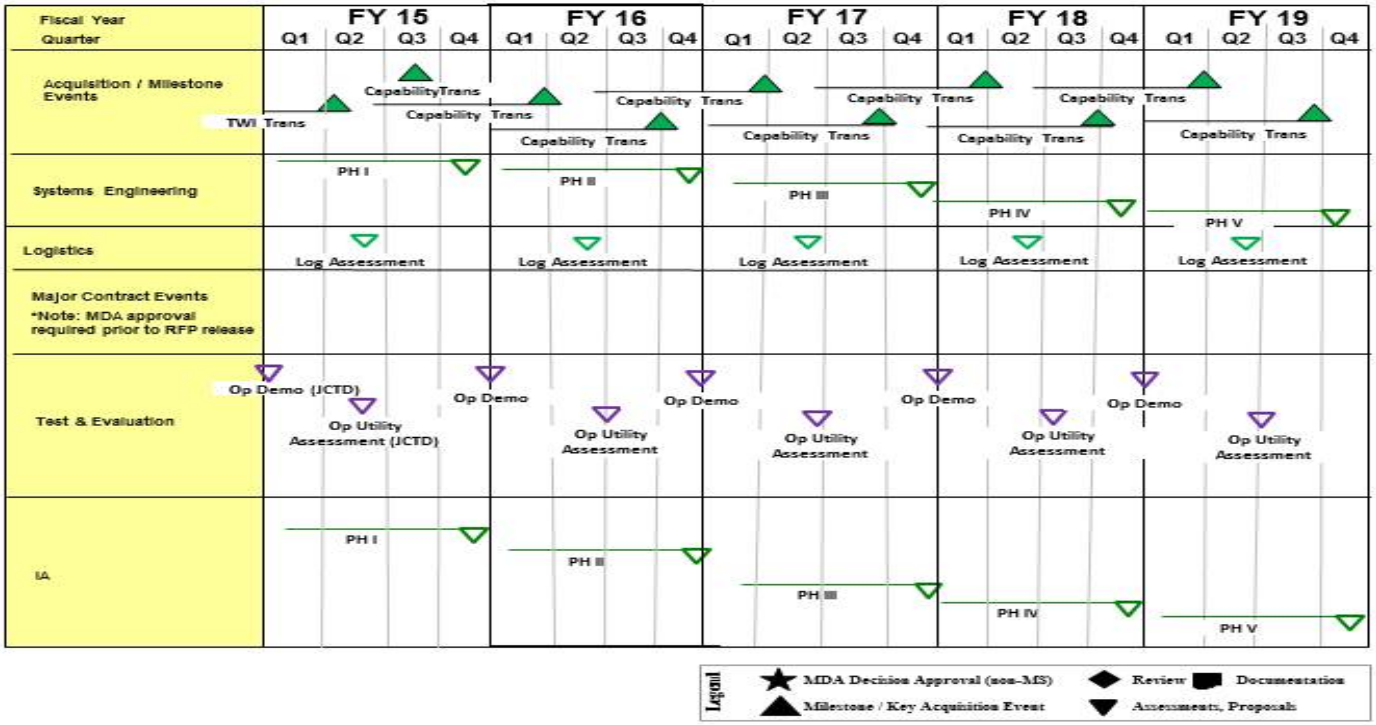


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2270 / *Exp Indirect Fire Gen Supt Wpn Sys*

Identity Dominance System (IDS) Schedule

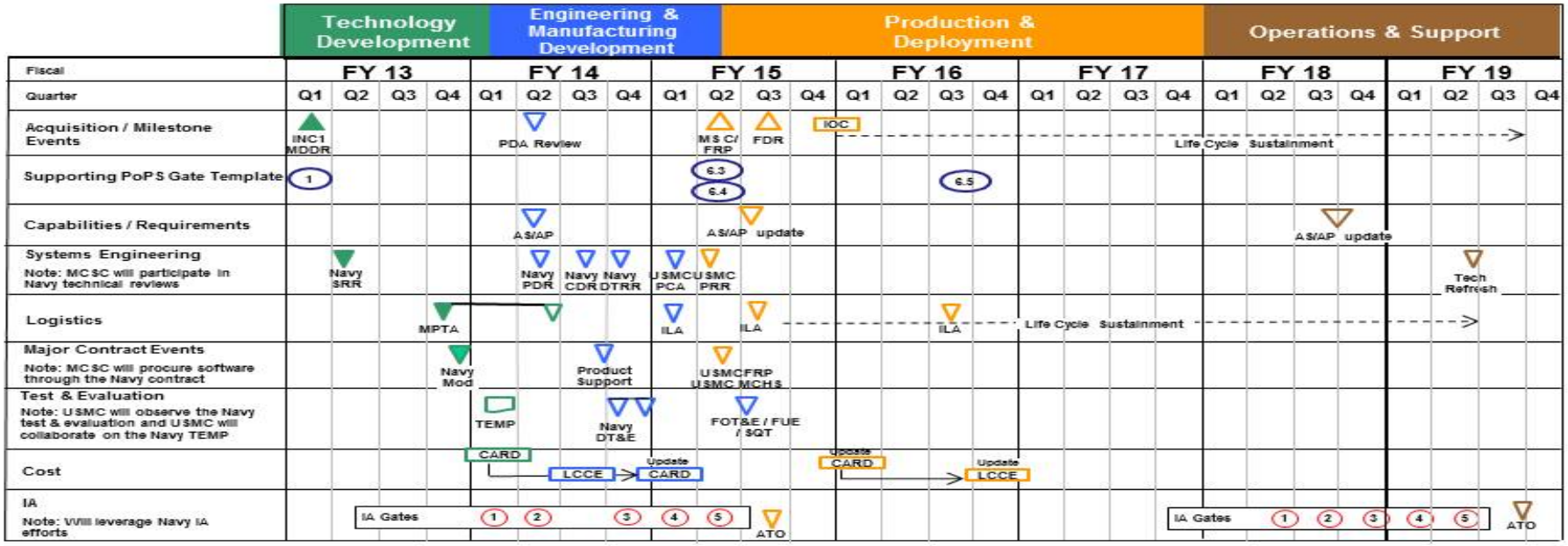


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*				Project (Number/Name) 2273 / *Air Ops Cmd & Control (C2) Sys*			
COST ($ in Millions)	**Prior 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**
2273: *Air Ops Cmd & Control (C2) Sys*	287.573	51.302	65.069	8.811	-	8.811	8.805	11.116	11.250	8.996	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 582

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

Note

Funding for the Common Aviation Command and Control System (CAC2S) program has moved to PE 0206335 Common Aviation Command and Control System (CAC2S), Project 3373 for FY15 and beyond. Funding prior to FY15 is located in PE 0206313M Marine Corps Comms Systems, Project 2273 Air Ops Cmd & Control (C2) Sys.

A. Mission Description and Budget Item Justification

Common Aviation Command and Control System (CAC2S) - A coordinated modernization effort to replace the existing aviation command and control equipment of the Marine Air Command and Control System (MACCS) and to provide the Aviation Combat Element (ACE) with the necessary hardware, software, equipment, and facilities to effectively command, control, and coordinate aviation operations. The CAC2S system will accomplish the MACCS missions with a suite of operationally scalable modules to support the Marine Air Ground Task Force (MAGTF), Joint, and Coalition Forces. The CAC2S integrates the functions of aviation command and control into an interoperable system that will support the core competencies of all Marine Corps warfighting concepts. The CAC2S, in conjunction with MACCS organic sensors and weapons systems, supports the tenets of Expeditionary Maneuver Warfare and fosters joint interoperability. CAC2S Increment I will replace legacy aviation command and control systems in the following Marine aviation agencies: Direct Air Support Center (DASC), Tactical Air Command Center (TACC), and Tactical Air Operations Center (TAOC). Prior year to FY14 funding for this program is located in this project (2273). Funding for FY15 through the FYDP is contained in PE 0206335M and Project 3373.

Theater Battle Management Core System (TBMCS) - Joint mandated Air War planning tool for the generation, dissemination and execution of the Air Tasking Order (ATO). TBMCS is an Air Force led program, which provides the automated tools necessary to manage tactical air operations, execute area air defense and airspace management in the tactical area of operation, and coordinate operations with components of other military services. TBMCS is located at the Tactical Air Command Center (TACC), with remotes located throughout the Marine Air Ground Task Force (MAGTF). It is scalable, allowing for joint, coalition and service specific operations. It is an evolutionary acquisition program.

Composite Tracking Network (CTN) - Provides the Marine Air Ground Task Force (MAGTF) Commander a ground based sensor netting solution that significantly improves situational awareness by correlating sensor measurement data (target position, speed, heading, Identification Friend and Foe (IFF), etc.) from local and remote radars in the Cooperative Engagement Capability (CEC) network, which is then provided to the warfighter in the form of composite, real-time, air surveillance tracks. AN/MSQ-143A (V)I - funding will allow CTN to execute transportability testing and conduct a Field User Evaluation (FUE) of this system configuration. These events

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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will wrap up the testing for this configuration and allow the CTN Program Office to go to the Milestone Decision Authority (MDA) for a fielding decision for this system configuration.

The Marine Air Command and Control System (MACCS) Sustainment - Consists of various command and control agencies designed to provide the Aviation Combat Element (ACE) commander with the ability to monitor, supervise and influence the application of Marine aviation assets in support of Marine Air Ground Task Force (MAGTF) operations. The MACCS Sustainment provides funding to keep these fielded systems ready, relevant and capable until their functions are replaced by the Common Aviation Command and Control System (CAC2S).

Joint Cooperative Target ID Ground (JCTI-G) - The program was refocused late in FY11 to reflect the results of a JFCOM led AoA that determined the best path to follow for continued reduction of fratricide incidents. Funding to support Fielded and Planned Capability Improvements (FPCI) which will contribute to Combat Identifications (CID) and fratricide mitigation. An Army and Marine Corps agreement supports closure of the Fires-On-Dismount fratricide mitigation gap and to refocus on FPCI requirements.

Combat Operations Center (COC) - AN/TSQ-239 (V)1/2/3/4 are a deployable, self-contained, modular, centralized and scalable facility ((V)1 MEF-size, (V)2 MSC/Div-size, (V)3 Regiment-size, (V)4 Ballatlion-size) which provides digital, shared Command and Control/Situational Awareness functionalities to enhance the Common Operational Picture (COP) for the Command Element, Ground Command Element, Air Combat Element, and Logistics Combat Element. It is a commercial-off-the-shelf integrated hardware solution using unit provided radios, re-hosted tactical data systems, and available Marine Corps prime movers to transport the system. Funds support testing and Information Assurance (IA) certification activities, integration of emerging technology, and On The Move (OTM) capabilities.

Remote Video Viewing Terminal (RVVT) - Provides the warfighter with video connectivity to multiple types of aerial platforms that transmit in C, L, S, or Ku frequency Bands (such as but not limited to Raven B, Puma, Micro-UAS, Shadow, Predator, Fire Scout, and Litening Pod on P-3, AV8-B, and F/A-18). Data is displayed to Regimental Combat Teams (RCT), Forward Observers (FO) and Forward Air Controller (FAC) operators who coordinate with higher headquarters for fires.

Joint Interface Control Office (JICO) Support System (JSS) - Will provide net-centric services through a transformational management system to enable internet protocol-based networks of the future to operate efficiently with current tactical networks. It will manage complex tactical networks through an automated toolset and information repository that enables planning, management and analysis of tactical data link communications before, during and after operations.

The funding decrease from FY 14 to FY15 is due to CAC2S moving to PE 0206335M in FY 15, the CTN Antenna Trailer development no longer being developed in FY15, and the completion of the development of MACCS ECPs in FY14.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: CAC2S - Product Development	23.181	29.842	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Development and integration of the Aviation Command and Control Subsystem - Building four (4) Engineering and Development Models (EDMs) - EDM data and information fusion - Component hardware integration and software development ***FY 2014 Plans:*** Continue - Development and integration of the Aviation Command and Control Subsystem - EDM data and information fusion Initiate - System validation and verification of the four (4) Engineering and Development Models (EDMs) ***FY 2015 Plans:*** N/A			
Title: CAC2S - Support and Management Services ***Articles:*** ***FY 2013 Accomplishments:*** Continued program management support including business support, engineering support, and logistical support. ***FY 2014 Plans:*** Continue program management support including business support, engineering support, and logistical support. The increase in funding is due to an increase costs associated with performing Developmental Testing (DT) of the Engineering and Development Models (EDMs) in FY14. ***FY 2015 Plans:*** N/A	4.880 -	8.364 -	- -
Title: CAC2S - Test and Evaluation ***Articles:*** ***FY 2013 Accomplishments:*** Continued phase 2 Information Assurance certification test scans. ***FY 2014 Plans:*** Continue support of phase 2 in Information Assurance certification test scans and initiate CAC2S developmental testing of the Engineering and Develpment Models (EDMs). ***FY 2015 Plans:***	0.994 -	5.946 -	- -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A			
Title: COC: Continued Capability Solution	6.291	2.695	0.800
Articles:	-	-	-
FY 2013 Accomplishments: Conducted analysis of technologies for integration in COC Baseline.			
FY 2014 Plans: Continue to conduct analysis of technologies for integration in COC Baseline. Analysis to support Size Weight Power Reduction efforts.			
FY 2015 Plans: Continue to conduct analysis of technologies and software interoperability for integration in COC Baseline.			
Title: COC: Test and Evaluation	0.017	0.479	0.819
Articles:	-	-	-
FY 2013 Accomplishments: JTIC testing and analysis for COC.			
FY 2014 Plans: Testing of updated software and system integration.			
FY 2015 Plans: Testing of updated software and system integration.			
Title: Composite Tracking Network (CTN): Support and Management Services	1.980	5.130	1.004
Articles:	-	-	-
FY 2013 Accomplishments: - Continued Data Collection and Analysis of the USG-4A and 4B test assets during test activities. The USG-4A and 4B is a land-based enhanced Anti-Air Warfare (AAW) capability. - Initiated CTN integration testing with CAC2S and Developmental Testing activities with G/ATOR, this includes travel, Government engineering support, test support, and S/W support. - Continued CTN Data Collection and Analysis. - Continued travel and support for systems engineering and introduction of updates to the Software (S/W) baseline.			
FY 2014 Plans: - Initiate S/W Maintenance Support.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Initiate USG-4B Analysis/Extraction Updates, Data Analysis, Safety, System Engineering. - Complete Wrap Around Simulation Program (WASP) S/W Updates, Data Analysis, Safety, System Engineering. - Continue Data Collection and Analysis. - Continue travel, engineering support, test support, and S/W support. - Continue systems engineering and updates to the S/W baseline. ***FY 2015 Plans:*** - Continue S/W Maintenance Support, USG-4B Analysis/Extraction, Data Analysis, Safety, System Engineering. - Continue Data Collection and Analysis. - Continue systems engineering and updates to the software baseline. - Continue travel, engineer support, test support, and S/W support.			
Title: Composite Tracking Network (CTN): Certification of Interfaces	0.603	0.233	0.220
Articles:	-	-	-
FY 2013 Accomplishments: - Continued to develop Software for Accelerated Mid-Term Interoperability Improvement Plan (AMIIP) program. - Continued CEC Design Agent development of Ground/Air Task Oriented Radar (G/ATOR) TPS-80 adaptive layer for interoperability. ***FY 2014 Plans:*** - Initiate Common Array Block - Expeditionary (CAB-E) testing/verification support. - Continue to support testing/verification/updates for Accelerated Mid-term Interoperability Improvement Program - Initiate ramp up System-to-System engineering to support interface with CAC2S and G/ATOR. ***FY 2015 Plans:*** - Continue Common Array Block (CAB-E) testing/verification/updates - Continue to support testing/verification/updates for Accelerated Mid-term Interoperability Improvement Program - Continue System-to-System developmental engineering to support interface with CAC2S and G/ATOR.			
Title: Composite Tracking Network (CTN): Engineering Development Model	1.154	3.766	1.188
Articles:	-	-	-
FY 2013 Accomplishments: - Continued Network Status Display development for CAC2S and AN/TPS-59 radar. - Initiated MODE V Development. - Initiated development of Gallium Nitride (GaN) based transceivers for integration into CAB-E antenna. - Continued Information Assurance (IA) developmental activities			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Continued WASP Software development. ***FY 2014 Plans:*** - Initiate Common Array Block - Expeditionary (CAB-E) Antenna Development for USMC under USN CAB Joint Program. - Initiate Network Status Display development for G/ATOR. - Initiate integration and developmental testing with CAC2S and G/ATOR. - Initiate Systems Engineering for AN/USG-4B, TPN-59 regression testing and Information Assurance. - Continue Information Assurance (IA) developmental activities. - Complete WASP Software development. ***FY 2015 Plans:*** - Continue CAB-E Antenna Developmental Activities. - Continue integration and developmental testing with CAC2S and G/ATOR. - Continue Information Assurance (IA) developmental activities			
Title: Marine Air Command and Control System (MACCS) Service Life Extension Program (SLEP)/Sustainment: Product Development, Support and Mgmt Services, and T&E	8.787	3.608	1.266
Articles:	-	-	-
FY 2013 Accomplishments: - Continued to support Post Development Software Support (PDSS) activities. - Initiated refresh of obsolete hardware items. - Initiated the implementation of system improvements/modifications in accordance with approved systems engineering processes. - Completed the fielding of two additional Communication Data Link Systems to the TACC. - Continued developing software updates to the TAOC and the Beyond Line of Sight Gateway's (BLOS GW) Operating Systems. - Initiated developing and completing Engineering Change Proposals (ECPs) for the Mobile Tactical Air Operations Module (MTAOM). ***FY 2014 Plans:*** - Continue TACC and TAOC Life Cycle Support through ongoing PDSS activities. - Continue active refresh of obsolete hardware items. - Continue to develop and procure ECPs for MTAOM. - Initiate Commercial off the Shelf (COTS) refresh for MTAOM to include completion of a Production Ready Model and Developmental Testing.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Begin Information Assurance updates (tri-annual drops). ***FY 2015 Plans:*** - Continue TACC and TAOC Life Cycle Support through ongoing Post Development Software Support (PDSS) activities. - Continue active refresh of obsolete hardware items from MACCS systems. - Complete production of COTS Refresh kit for the MTAOM and fielding to the Operational Forces. - Complete the Operational Assessment for the MTAOMs COTS refresh activities. - Initiate software updates including delivery of new OS. - Continue Information Assurance updates (tri-annual drops).			
Title: RVVT: Preparation of MS C and Full Rate Production and Fielding activities ***Articles:*** ***FY 2013 Accomplishments:*** Initiated pre-Milestone activities and continued development and testing efforts for Type I capable static COC VideoScout system (MC/3 version). ***FY 2014 Plans:*** Initiate COC Videoscout system (MC/2 and M/3 version) pre-production testing and information assurance activities. ***FY 2015 Plans:*** Initiate analysis of alternatives and development and testing efforts for the next generation of a RVVT COC Static Variant.	0.577 -	2.251 -	1.090 -
Title: TBMCS - Test and Evaluation ***Articles:*** ***FY 2013 Accomplishments:*** Continued test and evaluation support for TBMCS upgrades for Joint Interoperability. ***FY 2014 Plans:*** Continue test and evaluation support for TBMCS upgrades for Joint Interoperability. ***FY 2015 Plans:*** Continue test and evaluation support for TBMCS upgrades for Joint Interoperability.	2.838 -	2.755 -	2.424 -
Accomplishments/Planned Programs Subtotals	51.302	65.069	8.811

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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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
• PMC/4640CT: *CTN*	0.100	0.307	1.494	-	1.494	0.015	-	-	-	-	51.044
• PMC/4640CN: *MACCS Sustainment*	23.102	10.099	0.916	-	0.916	0.884	0.283	0.062	0.050	Continuing	Continuing
• PMC/4640DX: *TBMCS*	3.582	4.465	3.837	-	3.837	3.435	3.468	3.818	3.922	Continuing	Continuing
• PMC/419005: *COC*	1.406	15.684	9.178	-	9.178	13.206	15.326	15.603	14.025	Continuing	Continuing
• PMC/464023: *RVVT*	0.001	2.195	1.755	-	1.755	0.205	10.549	10.661	8.160	Continuing	Continuing
• PMC/4640DY: *CAC2S*	0.065	0.080	-	-	-	-	-	-	-	-	90.145
• PMC/4630DX: *TBMCS*	-	0.864	-	-	-	-	0.999	1.016	1.038	Continuing	Continuing
• PMC/700000: *CAC2S*	-	-	1.698	-	1.698	2.700	3.001	3.403	3.474	Continuing	Continuing
• PMC/4630CN: *MACCS*	8.639	-	0.079	-	0.079	0.782	0.315	-	-	-	9.815
• PMC/464400: *CAC2S*	-	-	12.272	-	12.272	32.744	58.597	49.919	50.867	Continuing	Continuing
• 0206355M/3373: *CAC2S*	-	-	32.495	-	32.495	13.538	10.743	3.435	3.500	Continuing	Continuing

Remarks

D. Acquisition Strategy

CAC2S will employ an evolutionary acquisition strategy utilizing an incremental and phased approach for development and fielding of the CAC2S. The Capability Production Document (CPD) identifies two increments to achieve the full requirements of CAC2S. The current acquisition strategy addresses Increment I of the CAC2S development process and focuses on the requirements that will modernize the assault and air support, air defense and control, and Aviation Combat Element (ACE) battle management capabilities of the Marine Air Command and Control System (MACCS). Increment I of the CAC2S will be accomplished through a two phased approach. Phase 1 will address the requirements to establish the baseline CAC2S capabilities for the MACCS and improve Air Command and Control (AC2) performance and effectiveness. Phase 2 will address the requirements for remaining ACE Battle Management Command & Control (BMC2) requirements.

TBMCS is an ACAT III, USAF Program with joint interest/oversight. It was mandated by the Chairman, Joint Chiefs of Staff in July 93 for Air Tasking Order (ATO) Interoperability among all services. The USMC will not be letting any competitive contracts for TBMCS, but following the USAF lead, utilizing USAF TBMCS contracts and fielding only the joint modules of TBMCS. As USMC unique requirements are identified and funded, they will be provided to the USAF (to include funding) for inclusion within TBMCS utilizing the USAF delivery order (fixed price) contract. Over the course of the FYDP, the USMC will leverage USAF software support activities vice funding strictly USMC software support.

MACCS SUSTAINMENT - The acquisition strategy implemented by the MACCS Sustainment Program Office is to maintain the readiness, relevance, and capabilities of the portfolio of post-Milestone C systems through Post Deployment Software Support (PDSS) activities, active refresh of obsolete hardware items, and the implementation of system improvements/modifications in accordance with approved systems engineering processes. Engineering changes to the systems make maximum use of Commercial Off-The-Shelf (COTS), Government Off-The-Shelf (GOTS), and Non-Developmental Items (NDI) in order to decrease risk, leverage

developed capabilities and support apparatus, and minimize investment expenditures. These activities are performed by Original Equipment Manufacturer (OEM) commercial entities under contract to Marine Corps Systems Command (MCSC) or by Naval Surface Warfare Center (NSWC) Crane as the MACCS Sustainment Program In-Service Engineering Agent (ISEA). The next major milestone for the MACCS Sustainment Programs is Phase-out or Disposal as the replacement Common Aviation Command and Control System (CAC2S) reaches full operational capability.

CTN - The USMC's CTN acquisition strategy is to participate in the USN's Cooperative Engagement Capability (CEC) program procurement and testing, making necessary modifications to support the Marine Corps' requirement.

RVVT - In the near term, will utilize an existing SPAWAR IDIQ contract to procure Commercial Off-The-Shelf (COTS) capability with limited development required to test interoperability with Manned and Unmanned Air Platforms. To conduct an Analysis of Alternatives (AOA) beginning FY15 for a competitive solution for the next generation RVVT.

COC - The Combat Operations Center (COC) AN/TSQ-239 (V)2/3/4 is the foundation of USMC C2, meeting near term communications and network requirements in OEF. There is a continuing developmental effort to evolve the COC into a fully integrated MAGTF C2 capability. FY13 and FY15 supports continual tech refresh, technology insertion, modernization and software upgrade releases.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	WR	NSWC : Crane, IN	23.325	0.290	Feb 2013	1.614	Nov 2013	-		-		-	-	25.229	-
CAC2S	C/CPIF	General Dynamics : Quantico, VA	8.603	-		-		-		-		-	-	8.603	-
CAC2S	C/FPIF	General Dynamics - Phase 2 Contractor : Scottsdale, AZ	35.393	16.316	Nov 2012	21.084	Nov 2013	-		-		-	-	72.793	-
CAC2S	WR	NSWC : Dahlgren, VA	29.426	6.175	Nov 2012	6.584	Nov 2013	-		-		-	-	42.185	-
CAC2S	MIPR	NAVSEA : Washington, DC	0.656	0.100	Jun 2013	0.560	Mar 2014	-		-		-	-	1.316	-
CAC2S	MIPR	DAF-FMBIB : Washington, DC	0.000	0.300	Jun 2013	-		-		-		-	-	0.300	-
CTN	WR	NSWC : Crane, IN	3.736	-		-		-		-		-	-	3.736	-
CTN	C/CPFF	NAVSEA PEO IWS : Washington, DC	8.956	1.154	Nov 2012	3.766	Nov 2013	1.708	Nov 2014	-		1.708	Continuing	Continuing	Continuing
MACCS Sustainment	Reqn	NGES : Woodland Hills, CA	18.389	1.000	Jul 2013	2.578	Nov 2013	-		-		-	Continuing	Continuing	Continuing
MACCS Sustainment	WR	NSWC : Crane, IN	2.111	-		-		0.200	Nov 2014	-		0.200	-	2.311	-
MACCS Sustainment	Reqn	KATMAI : Van Nuys, CA	1.455	2.126	Jan 2013	-		-		-		-	Continuing	Continuing	Continuing
MACCS Sustainment	C/FFP	ULTRA : Austin, TX	0.000	1.160	Jul 2013	-		-		-		-	-	1.160	-
JCTI-G Pax 1	WR	NAVAIR : Pax River, MD	0.145	-		-		-		-		-	-	0.145	-
JCTI-G FPCI Efforts	Various	Various : Various	23.883	-		-		-		-		-	-	23.883	-
JCTI-G	WR	NSWC : Crane, IN	1.617	-		-		-		-		-	Continuing	Continuing	Continuing
JCTI-G Pax 2	Reqn	NAVAIR : Pax River, MD	1.830	-		-		-		-		-	-	1.830	-
COC	WR	SPAWAR : Charleston, SC	11.624	1.026	Mar 2013	0.300	Jun 2014	0.800	Oct 2014	-		0.800	Continuing	Continuing	Continuing
COC	Reqn	General Dynamics : Not Specified	27.811	-		-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2273 / *Air Ops Cmd & Control (C2) Sys*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
COC	Reqn	Coherent : Johnstown, PA	0.299	-		-		-		-		-	-	0.299	-
COC	WR	NSWC : Crane, IN	0.520	0.443	Feb 2013	0.522	Jan 2014	-		-		-	-	1.485	-
COC	MIPR	CECOM : APG, MD	0.950	0.604	Nov 2012	0.556	Jan 2014	-		-		-	-	2.110	-
COC	WR	NSWC : Dahlgren, VA	2.900	1.548	Feb 2013	1.200	Jan 2014	-		-		-	-	5.648	-
COC	WR	NSWC : Panama City, FL	1.181	0.270	Feb 2013	0.117	Jan 2014	-		-		-	-	1.568	-
RVVT	WR	SPAWAR : Charleston, SC	0.000	-		1.851	Dec 2013	-		-		-	-	1.851	-
RVVT	C/CPFF	MCSC : Quantico, VA	0.000	-		-		0.500	Jan 2015	-		0.500	-	0.500	-
		Subtotal	204.810	32.512		40.732		3.208		-		3.208	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	WR	Travel-TAD : Various	1.030	0.246	Sep 2013	0.425	Sep 2014	-		-		-	-	1.701	-
CAC2S	WR	NSWC Carderock : Carderock, MD	0.250	-		-		-		-		-	-	0.250	-
CAC2S	C/CPAF	AMSSA : APG, Mayrland	0.260	-		0.330	Nov 2013	-		-		-	-	0.590	-
CAC2S	WR	SPAWAR : Charleston, SC	0.110	-		0.559	Nov 2013	-		-		-	-	0.669	-
CAC2S	WR	JITC : Fort Huachuca, AZ	0.986	0.030	Nov 2012	0.100	Nov 2013	-		-		-	-	1.116	-
CAC2S	MIPR	MITRE : Boston, MA	5.628	2.017	Nov 2012	-		-		-		-	-	7.645	-
CAC2S	WR	MACCS-X : Camp Pendleton, CA	1.564	-		-		-		-		-	-	1.564	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2273 / *Air Ops Cmd & Control (C2) Sys*	

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
CAC2S	WR	MCTSSA : Camp Pendleton, CA	2.616	0.162	Nov 2012	0.387	Nov 2013	-		-		-	-	3.165	-
CAC2S	WR	NSWC Corona : Corona, CA	2.903	0.559	Nov 2012	1.715	Nov 2013	-		-		-	-	5.177	-
CAC2S	C/FP	BAH : Stafford, VA	2.003	-		-		-		-		-	-	2.003	-
CAC2S	C/IDIQ	SPAWAR : Pacific, CA	0.960	-		-		-		-		-	-	0.960	-
CAC2S	C/FP	RNB Technologies : Stafford, VA	0.778	-		-		-		-		-	-	0.778	-
CAC2S	C/FP	American Systems Corp. : Chantilly, VA	1.000	-		-		-		-		-	-	1.000	-
CAC2S	WR	APX : Washington, DC	0.000	-		-		-		-		-	-	-	-
CAC2S	Sub Allot	LOGCOM : ALBANY, GA	0.000	-		-		-		-		-	-	-	-
CAC2S	Allot	MCSC - Safety : Quantico, VA	0.000	0.482	May 2013	0.528	Feb 2014	-		-		-	-	1.010	-
CAC2S	MIPR	AFMC : Robins AFM, GA	0.000	0.030	Oct 2013	-		-		-		-	-	0.030	-
CAC2S	MIPR	Redstone : Redstone Arsenal, AL	0.000	-		0.320	Feb 2014	-		-		-	-	0.320	-
TBMCS	Various	Travel : Various	0.050	-		-		-		-		-	-	0.050	-
CTN	WR	NSWC : Dahlgren, VA	1.633	0.280	Jan 2013	2.632	Jan 2014	0.500	Jan 2015	-		0.500	Continuing	Continuing	Continuing
CTN	WR	NSWC : PHD, CA	0.259	-		0.412	Feb 2014	0.138	Feb 2015	-		0.138	Continuing	Continuing	Continuing
CTN	WR	NSWC : Crane, IN	0.400	-		0.507	Feb 2014	-		-		-	-	0.907	-
CTN	MIPR	MACS : Quantico, VA	0.140	-		-		-		-		-	-	0.140	-
CTN	WR	NAVSEA : Wallops Island, VA	0.372	-		-		-		-		-	-	0.372	-
CTN	Various	Travel-TAD : Not Specified	0.889	0.066	Sep 2013	0.100	Sep 2014	0.066	Sep 2015	-		0.066	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2273 / *Air Ops Cmd & Control (C2) Sys*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CTN	WR	SPAWAR : Charleston, SC	0.435	-		-		-		-		-	-	0.435	-
MACCS Sustainment	WR	NSWC : Crane, IN	0.089	0.949	Dec 2012	-		0.300	Nov 2014	-		0.300	Continuing	Continuing	Continuing
MACCS Sustainment	Reqn	NGES : Woodland Hills, CA	0.800	0.500	Jul 2013	0.500	Nov 2013	0.400	Nov 2014	-		0.400	Continuing	Continuing	Continuing
JCTI-G	Reqn	Tecolote : Arlington, VA	1.917	-		-		-		-		-	Continuing	Continuing	Continuing
RVVT	C/FFP	QNA : Stafford, VA	1.595	-		-		-		-		-	-	1.595	-
RVVT	WR	NSWC Dahlgren : Dahlgren, VA	0.000	0.200	Oct 2012	0.200	Oct 2013	-		-		-	Continuing	Continuing	Continuing
CTN	C/CPFF	NAVSEA PEO IWS : Washington DC	0.000	1.243	Nov 2012	1.347	Nov 2013	-		-		-	-	2.590	-
CTN	WR	NSWC Corona : Corona, CA	0.000	0.140	Nov 2012	0.132	Nov 2013	-		-		-	-	0.272	-
SIAP	C/FP	RNB Technologies : Stafford VA	5.374	-		-		-		-		-	-	5.374	-
JSS	C/CPFF	MCTSSA : Camp Pendleton, CA	0.267	-		-		-		-		-	-	0.267	-
MACCS Sustainment	C/FFP	SPAWAR Charleston : Charleston, SC	0.963	-		-		0.266	Nov 2014	-		0.266	Continuing	Continuing	Continuing
COC	MIPR	NUWC : Newport, RI	0.200	-		-		-		-		-	-	0.200	-
		Subtotal	35.471	6.904		10.194		1.670		-		1.670	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	WR	NSWC Port Hueneme : Port Hueneme, CA	0.139	0.573	Nov 2012	1.319	Nov 2013	-		-		-	-	2.031	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2273 / *Air Ops Cmd & Control (C2) Sys*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	WR	MCOTEA : Quantico, VA	7.000	0.421	Nov 2012	1.500	Nov 2013	-		-		-	-	8.921	-
CAC2S	WR	MACS-2 : Cherry Point, NC	0.000	-		2.201	Feb 2014	-		-		-	-	2.201	-
CAC2S	WR	MCTSSA : Camp Pendleton, CA	0.000	-		-		-		-		-	-	-	-
CAC2S	C/FFP	APX : Wahington, DC	0.000	-		0.750	Apr 2014	-		-		-	-	0.750	-
CAC2S	MIPR	NAWX : Patuxent River, MD	0.000	-		0.176	Feb 2014	-		-		-	-	0.176	-
TBMCS	C/FFP	Lockheed Martin : Colorado Springs, CO	0.000	2.564	Mar 2014	2.447	Mar 2014	2.082	Mar 2015	-		2.082	Continuing	Continuing	Continuing
TBMCS	WR	MCOTEA : Quantico, VA	0.560	-		-		-		-		-	-	0.560	-
TBMCS	MIPR	Englin AFB : Englin AFB, FL	0.230	0.274	Nov 2013	0.308	Jun 2014	0.342	Jun 2015	-		0.342	Continuing	Continuing	Continuing
CTN	C/BA	JITC : PHD, CA	0.000	-		0.033	Mar 2014	-		-		-	-	0.033	-
CTN	WR	MCSC CTQ : Quantico, VA	0.025	-		-		-		-		-	-	0.025	-
CTN	WR	PEO IWS 6 : St. Petersburg, FL	6.330	-		-		-		-		-	-	6.330	-
CTN	WR	NSWC Corona : Corona, CA	1.334	0.090	Nov 2012	-		-		-		-	-	1.424	-
CTN	WR	NSWC DD : Dahlgren, VA	1.262	-		-		-		-		-	-	1.262	-
CTN	C/CPFF	NAVSEA PEO IWS : Washington DC	0.000	0.333	Apr 2013	-		-		-		-	-	0.333	-
RVVT	WR	SPAWAR : Charleston, SC	0.000	0.377	Mar 2013	0.200	Dec 2013	-		-		-	-	0.577	-
CTN	WR	JITC : Fort Huachuca, AZ	0.043	0.015	Jun 2013	-		-		-		-	-	0.058	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2273 / *Air Ops Cmd & Control (C2) Sys*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CTN	WR	MCOTEA : Quantico VA	1.344	-		0.200	Feb 2014	-		-		-	-	1.544	-
CTN	WR	MCSC : Quantico, VA	3.876	-		-		-		-		-	Continuing	Continuing	Continuing
CTN	WR	NSWC : Crane, IN	1.064	0.165	Dec 2012	-		-		-		-	-	1.229	-
MACCS Sustainment	WR	Aberdeen Test Center : Aberdeen, MD	0.484	0.200	Nov 2012	0.230	Nov 2013	-		-		-	Continuing	Continuing	Continuing
MACCS Sustainment	Reqn	NGES : Woodland Hills, CA	1.922	1.497	Jul 2013	-		0.100	Nov 2014	-		0.100	Continuing	Continuing	Continuing
MACCS Sustainment	Various	MCOTEA : Quantico, VA	0.467	-		-		-		-		-	-	0.467	-
MACCS Sustainment	MIPR	DISA : Washington, DC	0.200	0.537	May 2013	-		-		-		-	-	0.737	-
RVVT	WR	SPAWAR : Charleston, NC	1.952	-		-		0.590	Dec 2014	-		0.590	Continuing	Continuing	Continuing
COC	MIPR	MCOTEA : Quantico, VA	0.728	-		-		-		-		-	-	0.728	-
COC	MIPR	JTIC : Fort Huachuca, AZ	0.140	0.017	Nov 2012	-		-		-		-	-	0.157	-
COC	TBD	MCTSSA : Camp Pendleton, CA	0.000	-		0.479	May 2014	0.819	Oct 2014	-		0.819	Continuing	Continuing	Continuing
		Subtotal	29.100	7.063		9.843		3.933		-		3.933	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	MIPR	DTIC: Fort Belvoir, VA : Fort Belvoir, VA	0.261	-		-		-		-		-	-	0.261	-
CAC2S	C/FFP	QNA: Stafford, VA : Quantico, VA	13.796	1.354	Jun 2013	4.000	Nov 2013	-		-		-	-	19.150	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2273 / *Air Ops Cmd & Control (C2) Sys*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TBMCS	C/FFP	QNA: Stafford, VA : Quantico, VA	2.309	-	Jun 2013	-		-		-		-	-	2.309	-
CTN	WR	NSWC Dahlgren : Dahlgren, VA	0.000	0.251	Dec 2012	-		-		-		-	-	0.251	-
CTN	WR	MCSC : Quantico, VA	1.122	-		-		-		-		-	-	1.122	-
MACCS Sustainment	C/FFP	MCSC : Quantico, VA	0.350	0.818	Jul 2013	0.300	Jul 2014	-		-		-	-	1.468	-
JSS	Reqn	Travel : Quantico, VA	0.022	-		-		-		-		-	-	0.022	-
JSS	C/FFP	TASC : Quantico, VA	0.147	-		-		-		-		-	-	0.147	-
JSS	WR	SPAWAR : Charleston, SC	0.050	-		-		-		-		-	-	0.050	-
JSS	MIPR	Hanscom AFB : Hanscom AFB	0.078	-		-		-		-		-	-	0.078	-
COC	C/FFP	MCSC : Quantico, VA	0.057	2.400	Nov 2012	-		-		-		-	-	2.457	-
		Subtotal	18.192	4.823		4.300		-		-		-	-	27.315	-

	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	287.573	51.302		65.069		8.811		-		8.811	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

TBMCS SCHEDULE

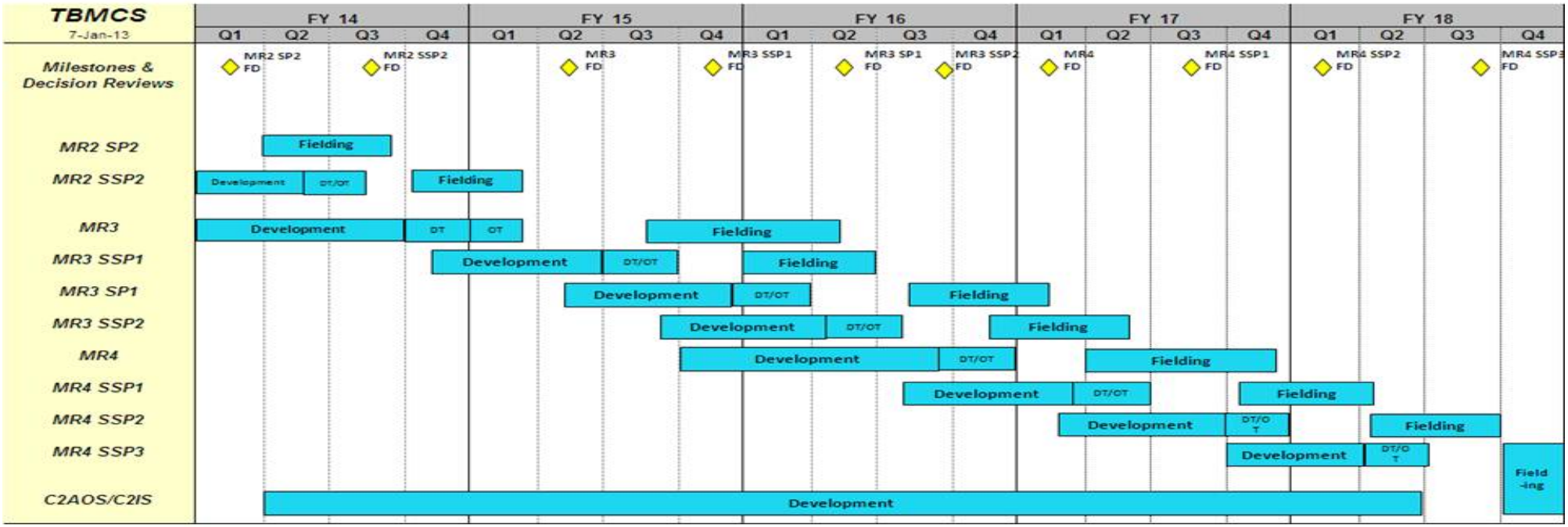


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

COC Program Schedule

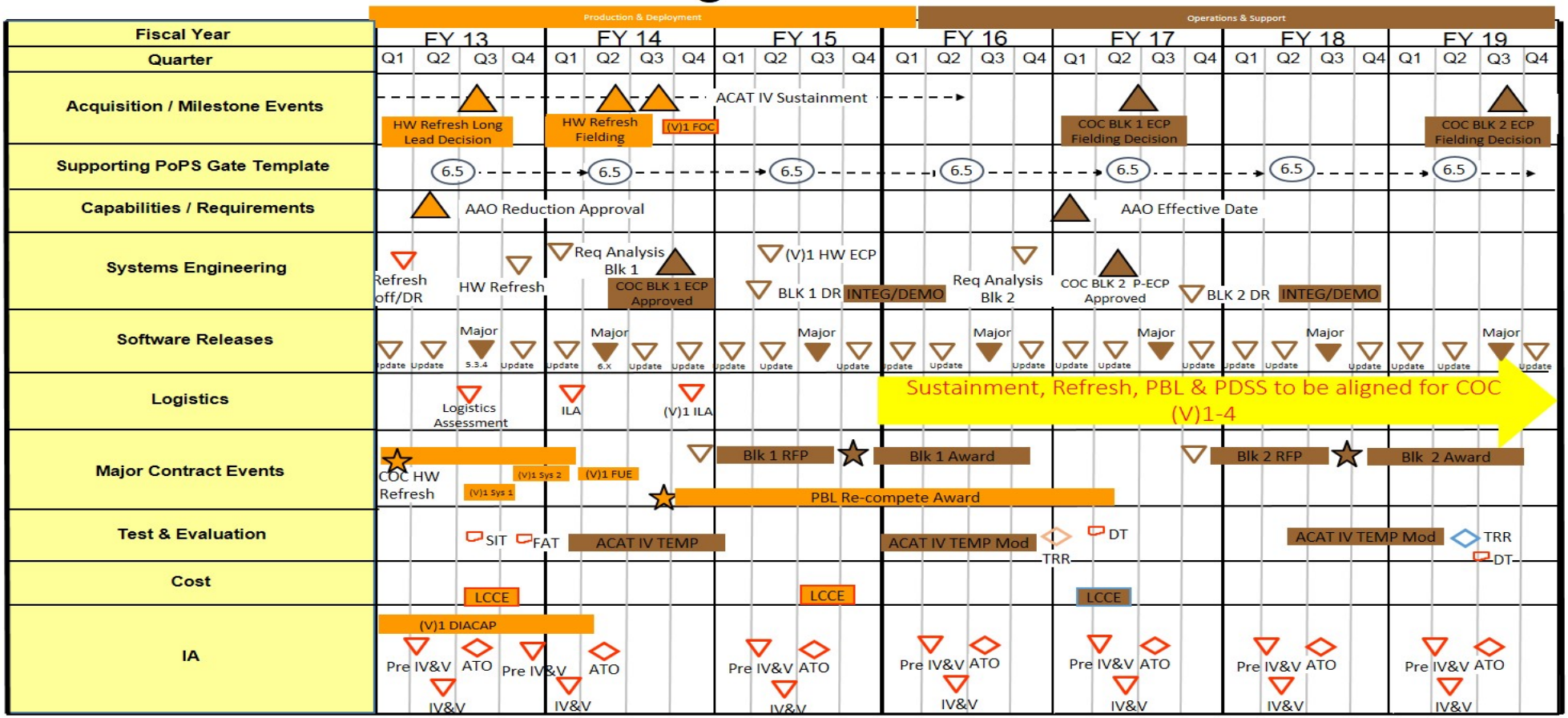


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

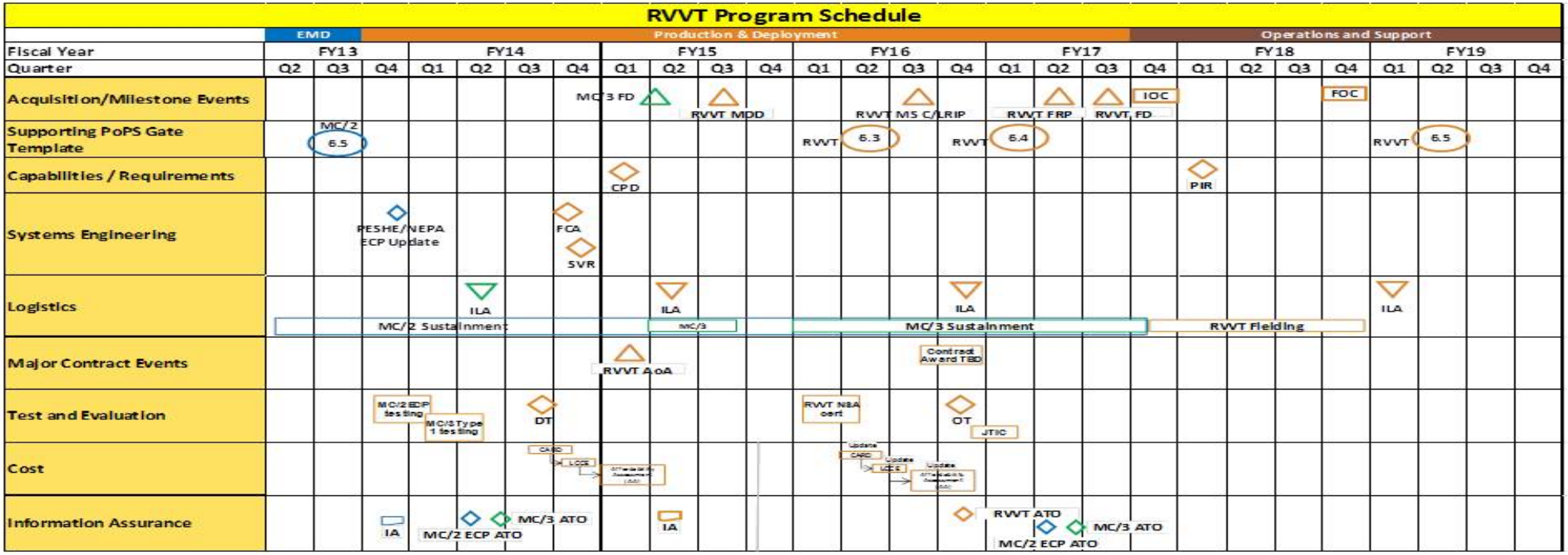


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

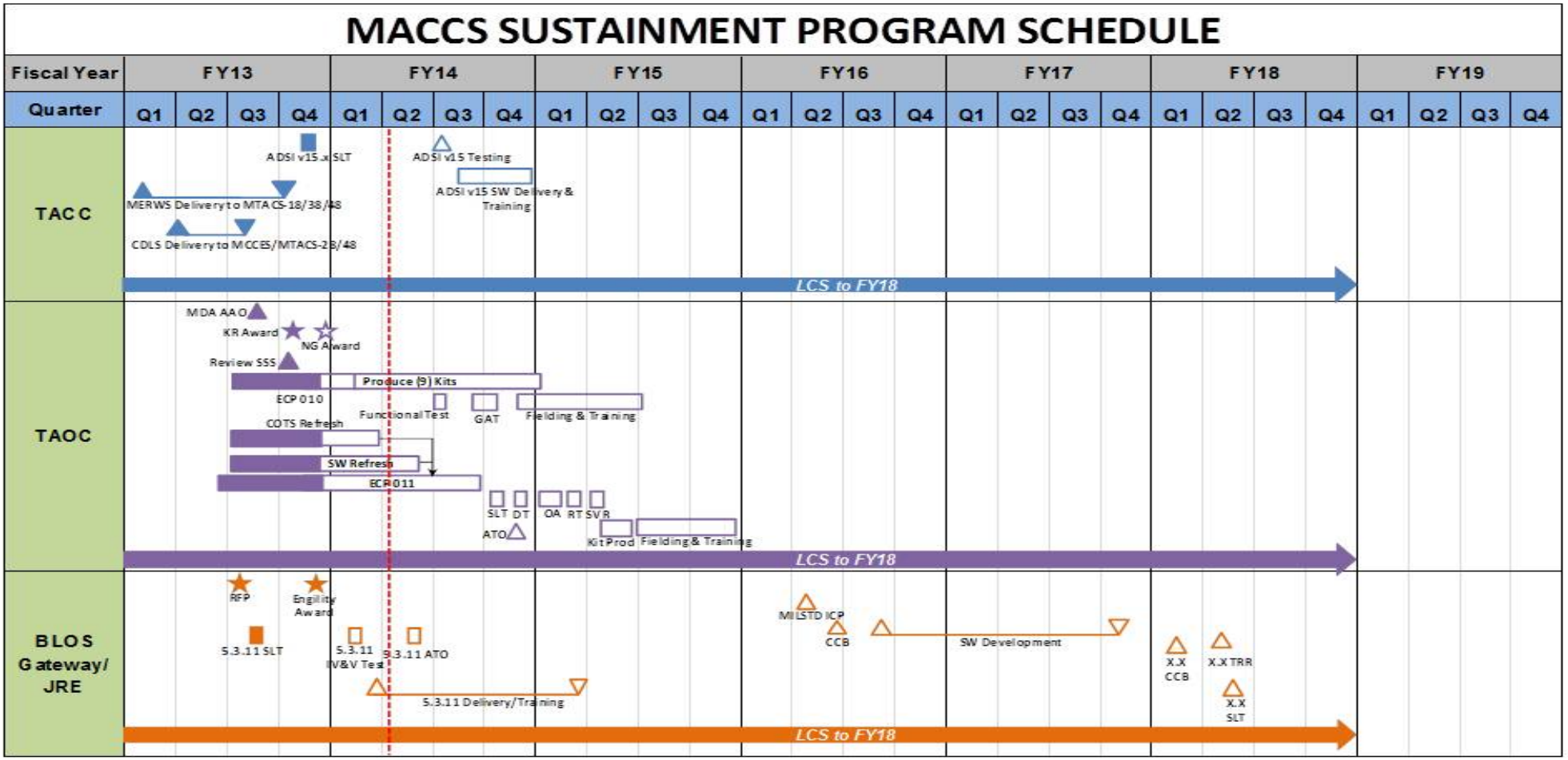


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

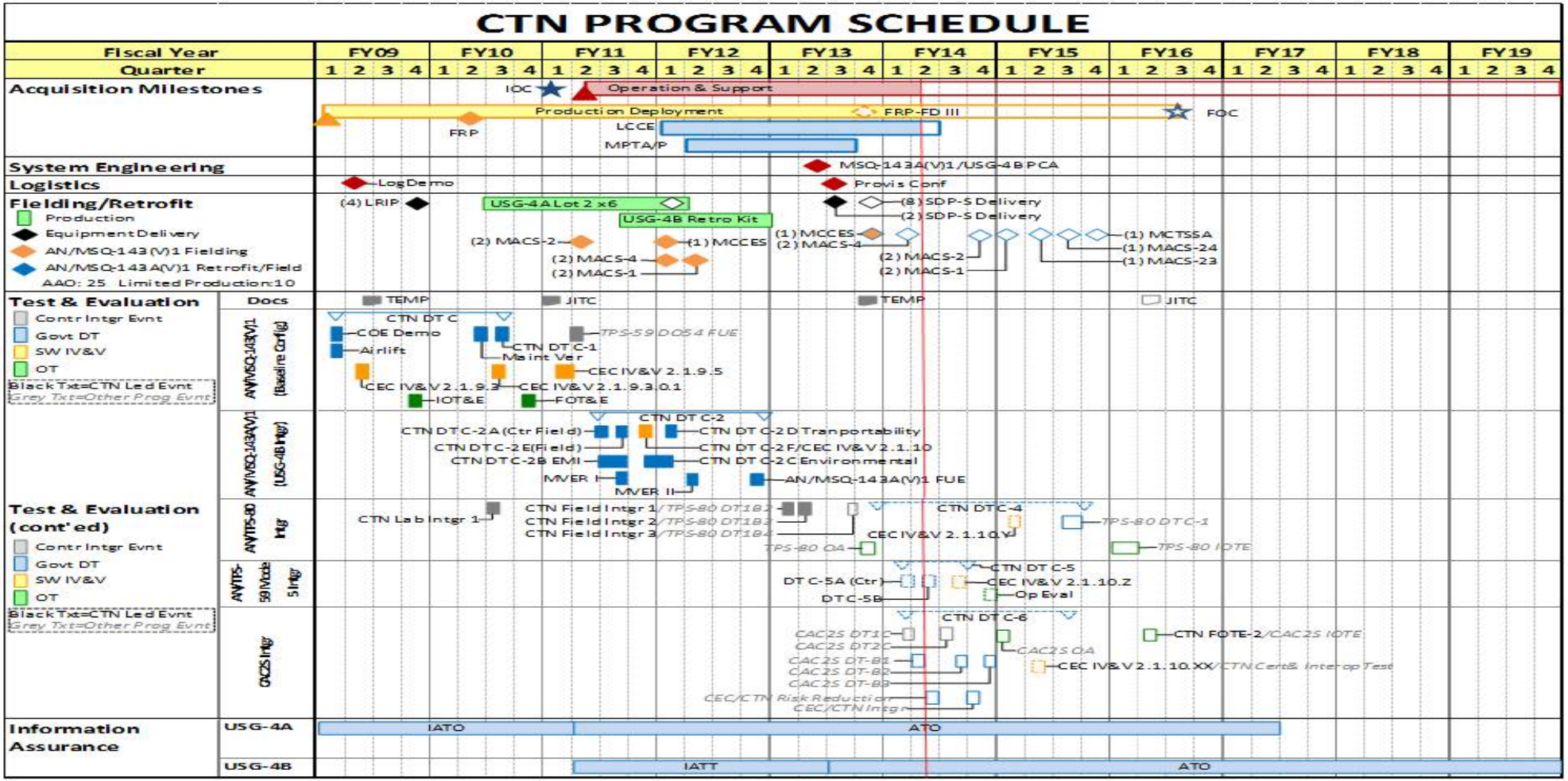


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

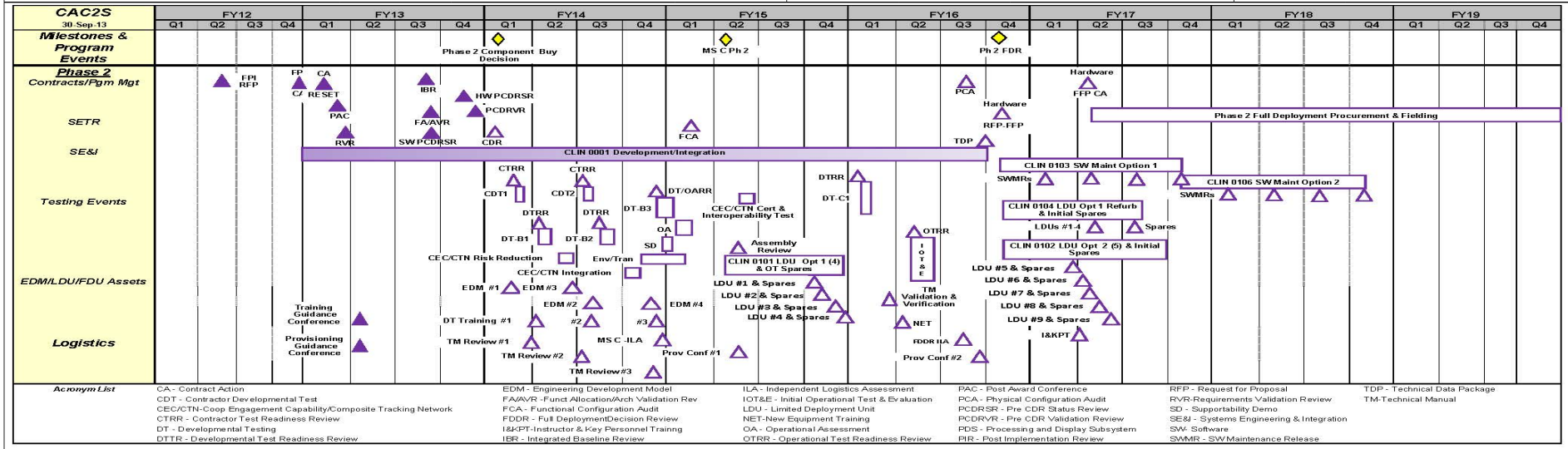


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2273				
COC Life Cycle Sustainment (V)2-4	1	2013	4	2019
COC Life Cycle Sustainment (V)1	1	2015	4	2019
COC (V)1 Field User Evaluation (FUE)	2	2014	2	2014
COC (V)1 FOC	3	2014	3	2014
COC Block/ECP Approved	4	2014	4	2014
RVVT DT	3	2014	3	2014
RVVT MS C	3	2015	3	2015
RVVT MDD	3	2015	3	2015
RVVT OT	4	2016	4	2016
RVVT LRIP	3	2015	3	2015
RVVT FRP	1	2017	1	2017
RVVT FD	2	2017	2	2017
CAC2S: CLIN 0001 Development/Integration	1	2013	4	2016
CAC2S: Critical Design Review	1	2014	1	2014
CAC2S: Developmental Test - B1	2	2014	2	2014
CAC2S: Developmental Test - B2	3	2014	3	2014
CAC2S: Developmental Test - B3	4	2014	4	2014
CAC2S: Operational Assessment	1	2015	1	2015
CAC2S: Milestone C	2	2015	2	2015
CAC2S: Coop Engagement Capability/Composite Tracking Network Certification	2	2015	2	2015
CAC2S: Limited Deployment Units (LDU) Build (PMC BL 464400)	2	2015	4	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2273 / *Air Ops Cmd & Control (C2) Sys*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
CAC2S: Developmental Test Readiness Review	1	2016	1	2016
CAC2S: Developmental Test - C1	1	2016	1	2016
CAC2S: Operational Test Readiness Review	2	2016	2	2016
CAC2S: Initial Operational Test and Evaluation	2	2016	2	2016
CAC2S: Full Deployment Review	4	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*				Project (Number/Name) 2274 / *Command & Control Warfare 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**
2274: *Command & Control Warfare Sys*	38.698	12.619	8.630	7.080	-	7.080	9.415	6.189	6.345	6.554	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

COUNTER RADIO-CONTROLLED IMPROVISED EXPLOSIVE DEVICE (RCIED) ELECTRONIC WARFARE (USMC CREW) SYSTEMS are vehicle mounted and dismounted modular programmable multi-band radiofrequency jammers designed to deny enemy use of selected portions of the radio frequency spectrum in the vicinity of the jammer to counter the RCIED threat. The mounted and dismounted systems provide Marines in vehicle convoys and on foot with the necessary protection from the continued and evolving threat of deadly RCIEDs. Legacy CREW systems are currently deployed to meet threats in the current theater of operation and fielded to selected MEU(SOC)s in support of worldwide deployment. To continue to support OEF and other worldwide missions, each CREW unit receives customized programing (load-sets) to counter the area's RCIED threats. The testing, programming development, and product improvement research our funded with the CREW's RDT&E funding and prioritized to meet the demand of all deployed CREW assets.

GROUND-BASED OPERATIONAL SURVEILLANCE SYSTEM (GBOSS) is an incremental development program currently providing persistent, multispectral surveillance sensor packages in Afghanistan. Three variants of G-BOSS exist; 80' tower mounted system (heavy), 20' trailer mounted system (medium/GBL), and man-portable, tripod mounted system (lite/CBL). Each tower employs multiple, self-contained detection and assessment technologies on a single trailer-mounted elevation platform with a multi-spectral sensor suite consisting of: daylight color & infrared imagery (StarSafire III and T-3000), Unattended Ground Sensors (UGS), Manportable Surveillance and Target Acquisition Radar (MSTAR), communication suite for wireless point to point link, and unmanned aerial vehicle interface (VideoScout). The medium and lite systems provide a subset of the G-BOSS heavy capabilities. G-BOSS is a material solution in response to an Urgent Universal Needs Statement (UUNS) in support of OIF and OEF. There is no funding for GBOSS Research and Development after FY13 following the suspension of the G-BOSS(E) program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2013**	**FY 2014**	**FY 2015**
Title: *USMC CREW - Product Development	1.708	2.072	2.706
Articles:	-	-	-
FY 2013 Accomplishments: In FY13 USMC CREW continued the development and testing of multiple waveform/load-sets for the CVRJ (V)1, CVRJ(V)2, and Thor III CREW Systems for OEF and other MEU/Marine Expeditionary Force (MEF) operations. Developed corresponding waveform expansions required for the Universal Test Sets (UTS) for all theaters of operations. Continued support mounted CREW integrations for MEU/MEF mission profiles by analyzing vehicle profile issues and implement installation kits for the CVRJ(V)2			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
upgrade. Designed, tested, and contracted load carrier upgrades for the Thor III dismounted system that allowed a Marine to reduce fatigue caused by the carrying of the CREW systems. ***FY 2014 Plans:*** In FY14 USMC CREW will develop waveform load sets for the MEU(SOC) Phase I Modi system while continuing the development of waveform/load sets for all other existing CREW systems. Increase the UTS waveform development to include the Modi system and update its current programming for all improvement to legacy CREW systems. Continue support efforts to provide custom load sets for each type of CREW systems for MEU/Marine Expeditionary Force (MEF) to counter RCIED technology around the globe. Continue to develop custom vehicle installation kits for the CVRJ(V)2 upgrade in order to support the integration and installation of the upgrade kits onto Marine Corps vehicle platform. Complete the design changes to improve the Modi transportability issues that minimizes the Marine's fatigue during deployment. ***FY 2015 Plans:*** In FY15 USMC CREW will include the development of the MEU(SOC) Phase II and MARCENT mounted and dismounted system's waveform load sets into the group of required CREW systems to support. The increase in system variants will also result in the need to continue the development of waveform/load sets for UTS across multiple deployment theaters. Continue to develop vehicle installation kits for the MEU(SOC) Phase II and MARCENT mounted systems in order to support the integration and installation of the upgrade kits into Marine Corps vehicle platform while completing the development of the CVRJ(V)2 integration kits.			
Title: *USMC CREW - Support	2.193	0.500	0.595
Articles:	-	-	-
FY 2013 Accomplishments: In FY13 USMC CREW conducted systems engineering and integration support required for the mounted CREW, CVRJ (V)1 and (V)2 integrations into Marine Expeditionary Units (MEU)/Marine Expeditionary Force (MEF) mission profiles by developing vehicle installation kits for the CVRJ units. Continued system support for CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi systems and the Universal Test Sets by analyzing CREW performance impacts resulting from compatibility and environmental risk impacts. ***FY 2014 Plans:*** In FY14 USMC CREW will continue to conduct systems engineering and integration necessary to conduct systems engineering and integration support required for the mounted CREW, CVRJ (V)1 and (V)2 integrations into Marine Expeditionary Units (MEU)/ Marine Expeditionary Force (MEF) mission profiles by developing vehicle installation kits for the CVRJ units. Continue system support for CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi systems and the Universal Test Sets by analyzing CREW performance impacts resulting from compatibility and environmental risk impacts. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
In FY15 USMC CREW will continue to conduct systems engineering and integration necessary to conduct systems engineering and integration support required for the mounted CREW, CVRJ (V)1,(V)2, and MEU(SOC) integrations into Marine Expeditionary Units (MEU)/Marine Expeditionary Force (MEF) mission profiles by developing vehicle installation kits for these mounted units. Continue system support for CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi systems, MARCENT systems and the Universal Test Sets by analyzing CREW performance impacts resulting from compatibility and environmental risk impacts.			
Title: *USMC CREW - Test and Evaluation	0.407	3.569	0.420
Articles:	-	-	-
FY 2013 Accomplishments: FY13 USMC CREW conducted test events in support of the CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi and Universal Test Set (UTS) system's waveform performance regarding its ability to defeat the RCIED threat in multiple locations. Tested the Modi dismounted Engineer Design Models (EDMs) that resulted in the initial procurement of the Modi system for MEU(SOC) use. Conducted compatibility testing against other services CREW devices to ensure Marine Corps CREW systems maintained required performance capabilities. Characterized operational limitations regarding the CREW systems and standoff restrictions for its operation.			
FY 2014 Plans: FY14 USMC CREW will conduct test events in support of the CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi and Universal Test Set (UTS) systems regarding its ability to defeat the RCIED threat in multiple worldwide locations. Tested the Modi dismounted and MEU(SOC) production units that will be fielded for MEU(SOC) use. Conduct compatibility testing against USMC devices to ensure Marine Corps CREW systems maintained required performance capabilities. Characterize operational limitations regarding the CREW systems and standoff restrictions for its operation. Complete Modi carriage improvements testing to distinguish possible design limitations that can be improved to optimize the Marine use of the system. Validate alternate testing methods to reduce test cost of multiple waveform across all CREW systems.			
FY 2015 Plans: FY15 USMC CREW will conduct test events in support of the CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi and Universal Test Set (UTS) systems regarding its ability to defeat the RCIED threat in multiple worldwide locations. Complete the testing of the MEU(SOC) production units that will be fielded for MEU(SOC) use. Conduct compatibility testing against USMC and other services devices to ensure Marine Corps CREW systems maintained required performance capabilities. Characterize operational limitations regarding the CREW systems and standoff restrictions for its operation. Complete MEU(SOC) improvements testing to distinguish possible design limitations that can be improved to optimize the Marine use of the system.			
Title: *USMC CREW - Management	1.168	2.489	3.359
Articles:	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: In FY13 the program managed the new techniques, improved capabilities, enhanced software and upgrades to counter the evolving threat and delay technology obsolescence for CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi, and Universal Test Set systems. ***FY 2014 Plans:*** In FY14 the program will continue to manage the new techniques, improve capabilities, enhance software and upgrades to counter the evolving threat and prevent technology obsolescence for CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi, and Universal Test Set systems. ***FY 2015 Plans:*** In FY15 the program will continue to manage the new techniques, improve capabilities, enhance software and upgrades to counter the evolving threat and prevent technology obsolescence for CVRJ (V)1 and (V)2, Thor III, MEU(SOC) Modi, MEU(SOC) Phase II and MARCENT mounted/dismounted and the Universal Test Set systems.			
Title: *GBOSS - Product Development	5.907	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued Technology Readiness Assessments and integration of capability enhancements per acquisition strategy to update the existing G-BOSS 3.1 systems with a common operating system and equipment interface to increase operational availability. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: *GBOSS - Support	1.064	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Technical engineering services, analysis of alternatives, and research studies to include CARD and LCCE development. Continued the IA accreditation efforts, IA and software management, and associated engineering for incorporation as system enhancements. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** N/A			
Title: *GBOSS - Test and Evaluation. ***Articles:*** ***FY 2013 Accomplishments:*** Continued testing, evaluation and design verification/validation of G-BOSS version upgrades ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.148 -	- -	- -
Title: *GBOSS - Management. ***Articles:*** ***FY 2013 Accomplishments:*** Provided design oversight, task scheduling, estimate development, reports and test support for the program office ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.024 -	- -	- -
Accomplishments/Planned Programs Subtotals	12.619	8.630	7.080

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 6520: *USMC CREW*	102.430	-	-	-	-	-	-	-	-	-	493.022
• PMC 6438: *GBOSS*	55.500	-	-	-	-	-	-	-	-	-	279.907
• PMC 7000: *USMC CREW SPARES*	1.535	-	-	-	-	-	-	-	-	-	1.535

Remarks

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

COUNTER RADIO-CONTROLLED IMPROVISED EXPLOSIVE DEVICE (RCIED) ELECTRONIC WARFARE (USMC CREW): CREW mounted and dismounted systems provide Marines in vehicle convoys and on foot with the necessary protection from the continued and evolving threat of deadly RCIEDs in all current and future operations. The program will continue to develop new techniques, improve capabilities, enhance software and develop upgrades to counter evolving threats and prevent technology obsolescence. Activities include waveform development, non-recurring engineering for system enhancements, capability upgrades, and installation kits, integration of the enhancements/Vehicle Installation Kits (VIKs) and the tests/government studies required to support these changes. 3100 CVRJ(V1) mounted systems were upgraded to a Band C (V2) capability beginning in FY12 and are being fielded to selected MEU(SOC) units starting in FY13. The Thor III are dismounted systems fielded to OEF in FY12 and are also being fielded to selected MEU(SOC) units starting in FY13. The Modi is a dismounted system which commences initial replacement of the Thor III and transition to the MEU(SOC) program. 40 Modi were procured in FY13 with expected delivery in FY14. The CREW MEU(SOC) program consists of 150 mounted 360 dismounted systems and was initiated as an ongoing effort to develop new techniques, improve capabilities, enhance software and develop waveform load sets to counter evolving threats and prevent technology obsolescence for both mounted and dismounted systems.

GBOSS. The acquisition approach has been to use existing government contracts (US Navy, US Army, US Air Force) for Commercial-Off-the-Shelf (COTS) and Government-Off-the-Shelf (GOTS) material and services that meet the basic requirements of the UUNS and give priority to materials and services already integrated into an existing or similar architecture. In FY13, the acquisition approach will be to maintain NSWC Crane as the system integrator to leverage their engineering and contracting vehicles for product development and test and evaluation. This approach is the most expeditious to deliver equipment and services to the forces in theater.

E. Performance Metrics

Milestone Reviews

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

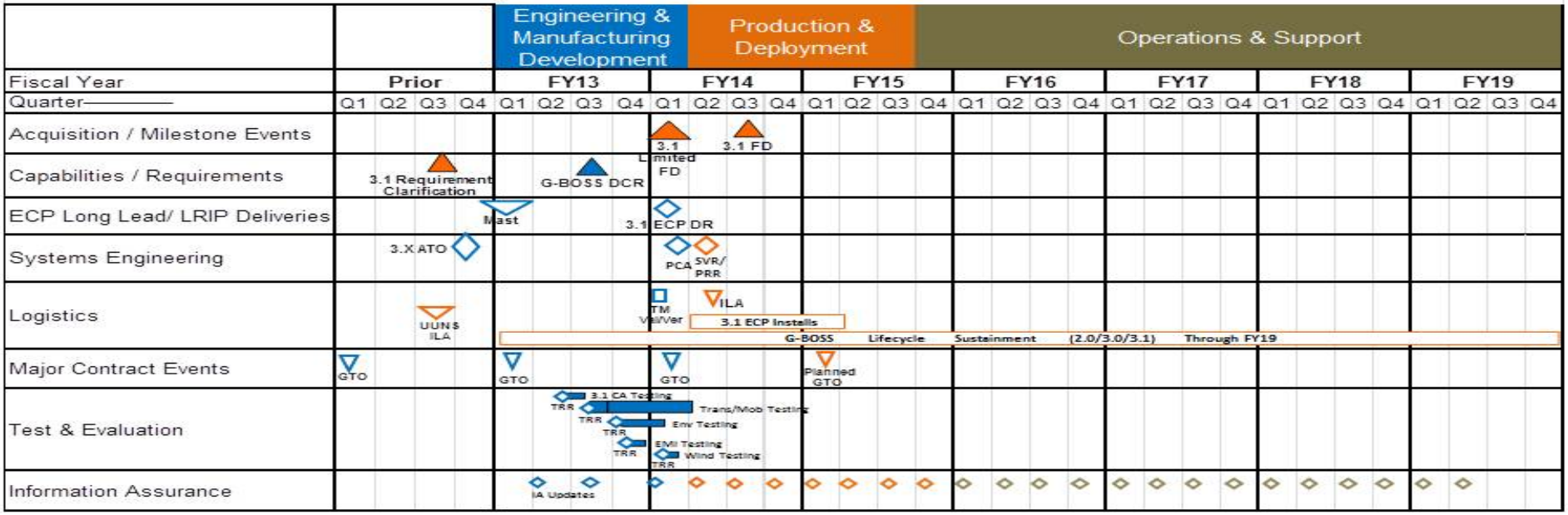
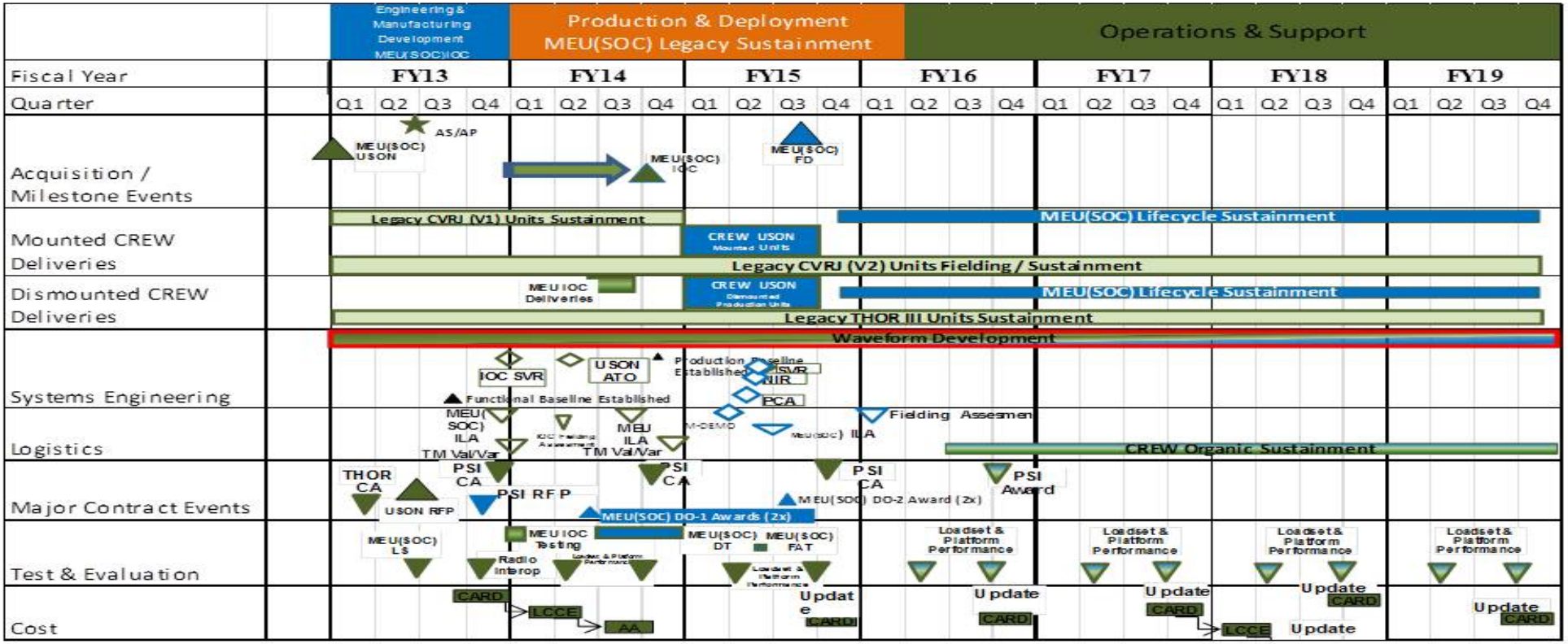


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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USMC CREW Program Schedule



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*				Project (Number/Name) 2275 / *Marine Corps Tactical Radio 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**
2275: *Marine Corps Tactical Radio Systems*	11.442	8.307	18.832	4.036	-	4.036	3.539	3.956	2.712	2.771	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

(U) Tactical Communications Modernization (TCM): TCM was established to procure interim radio systems to bridge the gap between legacy systems and forecasted deliveries from the Joint Tactical Radio System (JTRS) program. The program schedule and budget profile for TCM procures leading edge radio systems to support the primary operational voice and data communications requirements for mounted and dismounted forces. TCM procurements enable an initial joint networking capability and support National Security Agency (NSA) Communications Security (COMSEC) Modernization requirements. Funding provides engineering and test support for both the Mobile User Objective System (MUOS) requirement, AN/MRC-145B service life extension program.

(U) Networking on the Move (NOTM): NOTM provides a robust command and control (C2) capability by integrating tactical data systems with on the move satellite communications (SATCOM) for beyond line-of-sight ability that allows battlefield commanders to have uninterrupted two-way access to digital data, anywhere on the battlefield. NOTM provides MAGTF commanders and staffs with full Common Operational Picture (COP) access, virtually unlimited situational awareness and a powerful ability to issue digital orders (fires, maneuver, planning) to GCE, ACE and LCE units at all echelons while on-the-move or at-the-halt. NOTM also provides Marine units the capability to link with and extend Defense Information System Network (DISN) services; SIPRNet, NIPRNet, and Defense Switched Networks (DSN). Integrated full motion video (receipt and retransmission), tactical voice communications plus three options for secure wireless local area network (LAN) connectivity between staff members makes this amphibious capability a crucial asset to all elements of the MAGTF. NOTM achieved initial operational capability at I MEF in March 2013 and will continue fielding a total of 56 systems at I MEF, II MEF, III MEF and the support establishment through August 2014.

(U) Very Small Aperture Terminal (VSAT): Very Small Aperture Terminal (VSAT) is an integrated Commercial Off-the-Shelf (COTS) satellite communications terminal with a modular architecture that supports drop and insert architecture through scalable and flexible applications. VSAT uses commercial Ku and military Ka frequency bands to provide beyond line-of-sight (BLOS) connectivity to support intra-MAGTF communications (NIPRNET, SIPRNET, and telephony) down to the battalion/ squadron level. The primary variant of VSAT is the Support Wide Area Network Terminal Version D (SWAN-D), which itself comes in three modular variants, dependent on MAGTF-size and mission.

(U) Lightweight Multiband Satellite Terminal (LMST)/PHOENIX are quad-band Super High Frequency (SHF) satellite terminals mounted in transit cases and High Mobility Multipurpose Wheeled Vehicles (HMMWVs) and can be used as either the hub or spoke terminal in a SATCOM network. LMST/PHOENIX provide SHF SATCOM transmissions to any size MAGTF and can be deployed as a "first in" communications source across the entire spectrum of conflict via various deployment configurations. With the signing of the SATCOM Collapse (20 May 2011), the Marine Corps will consolidate three programs: Lightweight Multiband Satellite Terminal

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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(LMST), Phoenix Tactical SHF Satellite Terminal (TSST), and the Very Small Aperture Terminal Large (VSAT-L) into one requirement defined as the Universal Satellite Access Tactical Terminal (USATT). RDT&E funding will be utilized to research/integrate VSAT X-Band development during the SATCOM Collapse transition process.

(U) Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T): SMART-T provides tactical users with protected data and voice via Advanced Extremely High Frequency (AEHF) satellite communications. The SMART-T system is transported on High Mobility Multipurpose Wheeled Vehicles (HMMWVs), providing MAGTF Commanders a secure, survivable, long-haul, low/medium data rate communications link not subject to terrain masking and horizon limitations. The SMART-T is also capable of operation when removed from the HMMWV. SMART-T is currently undergoing an upgrade to be interoperable with the new Advanced Extremely High Frequency (AEHF) constellation and will require certification testing and a Multi-service Operational Test and Evaluation (MOT&E).

(U) Terrestrial Wideband Transmission Systems (TWTS) is a capabilities portfolio of terrestrial based wideband transmission systems (formerly known as an TRC-170). Portfolio includes Beyond Line Of Sight (BLOS) system (AN/TRC-170) and Line Of Sight (LOS) systems (AN/MRC-142 (FOS), Troposcatter Support Radio (TSSR), and Wireless Point-to-Point-Link version D (WPPL-D)). The AN/TRC-170 is a transportable BLOS, terrestrial, self-enclosed troposcatter terminal (multichannel) capable of transmitting and receiving digital data over varying distances up to 100 miles. AN/MRC-142 FoS consists of the AN/MRC-142B (ship to shore) and C variants to provide LOS, two-way, secure voice and data communications up to 35 miles. TSSR is a multi-channel LOS wireless cable replacement communication system. The TSSR is commonly used in place of fiber optic or coaxial cable at expeditionary airfields. WPPL-D is an integrated communications system consisting of Commercial Off-the-Shelf (COTS) radios, antennas, and IP networking equipment that provides NIPR/SIPRNet data connectivity, voice and video services. TEAMS is a 34-meter telescopic mast system, extending support to various organic LOS systems (AN/MRC-142 and TSSR) by increasing operational reach by overcoming obstacles to communications.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: TCM: Test and Evaluation Support	0.054	1.490	0.500
Articles:	-	-	-
FY 2013 Accomplishments: Funding provided for test and certification services for the AN/PRC-117F Ultrahigh Frequency (UHF) Satellite Communication (SATCOM) terminal.			
FY 2014 Plans: Initiate engineering and test and evaluation support for the Mobile User Objective System (MUOS).			
FY 2015 Plans: Continue engineering and test and evaluation support for the Mobile User Objective System (MUOS).			
Title: NOTM: Product Development	2.176	7.929	-
Articles:	-	-	-
FY 2013 Accomplishments: Proof of concept development and computer based training.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Provide product development to reduce Size, Weight, and Power (SWaP) and incorporate Engineering Change Proposals (ECPs) that will provide system efficiencies. ***FY 2015 Plans:*** N/A			
Title: NOTM: Engineering and Program Support	3.384	0.199	0.205
Articles:	-	-	-
FY 2013 Accomplishments: Supported developmental efforts and engineering and program support. ***FY 2014 Plans:*** Funds will provide product improvements/Engineering Change Proposals (ECPs) and engineering support. ***FY 2015 Plans:*** Continue engineering and program support and product improvements/Engineering Change Proposals (ECPs).			
Title: NOTM: Test and Evaluation Support	1.043	3.000	0.562
Articles:	-	-	-
FY 2013 Accomplishments: Completed test efforts at MCTSSA and DTIC. ***FY 2014 Plans:*** Funds will provide test and evaluation support and testing. ***FY 2015 Plans:*** Continues test and evaluation support and testing.			
Title: VSAT: Engineering and Program Support	0.085	0.321	0.681
Articles:	-	-	-
FY 2013 Accomplishments: Continued technical support through MITRE for research and development activities, testing and evaluations. ***FY 2014 Plans:*** Funds will provide Information Assurance support through MITRE ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continues Information Assurance support through MITRE.			
Title: VSAT: Test and Evaluation Support	1.460	-	-
Articles:	-	-	-
FY 2013 Accomplishments: - Funds initiated an Electromagnetic Interference (EMI) study conducted on the Very Small Aperture Terminal (VSAT) in the X band frequency at the Aberdeen Test Center. - Funds completed a test and evauluation on the new configuration of 19 in rack-mounted cases. - Funds completed testing of four VSAT ISA terminals and associated training in support of a User Evaluation (UE). ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: LMST: Engineering Program Support	0.011	0.280	-
Articles:	-	-	-
FY 2013 Accomplishments: Funds continued technical support through MITRE for engineering and technical support. ***FY 2014 Plans:*** Continue MITRE engineering support. ***FY 2015 Plans:*** N/A			
Title: SMART-T: Engineering and Program Support	0.094	0.100	0.193
Articles:	-	-	-
FY 2013 Accomplishments: Funds continued technical support through MITRE for engineering, development activities, testing and evaluations. ***FY 2014 Plans:*** Continue engineering and technical support through MITRE. ***FY 2015 Plans:*** Continue engineering and technical support through MITRE.			
Title: SMART-T: Test and Evaluation Support	-	0.067	-

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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:*** Funding will support Multi-service Operational Test and Evaluation (MOT&E) at PM WIN-T in Abeerden, MD. ***FY 2015 Plans:*** N/A			
Title: TWTS: Product Development	-	0.500	1.700
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Initiate design development to mitigate the obsolesence issues and develop service life extension plans for MRC-142 and TRC-170. ***FY 2015 Plans:*** Continue design development to mitigate the obsolesence issues and design service life extension plans for MRC-142 and TRC-170.			
Title: TWTS: Test and Evalution Support	-	4.946	0.195
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Initiate MRC-142 testing, validation, and verification in addition to TRC-170 design and test. These activities will support the mitigation of obsolescence of both systems. ***FY 2015 Plans:*** - Continue research and design of obsolescence mitigation for MRC-142 and TRC-170. - Initiates support test activities for operating system upgrades for WPPL-D.			
Accomplishments/Planned Programs Subtotals	8.307	18.832	4.036

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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
• PMC/4633-1: *Tactical Satellite LMST*	5.387	1.240	-	-	-	-	-	-	0.001	-	15.411
• PMC/4633-2: *Very Small Aperture Terminal (VSAT)*	18.296	0.591	7.271	-	7.271	3.019	3.050	3.109	3.211	Continuing	Continuing
• PMC/4633-3: *TCM*	71.916	47.742	49.215	-	49.215	70.172	33.397	23.841	4.244	Continuing	Continuing
• PMC/4633-4: *SMART-T*	5.662	0.797	0.417	-	0.417	0.639	1.051	1.075	1.110	Continuing	Continuing
• PMC/4633-5: *TWTS*	-	6.254	6.046	-	6.046	7.463	9.210	10.240	3.098	Continuing	Continuing
• PMC/4631: *NOTM*	-	7.963	3.229	-	3.229	1.418	1.418	1.488	1.644	Continuing	Continuing
• PMC/7000: *SMART-T*	0.188	0.174	0.197	-	0.197	0.200	0.203	0.207	0.211	Continuing	Continuing

Remarks

D. Acquisition Strategy

(U) Tactical Communications Modernization (TCM): Provides for the testing and evaluation of the next generation tactical radio systems supporting: AN/MRC-145 service life extension program (AN/MRC-145B) and the MUOS terminals.

(U) Networking on the Move (NOTM): NOTM will use an evolutionary acquisition strategy and pursue a competitive contract that leverages Commercial-Off-The-Shelf (COTS) and Government-Off-The-Shelf (GOTS) technology to procure, sustain and meet emerging requirements. The design of the system provides for internal growth capability through an open system architecture enabling technology refresh to extend the system's life, maintain interoperability, Information Assurance (IA) compliance, and reduce costs due to Diminishing Manufacturing Sources and Material Shortages (DMSMS). It is envisioned that technology refresh will occur on the NOTM hardware and software periodically due to component obsolescence, user-driven requests for improvements, IA compliance, and mission-related requirements. Refresh will include investments to incorporate evolving capability to ensure compatibility with other systems, create lighter more efficient equipment, and keep pace with evolving software requirements. End-of-life equipment refresh is expected throughout the program's life cycle and may be managed through kit purchases, replacement through Engineering Change Proposals (ECPs), or as replacement parts as equipment is repaired.

(U) Very Small Aperture Terminal (VSAT): VSAT systems are currently in fielding and sustainment phases. VSAT systems primarily support operations on costly commercial SATCOM bandwidth. Some additional military SATCOM frequencies (Ka-band) have already been incorporated into the large, trailer mounted VSAT systems to alleviate reliance on commercial SATCOM bandwidth procurements. Additional military Ka-band upgrades to smaller variants of VSAT systems are pending. Additionally, VSAT systems have been recently identified as the platform required to support operations on military X-band SATCOM frequencies as other X-band capable systems reach obsolescence. In order to subsume the capabilities lost in the phase out of the obsolete systems, VSAT systems require ECPs to incorporate X-band capability in addition to upgrading ancillary subsystems. ECPs will involve procurement of COTS upgrade kits that are designed and integrated in accordance with government owned drawings and specifications. Contract delivery orders will be awarded to competent bidders on US Army PM Warfighter Information Network-Tactical multi-award IDIQ contracts on a FFP basis. The majority of candidate upgrade kits and components exist as previously awarded CLINs on current contracts. Upon

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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determination of final configuration of upgraded SATCOM terminal, program office will use the same U.S. Army contracting vehicles to procure the approved quantity of new terminals to replace the obsolete terminals being phased out.

(U) LIGHTWEIGHT MULTIBAND SATELLITE TERMINAL (LMST)/PHOENIX: With the signing of the SATCOM Collapse (20 May 2011), the Marine Corps will consolidate three programs: Lightweight Multiband Satellite Terminal (LMST), Phoenix Tactical SHF Satellite Terminal (TSST), and the Very Small Aperture Terminal Large (VSAT-L) into one requirement defined as the Universal Satellite Access Tactical Terminal (USATT). The acquisition strategy for the Lightweight Multi-band Satellite Terminal (LMST) and Phoenix program is to sustain terminals to maintain joint interoperability through FY17.

(U) Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T): SMART-T is an Army led, ACAT II program. The Marine Corps SMART-T has fielded the full Authorized Acquisition Objective (AAO) of 42 terminals and 32 AN/PSQ-17 Network Planning tools. SMART-T will be upgraded for compatibility with Advanced Extremely High Frequency (AEHF) waveforms and data rates. The AEHF capable SMART-T and planning tools will replace the legacy SMART-T. Terminal out of warranty repair for legacy components will be executed, when necessary, using the Army National Maintenance Contract.

(U) Tactical Wideband Communication Systems (TWTS): Requires R&D to proceed with design of obsolescence mitigation of TRC-170, MRC-142. These funds are identified to cover system developmental activities along with different test activities to include durability (life), interoperability, performance and operational activities; test activities to support operation system upgrade for WPPL-D & removal of networking capabilities in support of Warfighter Networking Services concept. Reduction of funding in the amount of $3.551M from FY14 to FY15 reflects 95% completion of TRC-170 ECP refinement and an 80% completion of MRC-142 testing.

E. Performance Metrics

N/A

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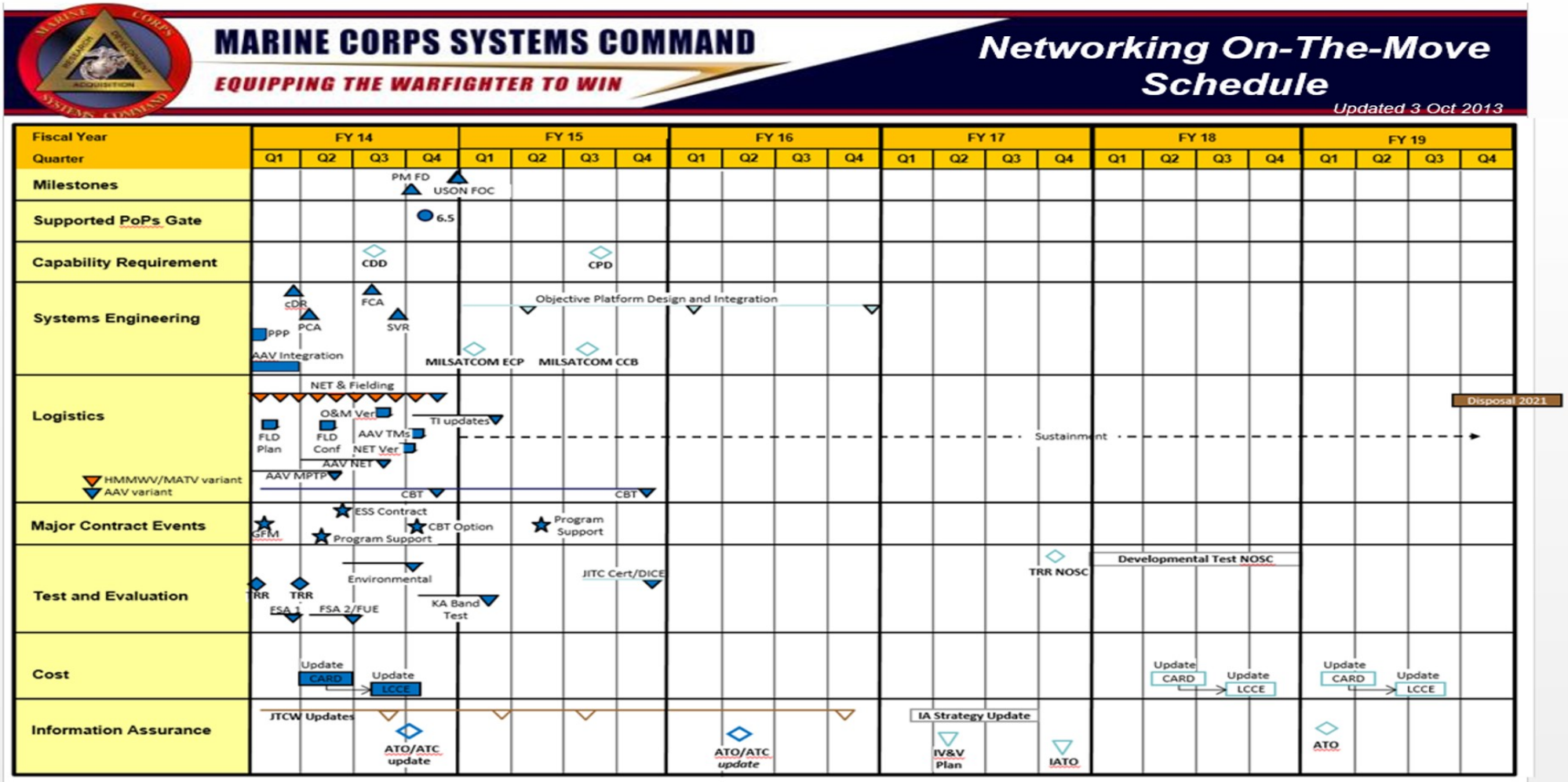
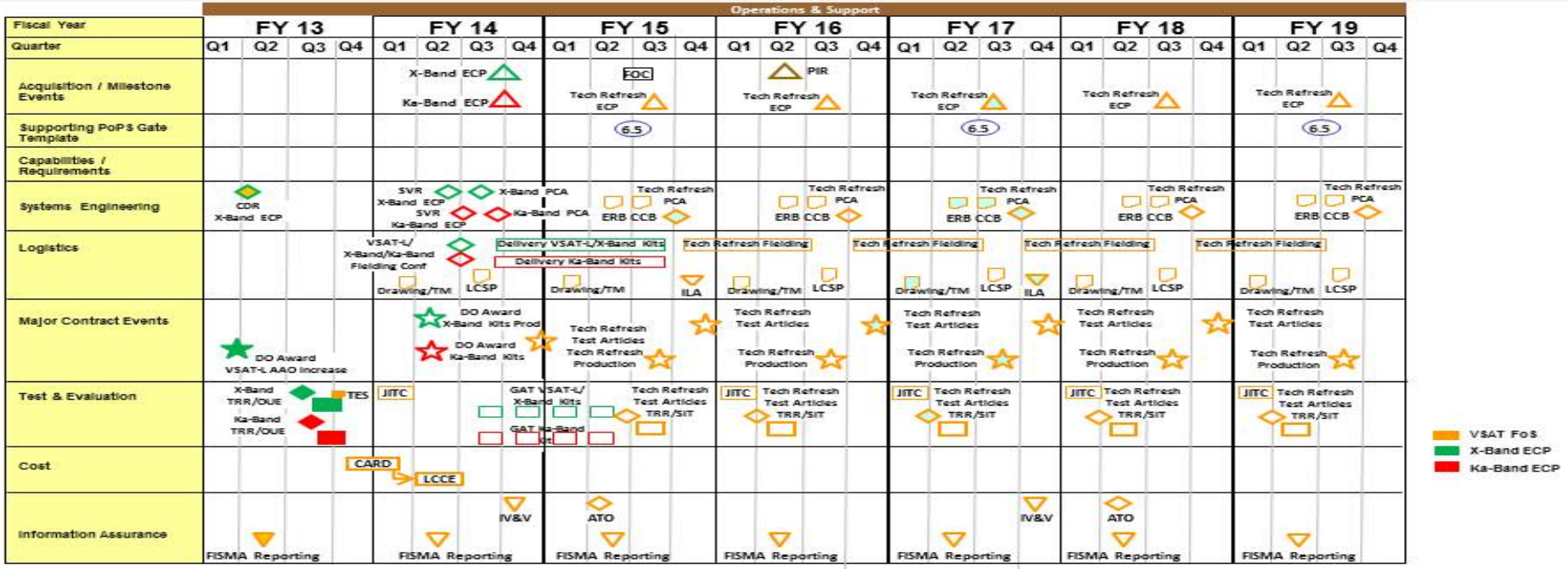


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VSAT PoPS Schedule



1

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

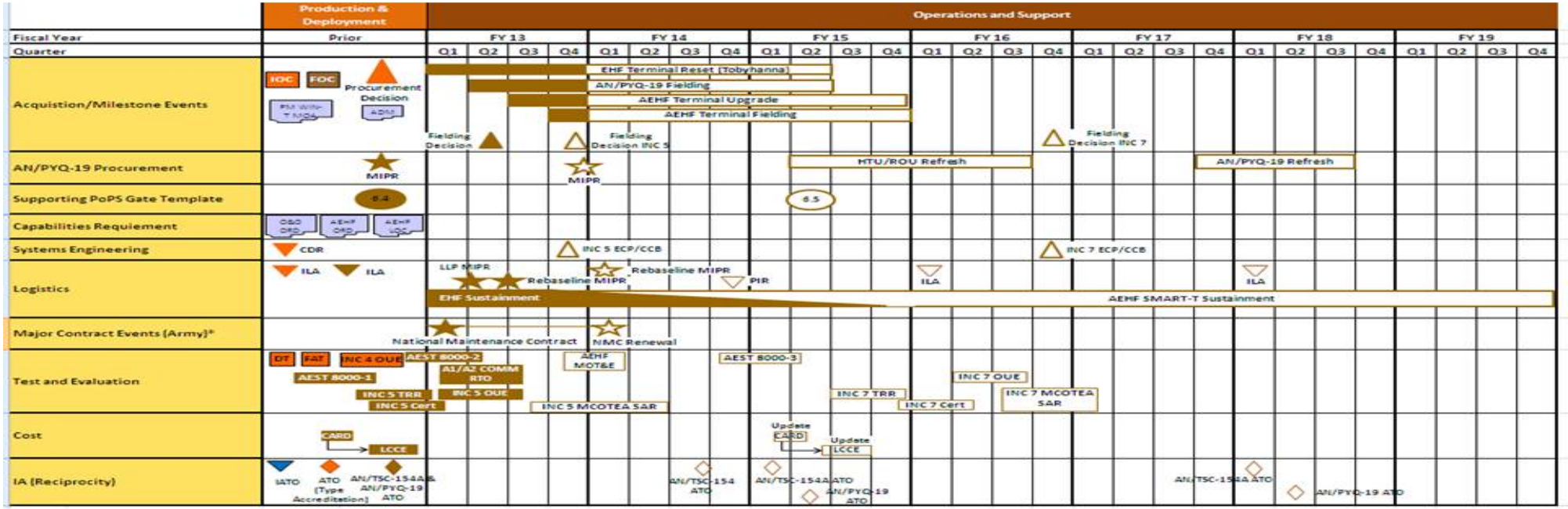
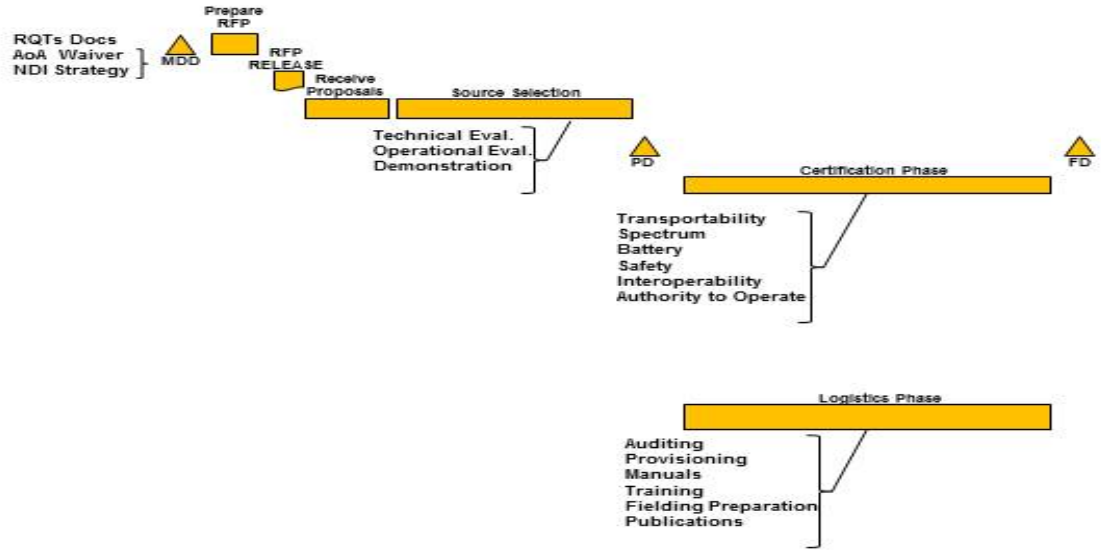


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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Mobile User Objective System (MUOS) Strategy

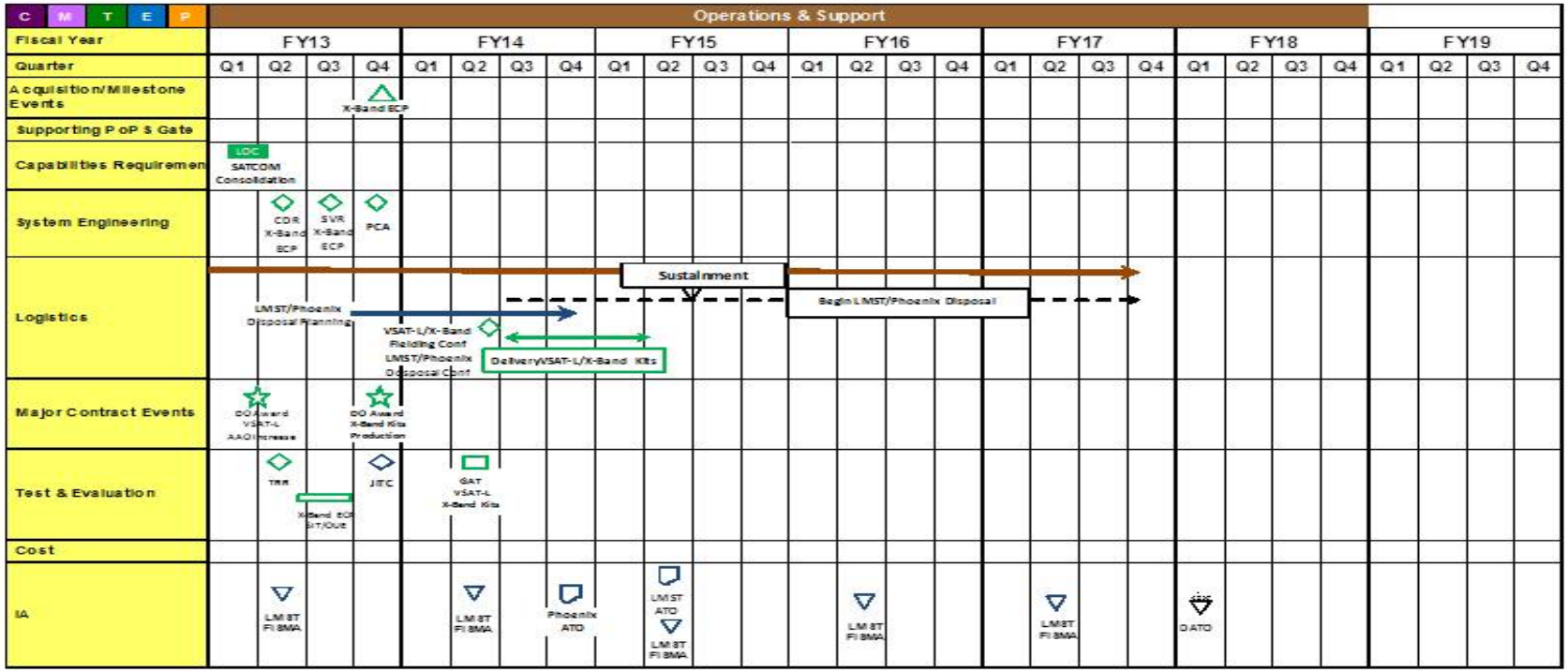
Fiscal Year	FY14		FY15				FY16				FY17				FY18				FY19			
Quarter	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4



CPD = Capability Production Document
AoA = Analysis of Alternatives
NDI = Non Developmental Item
MDD = Materiel Development Decision
RFP = Request For Proposal
PD = Production Decision
FD = Fielding Decision

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



1

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

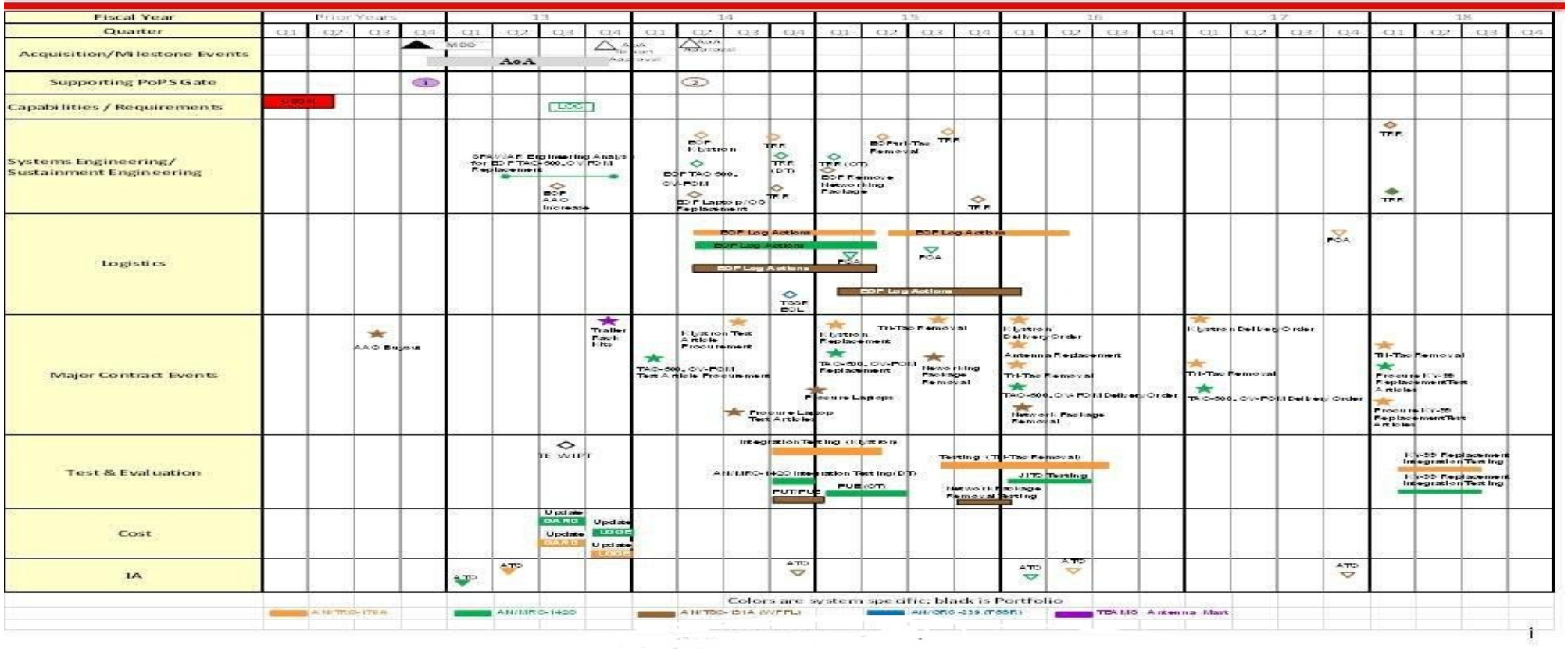


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*				Project (Number/Name) 2276 / *Comms Switching and Control Sys*			
COST ($ in Millions)	**Prior 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**
2276: *Comms Switching and Control Sys*	28.401	6.844	12.446	3.715	-	3.715	3.769	3.546	4.064	5.124	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

(U) Network Planning & Management (NPM), formerly Joint Network Management System (JNMS), is a portfolio of communications planning and Network Management applications for use throughout the Marine Air-Ground Task Force (MAGTF). NPM includes the Systems Planning Engineering and Evaluation Device (SPEED). NPM provides the MARFOR (Marine Forces) component planners with the ability to conduct high-level planning; detailed planning and engineering; monitoring; control and reconfiguration; and spectrum planning and management in support of Combatant Commander (COCOM) and Commander, Joint Task Force (CJTF) operations. SPEED provides High Frequency (HF) predictions, Line of Site (LOS) propagation, Radio Coverage Analysis (RCA), Satellite planning, Command and Control Personal Computer (C2PC) track interface, interference and de-confliction analysis, spectrum management, Radio Guard Charts, Comm-On-The-Move (COTM), and T/E (training & education) and force structure management. The funding decrease from FY14 to FY15 is due to completion of added capabilities and functional improvements. Funds will support task book place for SPAWARLANT to continue development of SPEED software.

(U) Transition Switch Module (TSM): consists of three systems that provide a flexible Unit Level Switch that replaces legacy Tri-Tac switches with current commercial technology, providing maneuver elements with improved voice/data switching, data transport and bandwidth management capabilities. This program maintains USMC joint interoperability as all Services transition to Commercial Off-The-Shelf (COTS) switching technologies.

(U) Expeditionary Command and Control Suite (ECCS): Will provide reach back capability to the Global Information Grid (GIG) to access the Defense Switch Network (DSN), Defense Information System Network (DISN) Secret Internet Protocol Router Network (SIPRNET), Non-secure Internet Protocol Router Network (NIPRNET), and DISN Video Services (DVS), enabling a small advance force/liaison team to communicate with a Marine Air-Ground Task Force (MAGTF), Joint Task Force (JTF) or other Joint Force Commander, and to maintain situational awareness.

(U) Tactical Data Network (TDN) Data Distribution System - Modular (DDS-M): The DDS-M provides the commander a modular, integrated, and interoperable Internet Protocol (IP)- based LAN and WAN data networking capability that forms the data communications backbone and data communications support to organizations within a MAGTF. The DDS-M provides extension of the Defense Information System Network (DISN), Secret Internet Protocol Router Network (SIPRNet), and Sensitive But Unclassified (SBU) Non-secure Internet Protocol Router Network (NIPRNet) as well as a Coalition networking capability and access to strategic, supporting establishments, joint and other service component tactical data networks for Marine Corps Tactical Data Systems (TDSs) and other DDS-Ms. The DDS-M provides Marine Corps maneuver elements with a modular and scalable IP data transport capability that will replace, supplement and be used with existing legacy data systems through the integration of computers, routers, data switches and cabling, Enhanced Position Location and Reporting System (EPLRS) radio net interface units, MODEMS, link encryption devices, and patch panels. Uninterrupted Power Supplies (UPS) provide for emergency power and continuity of operations. The DDS-M

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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can operate from the SBU up to the TOP SECRET (TS)/SENSITIVE COMPARTMENTED INFORMATION (SCI) level and contains integral In-line Network Encryption (INE) device supporting IP Security (IPSec) and Virtual Private Networking (VPN). The funding decrease from FY14 to FY15 is due to the completion of research and development for the Session Boundary Controller (SBC) in FY14.

(U) Joint Enhanced Core Communications System (JECCS): Formerly known as First In Command and Control System (FICCS). JECCS is the Joint Task Force (JTF) enabler "first in" integrated, processor-controlled communications and management system that provides C2 capabilities supporting a Marine Expeditionary Unit (MEU) deployment ashore of the early phases of a deployment by a larger command element such as a Marine Air-Ground Task Force (MAGTF) or JTF Commander's mission into an Area of Operation. The JECCS is easily scalable and capable of "fly-away" deployment. It is a system of systems composed of Commercial Off-the-Shelf (COTS) and Government Off-the-Shelf (GOTS) equipment. It provides the primary interface between subscriber equipment/systems and the long-haul multi-channel transmission systems. The JECCS facilitates secure and non-secure voice and data communications, switching functions, network routing, and management functions. The JECCS augments the current and planned communications architectures and provides technical control and network management services for the broad range of switching and radio connectivity requirements.

(U) Digital Technical Control (DTC): DTC and other communications are a switch network infrastructure which provides voice, SIPR, NIPR, coalition, data, and video services. DTC provides the deployed warfighter with a standard data and voice architecture that is interoperable with joint and other services' communications systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: NPM: Product Development	0.910	0.885	0.800
Articles:	-	-	-
FY 2013 Accomplishments: Funds supported testing and recompete of SPEED contract for software development and program support.			
FY 2014 Plans: Funds will provide additional enhancements and capabilities within the SPEED software testing, and research on additional software applications to be utlitized within NPM.			
FY 2015 Plans: Funds will continue to provide additional enhancements and capabilities within the SPEED software testing.			
Title: NPM: Engineering and Program Support	-	1.125	0.218
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Funds provide for engineering and program support.			
FY 2015 Plans:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Funds continue to provide for engineering and program support.			
Title: TSM: Product Development	0.195	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Funds procured 2 VOIP prototypes for development and testing. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: TSM: Engineering and Program Support	0.100	0.065	0.261
Articles:	-	-	-
FY 2013 Accomplishments: Funds continued engineering, research and development and technical support. ***FY 2014 Plans:*** Funds will continue engineering and technical support. ***FY 2015 Plans:*** Funds will provide engineering and technical support for a network migration plan			
Title: TSM: Test and Evaluation Support	-	0.213	-
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Funds will provide VoIP Information Assurance (IA) Independent Validation & Verification (IV&V) scans, First Article Test and testing for VoIP. ***FY 2015 Plans:*** N/A			
Title: ECCS: Engineering and Program Support	0.372	0.850	-
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Funds continued Information Assurance (IA), engineering and program support. ***FY 2014 Plans:*** Funds will support systems engineering, interoperability analysis, integration support, and development of technical data packages for VSAT as required for SATCOM Consolidation. ***FY 2015 Plans:*** N/A			
Title: ECCS: Test and Evaluation Support	0.693	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Funds provided support for testing of the Block 1 Consolidated Base Station (CBS), participation in Joint Interoperability Test Center (JITC) test events, and the VSAT ISA User Evaluation. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: DDS-M Product Development	1.360	3.314	0.436
Articles:	-	-	-
FY 2013 Accomplishments: Funds supported research and review of the current TDN DDS-M equipment and provided technology suggestions which will either improve the performance of the DDS-M or minimize the size, weight or power of equipment ***FY 2014 Plans:*** Funds will support the Edge Boundary Controller initiative (DISA mandated) that provides a proxy service for real-time services which include VTC and Voice Over IP (VoIP). ***FY 2015 Plans:*** Funds will support research, development, and implementation of required hardware updates (routers and switches); software integration and regression testing (information assurance mandates).			
Title: DDS-M: Engineering and Program Support	0.901	1.178	0.901
Articles:	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Funds supported systems engineering, interoperability analysis, acquisition planning and integration, and support for technology research and obsolescense. ***FY 2014 Plans:*** Funds continue support for systems engineering, interoperability analysis, acquisition planning, support for technology research and obsolescence, and support for the integration of the Session Boundary Controller. ***FY 2015 Plans:*** Funds will continue to support systems engineering, interoperability analysis, acquisition planning and integration, and support for technology research and obsolescence.			
Title: DDS-M: Test and Evaluation Support ***Articles:*** ***FY 2013 Accomplishments:*** Funds supported Data Distribution System Modular (DDS-M) testing for an initial Defense Information Systems Network-Tactical Edge (DISN-TE) demonstration of converged voice, video, and data services over Internet Protocol (IP) using the DDS-M System, IPv6 validation and joint interoperability test certification efforts for connections to the Teleport, Army, Air Force and Joint Task Force. ***FY 2014 Plans:*** Funds will support continued testing of Defense Information Systems Network-Tactical Edge (DISN-TE) demonstration of converged voice, video, and data services over Internet Protocol (IP) using the DDS-M System (adding Quality of Service, various transmission systems, updated internal DDS-M equipment), IPv6 validation in line with updated hardware internal to DDS-M and continued joint interoperability test certification efforts demonstrated through DoD Interoperability Communication Exercises. ***FY 2015 Plans:*** Funds will continue to support joint interoperability test certification efforts demonstrated through DoD Interoperability Communication Exercises.	0.037 -	0.260 -	0.090 -
Title: JECCS: Engineering and Program Support ***Articles:*** ***FY 2013 Accomplishments:*** Funds continued engineering and technical support. ***FY 2014 Plans:***	0.035 -	2.206 -	0.454 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Funds will support research, development, and implementation of required crypto hardware/wiring; software regression testing; and continued engineering and program support. ***FY 2015 Plans:*** Funds will continue engineering and technical support.			
Title: JECCS: Test and Evaluation Support	0.073	0.752	0.555
Articles:	-	-	-
FY 2013 Accomplishments: Funds supported testing activities at Joint Interoperability Testnig Center (JITC). ***FY 2014 Plans:*** Funds will continue to support testing activities at JITC. ***FY 2015 Plans:*** Funds planned to support testing activities at MCTSSA.			
Title: DTC: Engineering and Program Support	2.168	1.598	-
Articles:	-	-	-
FY 2013 Accomplishments: Funds supported Engineering Change Proposals (ECPs), software integration, and continued engineering, IA and program support. ***FY 2014 Plans:*** Funds will support engineering and further development of additional IP/Black Core routing, ECPs, and continued engineering and program support. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	6.844	12.446	3.715

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/4634-1: *TSM*	28.300	18.103	7.404	-	7.404	9.367	21.866	11.069	10.427	-	233.209
• PMC/4634-2: *ECCS*	0.297	4.777	-	-	-	-	-	-	-	-	15.353
• PMC/4634-5: *DDS-M*	32.146	12.980	60.635	-	60.635	59.216	44.800	57.587	48.511	-	414.028

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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
• PMC/4634-6: *DTC*	3.282	3.656	1.899	-	1.899	1.100	0.350	-	-	-	26.982
• PMC/4634-7: *JECCS*	3.941	5.192	1.245	-	1.245	1.276	9.917	9.102	10.311	-	40.984
• PMC/4634-8: *NPM*	-	0.750	-	-	-	-	-	-	-	-	0.750
• PMC/4630-1: *TSM/CCR*	-	1.169	-	-	-	-	-	-	-	-	1.169

Remarks

D. Acquisition Strategy

(U) Network Planning and Management (NPM), formerly Joint Network Management Systems (JNMS): The NPM will maximize use of existing COTS and GOTS products. NPM will continue to be upgraded as technology advances. Major focus will be on the incorporation of additional capabilities and functionality into the SPEED software in meet user requirements. R&D effort will focus on the development, integration, and testing of improved versions of existing capabilities.
(U) Transition Switch Module (TSM): TSM will maximize use of existing COTS, GOTS, and GFE. TSM hardware and software will continue to be upgraded and improved as technology advances. Major focus will be on interoperability and compatibility with existing systems and components in the Marine Corps, as well as Joint and Coalition forces. R&D effort will focus on integration and testing of improved versions of existing components.

(U) Expeditionary Command and Control Suite (ECCS): ECCS has been reduced in scope. FY13 funds will support testing and evaluation efforts which must be completed in order to provide a certified interoperable and secure system. FY14 funds will be transferred to the VSAT program for development of technical data packages in support of SATCOM Consolidation.

(U) TDN Data Distribution System - Modular (DDS-M): DDS-M will maximize use of existing COTS, GOTS, and GFE. DDS-M hardware and software will continue to be upgraded and improved as technology advances. Major focus will be on interoperability and compatibility with existing systems and components in the Marine Corps, as well as Joint and Coalition forces. R&D effort will focus on integration and testing of improved versions of existing components. DDS-M may reuse other Services' development and ride external contracts that satisfy requirements and analysis of alternatives.

(U) Joint Enhanced Core Communications System-Refresh (JECCS): JECCS will maximize use of existing COTS, GOTS, and GFE. JECCS hardware and software will continue to be upgraded and improved as technology advances. Major focus will be on interoperability and compatibility with existing systems and components in the Marine Corps, as well as Joint and Coalition forces. R&D effort will focus on integration and testing of improved versions of existing components.

(U) Digital Technical Control (DTC): DTC will use existing funds to retrograde and dispose of all systems in the inventory. Select components will be de-integrated and reused elsewhere in the networking portfolio.

E. Performance Metrics

N/A

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

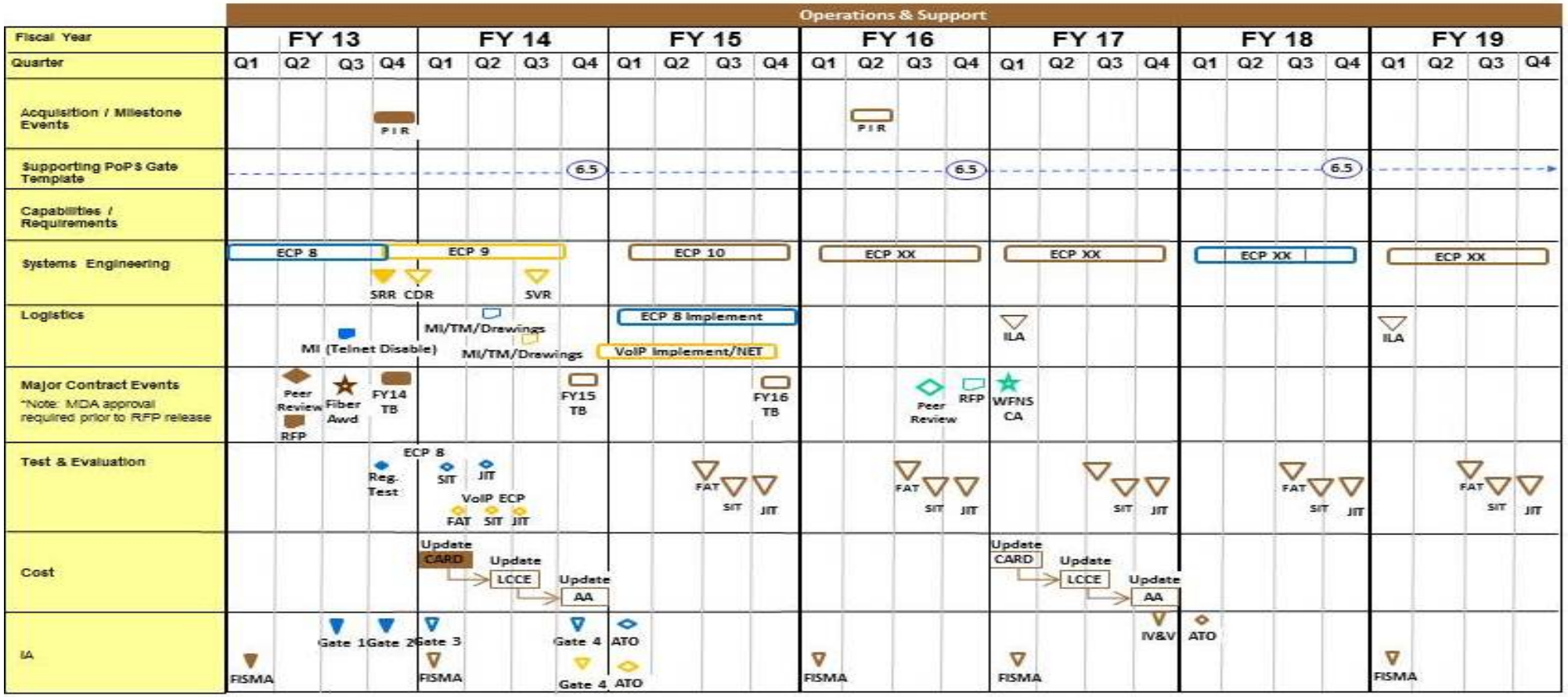


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JECCS Program Schedule

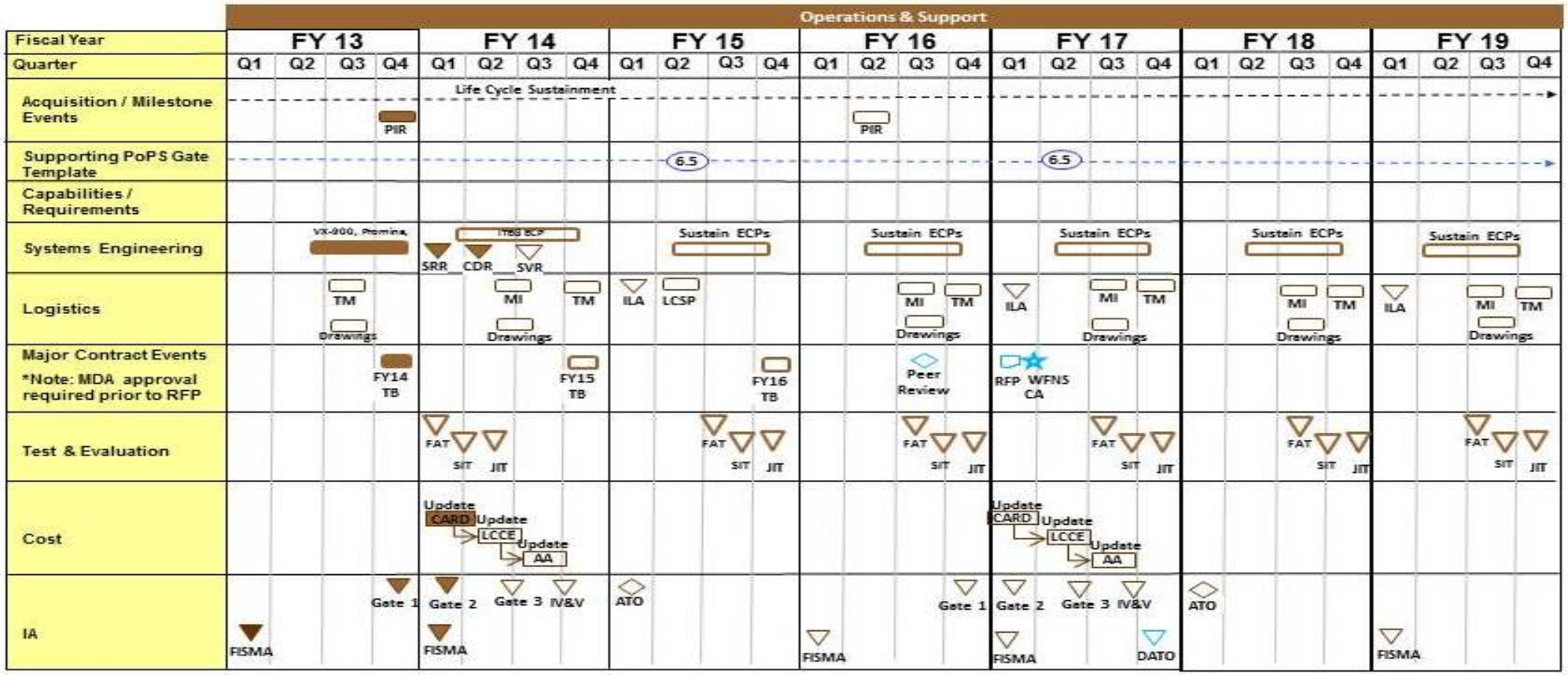
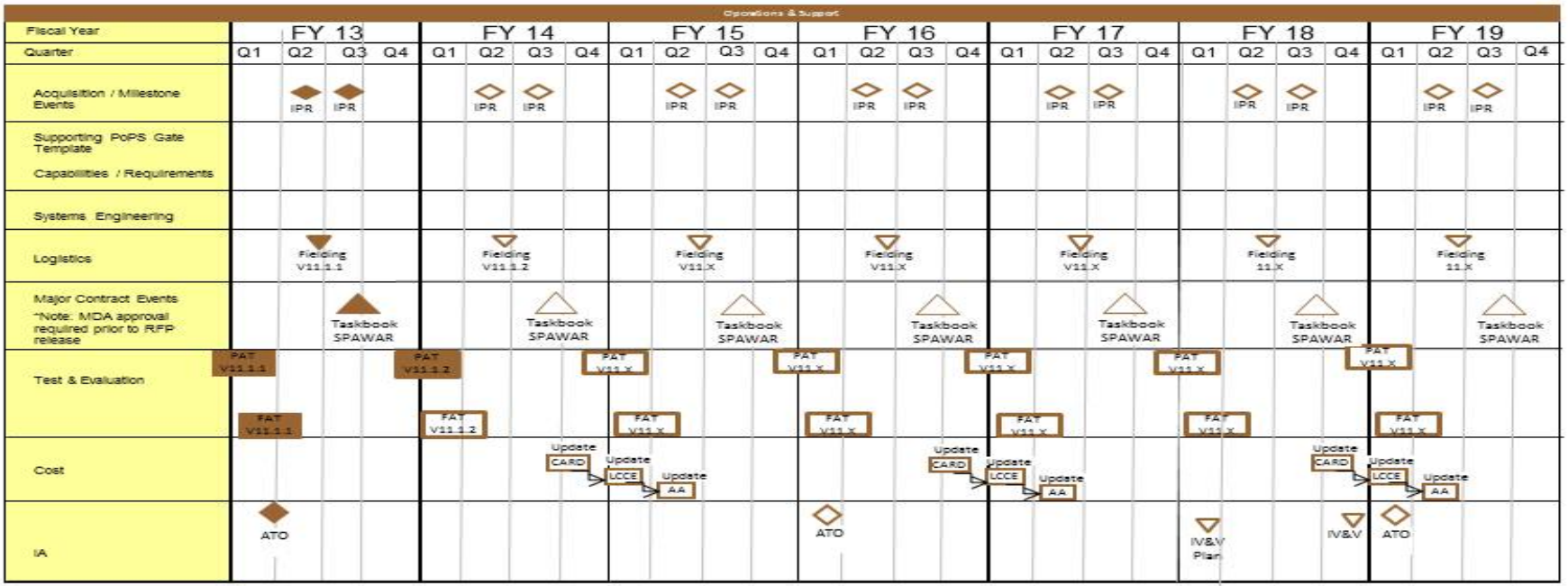


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NPM: SPEED Schedule



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DTC Program Schedule

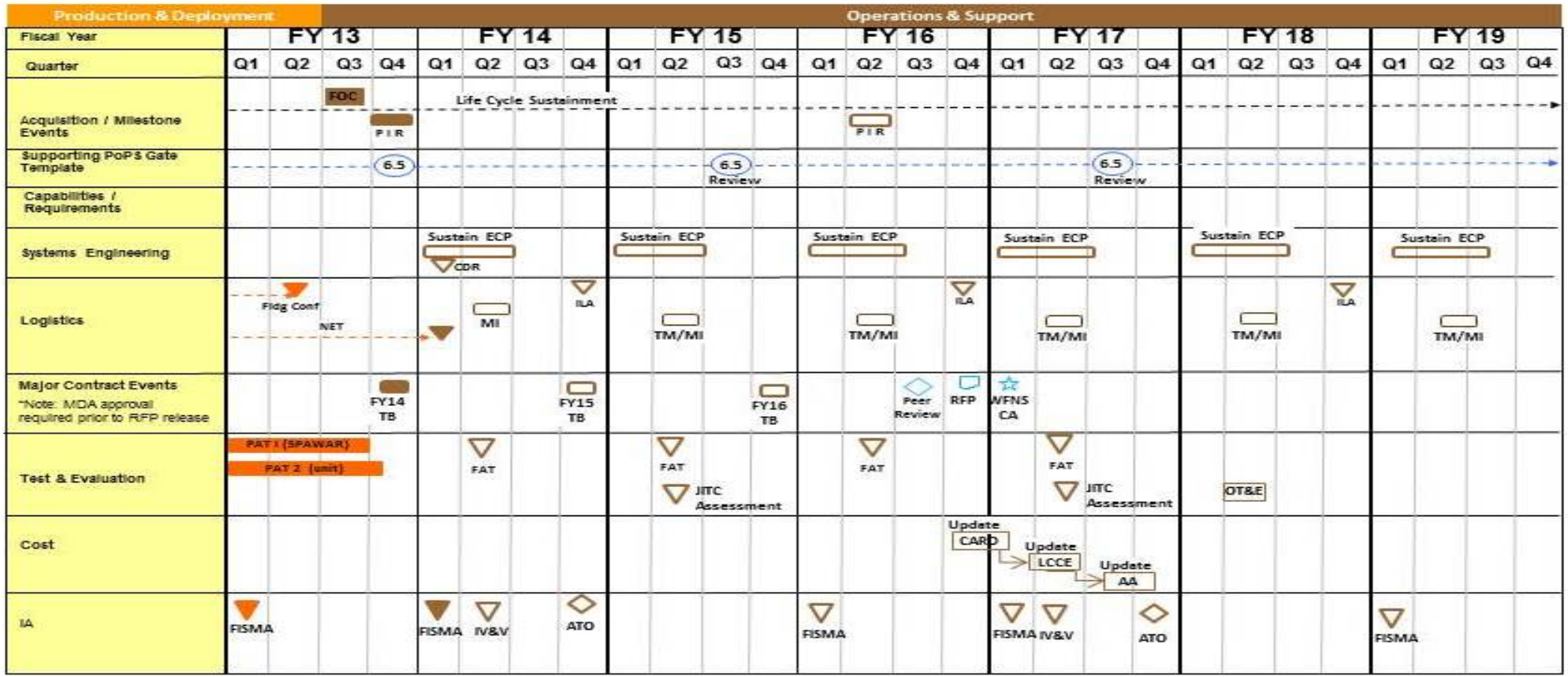


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2276 / *Comms Switching and Control Sys*

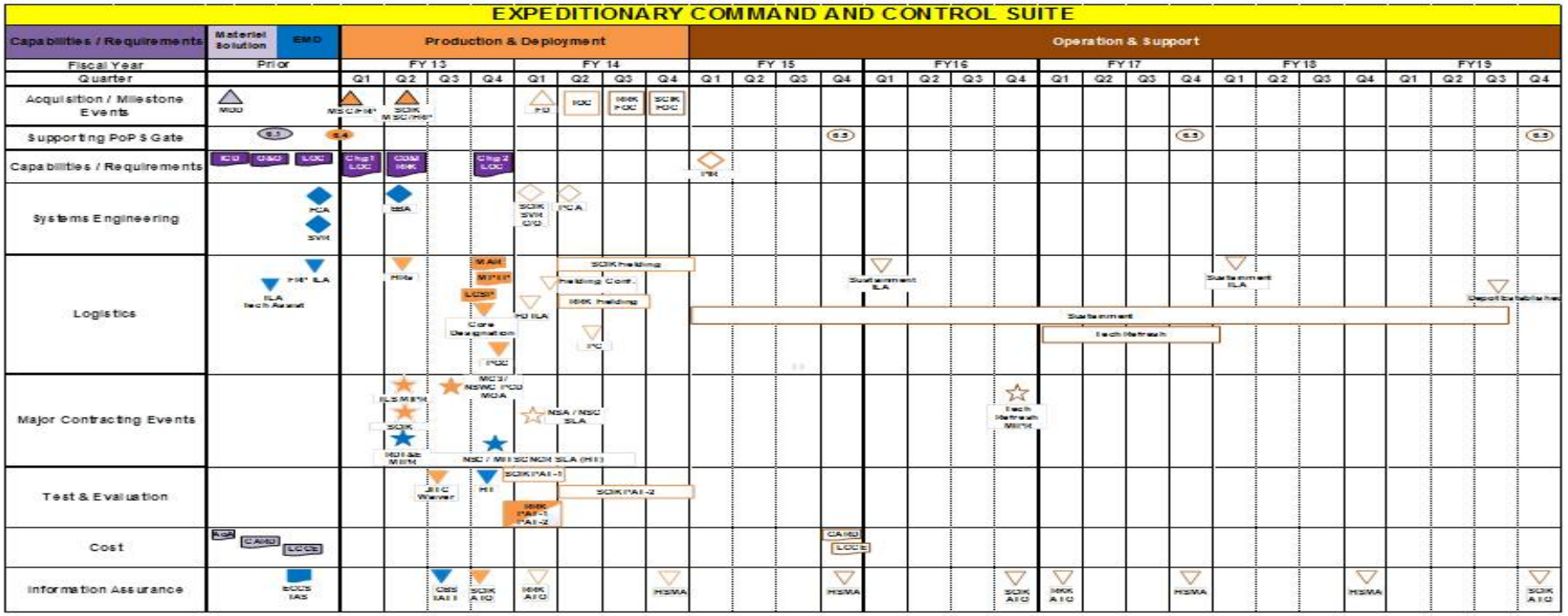


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2276 / *Comms Switching and Control Sys*

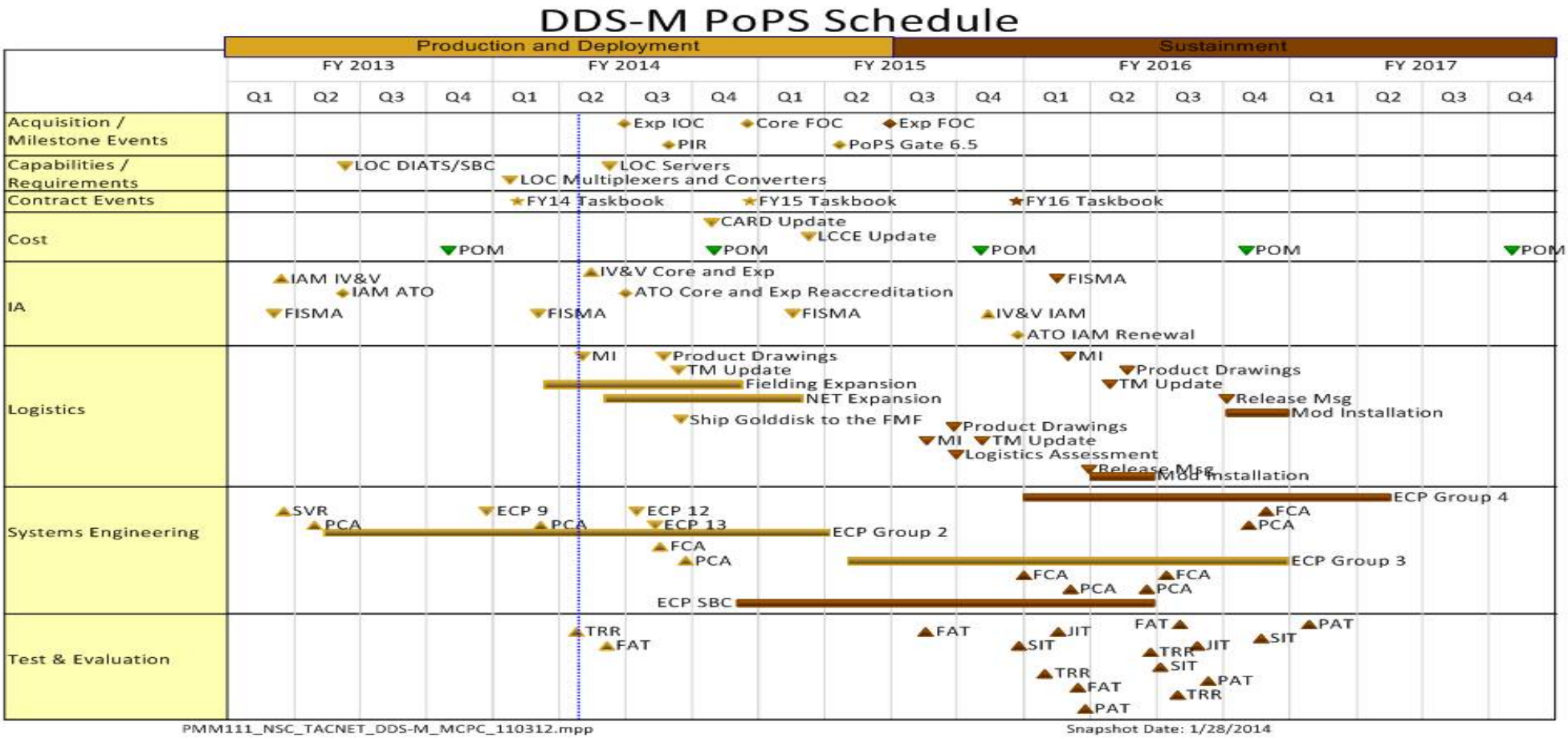


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*				Project (Number/Name) 2277 / *System Engineering and Integration*			
COST ($ in Millions)	**Prior 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**
2277: *System Engineering and Integration*	16.638	10.774	11.137	5.188	-	5.188	5.070	4.803	4.825	4.860	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 funds for engineering, test, and evaluation activity, which ensures that the systems being developed within the Program Element (PE) employ consistent standards for interoperability and to the maximum extent feasible use of hardware and software which is uniform and standard across programs.

Expeditionary Energy Office (E2O): Energy is a top priority for the USMC and one of the six pillars of Modernization for the Corps identified by the Commandant. In 2009 the Commandant established the USMC Expeditionary Energy Office (E2O), with the mission to analyze, develop, and direct the Marine Corps' energy strategy in order to optimize expeditionary capabilities across all warfighting functions. E2O's role is to advise the Marine Requirements Oversight Council (MROC) on all energy and resource related requirements, acquisitions, and programmatic decisions. This office and funding directly support execution of the USMC Expeditionary Energy Strategy and Implementation Plan (Mar 2011), and priorities identified in the USMC Expeditionary Energy Water and Waste Initial Capabilities Document/Capabilities Based Assessment (Sept 2011), as well as Science and Technology Objectives identified in the 2012 USMC S&T Strategic Plan. The Marine Corps program aligns with Commandant's Planning Guidance 2010, the National Defense Authorization Act 2009, DoD directives and SECNAV goals. This funding will support the achievement of the Strategy, and the activities of the USMC Experimental Forward Operating Base process, managed by the E2O.

Joint Interoperability of Tactical Command and Control Systems (JINTACCS) is a Joint Chiefs-of-Staff (JCS)/DoD-mandated program for joint development, implementation, and testing of tactical data links and US Message Text Format (MTF) under the direction of the Defense Information Systems Agency (DISA) and Office of the Secretary of Defense/Networks and Information Integration (OASD/NII) per the Commander Joint Chiefs of Staff (CJCSI) 6610.01C and CJCS16241.04 for US Military Tactical Forces (USMTF). This effort also covers interoperability and testing of tactical message standards such as MILSTD 6017 Variable Message Format used between the US Army and USMC; and Coalition message formats the Joint Command, Control, Consultation Information Exchange Data Model (JC3IEDM).

Marine Air-Ground Task Force Command, Control, Communications, Computers, and Intelligence Systems Engineering and Integration, and Coordination (MAGTF C4I SEI&C) provides for the centralized planning and execution of Marine Corps Enterprise Information Technology and National Security Systems. It develops, certifies, and manages the configurations of the Marine Corps Enterprise Systems and Technical Architecture products and uses these to support enterprise-level systems engineering. It supports unified technical representation to joint and coalition communities for Marine Corps Systems and provides top-tier system engineering support to address system of systems technical issues. It is used to conduct direct Marine Expeditionary Unit/Marine Expeditionary Force (MEU/MEF) support in system integration testing with USN. This is part of Deploying Group Systems Integration Testing (DGSIT) and workups supporting Marine Expeditionary Force (MEF) deployments. It is also used to support Marine Corps systems coordination and involvement in DoD initiatives to include ForceNet, Global Information Grid Enterprise Services (GIGES), and other Deployable Information Systems Architecture DISA/NETWARCOM efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2277 / *System Engineering and Integration*

Marine Civil Information Management (MARCIM) is a system of systems comprised of people, process and technology that operates in the full Joint, Interagency, Intergovernmental, and Multinational (JIIM) environment. It is a force multiplier for the commander that allows him to leverage the process of Planning, Collection, Consolidation, Analysis, Production, and sharing of civil information in order to support the visualization and understanding of the civil environment to the military commander's decision making process.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Expeditionary Energy Office (E2O)	2.269	2.028	2.671
Articles:	-	-	-
FY 2013 Accomplishments: FY13 funds supported the USMC Expeditionary Energy Strategy and Implementation Plan, and priorities identified in the USMC Expeditionary Energy Water and Waste Initial Capabilities Document/Capabilities Based Assessment, as well as Science and Technology Objectives identified in the 2012 USMC Science and Technology (S&T) Strategic Plan. Using these priority roadmaps, E2O invested in R&D programs to advance Strategy goals. Priority areas for investment included, but are not limited to: Energy harvesting; hybrid power; efficient heating and cooling of people, equipment and water; energy storage; energy efficient vehicles; energy metering and monitoring and decision tools; energy efficient shelters and sustainment.			
FY 2014 Plans: FY14 funds will support the USMC Expeditionary Energy Strategy and Implementation Plan, and priorities identified in the USMC Expeditionary Energy Water and Waste Initial Capabilities Document/Capabilities Based Assessment, as well as Science and Technology Objectives identified in the 2012 USMC S&T Strategic Plan. Using these priority roadmaps, E2O will invest in R&D programs to advance Strategy goals. Priority areas for investment include, but are not limited to: Energy harvesting; hybrid power; efficient heating and cooling of people, equipment and water; energy storage; energy efficient vehicles; energy metering and monitoring and decision tools; energy efficient shelters and sustainment.			
FY 2015 Plans: FY15 funds will support the USMC Expeditionary Energy Strategy and Implementation Plan, and priorities identified in the USMC Expeditionary Energy Water and Waste Initial Capabilities Document/Capabilities Based Assessment, as well as Science and Technology Objectives identified in the 2012 USMC S&T Strategic Plan. Using these priority roadmaps, E2O will invest in R&D programs to advance Strategy goals. Priority areas for investment include, but are not limited to: Energy harvesting; hybrid power; efficient heating and cooling of people, equipment and water; energy storage; energy efficient vehicles; energy metering and monitoring and decision tools; energy efficient shelters and sustainment.			
Title: JINTACCS: JCS and DoD CIO Data Links Testing	4.272	1.056	0.504
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2277 / *System Engineering and Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
JINTACCS: DC SIAT and MCTSSA reviewed and provided updates to all IT Standards applicable to the USMC and maintained the architectural data environment to ensure all developed solution architectures continued to be associated with the appropriate technical IT standards in their Department of Defense Architecture Framework (DoDAF) Standards View. DC SIAT led the Army - Marine Corps C2 interoperability Systems Engineering IPT to align the use of tactical messaging standards creating interoperability between the DoD ground force systems FBCB2/JTCW (VMF), GCCS (OTH Gold), TBMCS/AFATDS (USMTF), and aviation tactical data links (Link 16/22). This effort provided the guidance and direction for development of strategies to allow the Marine Corps to meet its Service level requirements mandated by the DoD Net Centric Data Strategy and participate in the Joint development of XML data standards to enable tactical data exchanges in C2 systems. DC SIAT led the development of data model converter applications to create Standardization Agreement 4677 on interoperability between the NATO JC3IEDM data model to the JTCW (VMF) system allowing coalition interoperability at the dismounted level. ***FY 2014 Plans:*** JINTACCS: DC SIAT and MCTSSA will continue to review and update all IT Standards applicable to the USMC and maintain the architectural data environment to ensure all developed solution architectures are associated with the appropriate technical IT standards in their DoDAF Standards View. DC SIAT will continue to lead the Army - Marine Corps C2 interoperability Systems Engineering IPT to align the use of tactical messaging standards to create interoperability between the DoD ground force systems FBCB2/JTCW (VMF), GCCS (OTH Gold), TBMCS/AFATDS (USMTF), and aviation tactical data links (Link 16/22). This effort will continue to support HQMC Director C4 in the development of implementation plans for the Marine Corps to meet its Service level requirements mandated by the DoD Net Centric Data Strategy and participate in the Joint development of XML data standards to enable tactical data exchanges in C2 systems. Additionally, this effort will expand to incorporate the ability to use Tactical Service Oriented approaches to mediate data across multiple environments/domains (Air/Mobile platform/Dismounted/Stationary command posts). DC SIAT will continue to lead the development of data model converter applications to create Standard Agreement 4677 on interoperability between the NATO JC3IEDM data model to the JTCW (VMF) system allowing coalition interoperability at the dismounted level. ***FY 2015 Plans:*** JINTACCS: DC SIAT and MCTSSA will continue to review and update all IT Standards applicable to the USMC and maintain the architectural data environment to ensure all developed solution architectures are associated with the appropriate technical IT standards in their DoDAF Standards View. DC SIAT will continue to lead the Army - Marine Corps C2 interoperability Systems Engineering IPT to align the use of tactical messaging standards to create interoperability between the DoD ground force systems FBCB2/JTCW (VMF), GCCS (OTH Gold), TBMCS/AFATDS (USMTF), and aviation tactical data links (Link 16/22). This effort will continue to support HQMC Director C4 in the development of implementation plans for the Marine Corps to meet its Service level requirements mandated by the DoD Net Centric Data Strategy and participate in the Joint development of XML data standards to enable tactical data exchanges in C2 systems. Additionally, this effort will expand to incorporate the ability to use Tactical Service Oriented approaches to mediate data across multiple environments/domains (Air/Mobile platform/Dismounted/Stationary			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2277 / *System Engineering and Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
command posts). DC SIAT will continue to lead the development of data model converter applications to create Standard Agreement 4677 on interoperability between the NATO JC3IEDM data model to the JTCW (VMF) system allowing coalition interoperability at the dismounted level.			
Title: SEIC: Engineering and Technical Support	4.233	7.344	1.963
Articles:	-	-	-
FY 2013 Accomplishments: MAGTF SEI&C: Engineering and technical support for configuration management of MAGTF C4I systems. Review and submittal of multiple Integration Support Plans (ISPs) and Tactical ISPs (TISPs). Pre-deployment assistance to I MEF and multiple MEUs. Participation in ForceNet, NCES, GIGES, and other Joint DoD initiatives. Planned for continued activities to support the interoperability and jointness of the USMC Enterprise IT/NSS systems. Provided support to establish and execute a MAGTF Integration War Room which will serve as a forum for aligning and integrating capability development activities. Alignment and integration activities extended to Naval and Joint processes and reinforced existing capability development processes via systems engineering, operational architecture, requirements transition, and knowledge management methodologies.			
FY 2014 Plans: MAGTF SEI&C: Engineering and technical support for configuration management of MAGTF C4I systems. Review and submittal of multiple Integration Support Plans (ISPs) and Tactical ISPs (TISPs). Pre-deployment assistance to I MEF and multiple MEUs. Participation in ForceNet, NCES, GIGES, and other Joint DoD initiatives. Plans are for continued activities to support the interoperability and jointness of the USMC Enterprise IT/NSS systems. FY14 increased level of funding is needed to provide MAGTF Systems Integration and System of Systems Engineering expertise in support of delivering integrated MAGTF capabilities for the Marine Corps.			
FY 2015 Plans: Provide system engineering policy, process, systems analysis, SE resource management, requirements transition coordination, Systems of Systems Certification, transport engineering analysis, transportation certification and external (DoD, Joint Staff, ASN, Navy, Army et al.) coordination to ensure program success, system interoperability, and an integrated system of systems capabilities for the Marine Corps.			
Title: MARCIM: Marine Civil Information Management	-	0.709	0.050
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2277 / *System Engineering and Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Software and technical data package development, testing, and Information Assurance/Certification and Accrediation activities. ***FY 2015 Plans:*** Further software development to incorporate all remaining threshold requirements to get to Full Operational Capability (FOC).			
Accomplishments/Planned Programs Subtotals	10.774	11.137	5.188

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/4620: *MARCIM*	0.255	1.933	0.568	-	0.568	0.861	0.490	0.637	0.223	-	4.967

Remarks

D. Acquisition Strategy

Marine Civil Information Management (MARCIM) will employ an evolutionary acquisition strategy utilizing an incremental approach for development and fielding of the MARCIM. The Letter of Clarification (LOC) identifies two baselines to fullfill all Threshold requirements. The current acquisition strategy addresses both baseline builds to include the software development, training, fielding and sustainment of these builds. Build 1 will support an Initial Operational Capability (IOC) and Build 2 will support a Full Operational Capability (FOC).

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*	Project (Number/Name) 2278 / *Air Defense Weapons 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
2278: *Air Defense Weapons System*	35.829	1.872	3.041	3.453	-	3.453	2.876	2.936	2.984	3.615	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

Ground Based Air Defense Transformation (GBAD-T) - Based upon the deployment of the Low Altitude Air Defense (LAAD) Battalions and their employment of the Stinger Missile, GBAD-T transforms Air Defense equipment through technology insertion and equipment repackaging to address capability gaps as the result of equipment obsolescence and the emergent and evolving threats to the Marine Air Ground Task Force (MAGTF).

GBAD-T consists of three efforts: 1) systems engineering support of currently fielded LAAD equipment/assets to include the Stinger Mounted Optic and Mode 5/S IFF Directed UNS; 2) redesign and integration of the Advanced Man-Portable Air Defense System (A-MANPADS) Increment 1 Fire Unit Vehicle (FUV) into an operationally capable vehicle configuration; 3) design, test, and integrate new system for the Fire Unit Vehicle (FUV) to replace aging and failing technology. The replacement technology is required to retain interfaces with and be capable of receiving a Common Aviation Command and Control Systems (CAC2S) broadcasted link. It will also be capable of interfacing with legacy Marine Air Command and Control System (MACCS) equipment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: GBAD TRANSFORMATION: Program Management Services	0.555	1.673	0.842
Articles:	-	-	-
FY 2013 Accomplishments: Developed acquisition planning documentation for GBAD portfolio of programs and projects and initiated M1114 modeling design efforts to replace current Fire Unit vehicle with a newer vehicle that is logistically supportable and operationally capable			
FY 2014 Plans: Finalize development of acquisition planning documentation for GBAD portfolio of programs and projects. Complete M1114 modeling and design effort and conduct DT test events.			
FY 2015 Plans: Initiate development of GBAD Follow On Weapon System acquisition documentation in support of Stinger Night Replacement and R&D efforts to test and integrate a Fire Unit Laptop and Secure Tactical Wireless replacement system.			
Title: GBAD TRANSFORMATION: Product Development	0.885	0.412	1.112
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2278 / *Air Defense Weapons System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Developed Engineering Change Proposals (ECPs) for the Advanced MANPADS that include performance enhancements and ECP development of prime mover replacement (M1114) for the Fire Unit Vehicle (FUV). ***FY 2014 Plans:*** Begin directed energy research of follow on weapon system. ***FY 2015 Plans:*** Perform Stinger Missile Mounted Optic (AN/PAS-18) replacement development.			
Title: GBAD TRANSFORMATION: Test and Evaluation ***Articles:*** ***FY 2013 Accomplishments:*** Completed Advanced MANPADS Amphibious Operations Joint Range Extension (JRE) datalink testing as well as DoD Interoperability Communications Exercise (DICE) 13-2 to verify SatCom key compatibility. ***FY 2014 Plans:*** Conduct M1114 testing. ***FY 2015 Plans:*** Begin Developmental Test/Operational Test (DT/OT) and Field User Evaluation (FUE) of Stinger Missile Mounted Optic (AN/PAS-18) replacement.	0.174 -	0.385 -	0.940 -
Title: GBAD TRANSFORMATION: Support Costs ***Articles:*** ***FY 2013 Accomplishments:*** Developed GBAD Life Cycle Cost Estimate. ***FY 2014 Plans:*** Continue GBAD-T assessments at the LAAD Battalions and the Stinger School House, ensuring readiness is maintained. ***FY 2015 Plans:*** Development of Stinger missile Mounted Optic (AN/PAS-18) replacement and Life Cycle Cost Estimate support.	0.258 -	0.571 -	0.559 -
Accomplishments/Planned Programs Subtotals	1.872	3.041	3.453

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2278 / *Air Defense Weapons 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
• PMC/300600: *GBAD-T*	13.246	15.713	31.439	-	31.439	8.501	9.352	9.631	12.458	Continuing	Continuing

Remarks

D. Acquisition Strategy

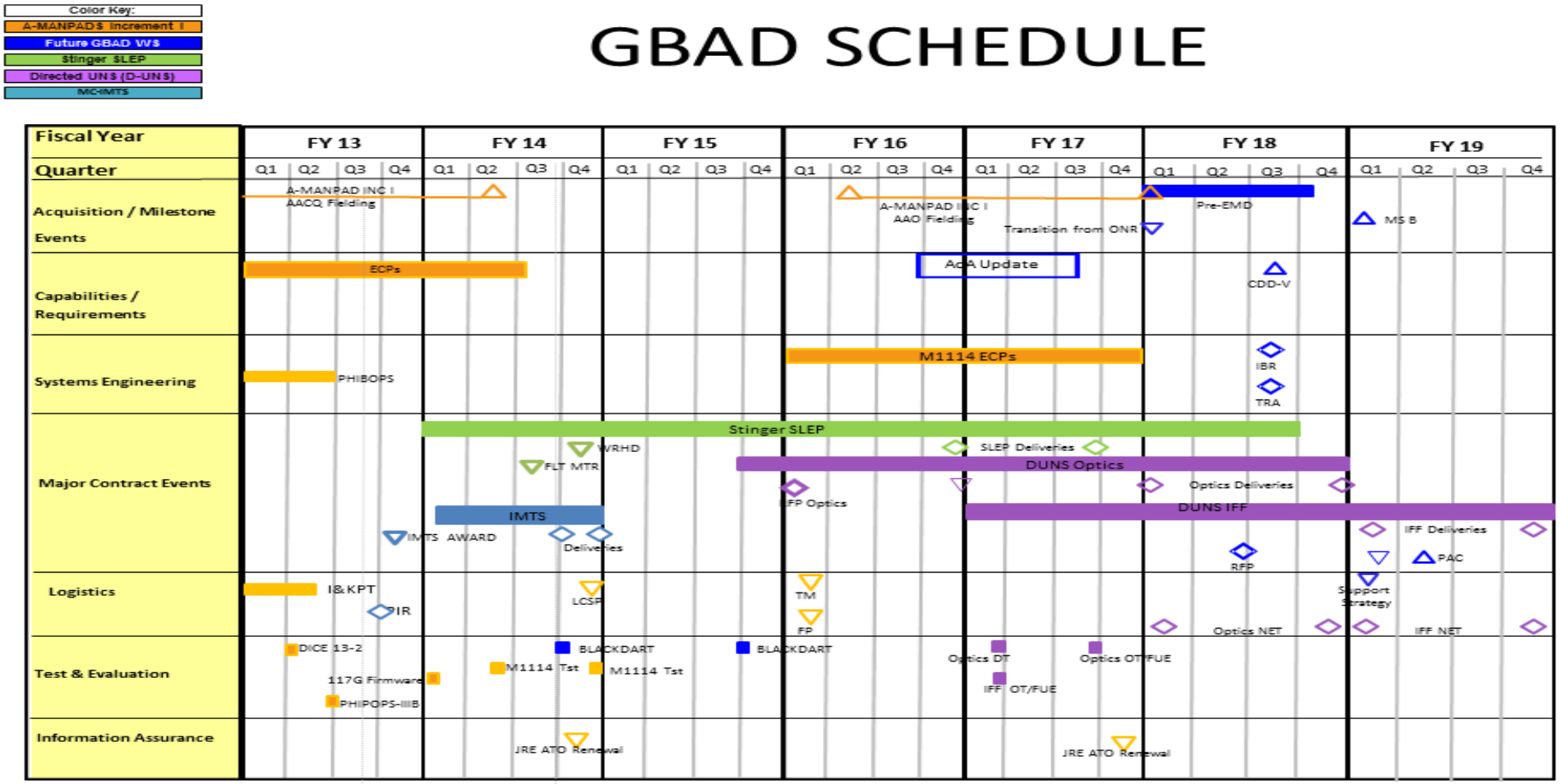
GBAD TRANSFORMATION: A-MANPADS Increment I is an Abbreviated Acquisition Program (AAP), GBAD-T enables the rapid transition from the Avenger/MANPADS weapon system to the more mobile, flexible, and maintainable Advanced MANPADS. The AAP is principally comprised of integrating Government Off The Shelf (GOTS) equipment and Non-Developmental Items (NDI).

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2278 / *Air Defense Weapons System*

GBAD SCHEDULE



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*				Project (Number/Name) 2510 / *MAGTF CSSE & SE*			
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**
2510: *MAGTF CSSE & SE*	246.180	22.372	3.142	4.124	-	4.124	3.055	2.393	1.238	1.012	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

(U) The Marine Air Ground Task Force (MAGTF) Combat Service Support Element & Supporting Establishment (CSSE & SE) consists of mutually supporting Logistics Information Technology (IT) programs that support force deployment, planning, and execution; sustainment and distribution; and contributes to the Combatant Commander's Common Operating Picture to support rapid accurate decision making.

GLOBAL COMBAT SUPPORT SYSTEM-MARINE CORPS (GCSS-MC) is the physical implementation of the enterprise Information Technology (IT) architecture designed to support both improved and enhanced Marine Air Ground Task Force (MAGTF) Combat Support Services (CSS) functions and MAGTF Commander and Combatant Commanders/Joint Task Force (CC/JTF) combat support information requirements. The initial program includes all transactional CSS systems related to Supply Chain Management (SCM) and Enterprise Asset Management (EAM) functionality enabled with Service Management functions. When combined, these capabilities are referred to as Logistics Chain Management (LCM) or GCSS-MC/LCM. The primary goal of GCSS-MC/LCM is to provide the capabilities specified in the Logistics Operational Architecture (Log OA). The result of enabling the Log OA is the retirement of legacy applications. The GCSS-MC/LCM exposes timely mission information to Marine Corps operational and CSS commanders, CC/JTF commanders and their staffs and other authorized users. It exposes information interoperability and common logistics information applications and services across functional areas. GCSS-MC/LCM allows operating forces commanders to base decisions on complete logistics information and make decisions in concert with specific operational tasks.

The GCSS-MC/LCM program will upgrade from the current Oracle EBS 11.5.10 application and all customizations to Oracle Enterprise Business Suite (EBS) Release 12. The (EBS) Release 12 critical refresh and technical insertion will provide a secure sustainable system with increased operational efficiency.

JOINT FORCE REQUIREMENTS GENERATOR II (JFRG II) is a Global Command and Control System (GCCS) software application designed to provide DOD with a Joint Services, state-of-the-art, integrated, and deployable Automated Information System (AIS) that supports strategic force movements. JFRG II provides rapid development of force data to satisfy operational planning and execution requirements. It serves as the essential link between service force requirements and validated/sourced unit data. JFRG II permits multi-level planning with entry of equipment and personnel data, transportation/movement data, and the phasing of the total force throughout the entire movement timeline. JFRG II contains an exhaustive joint data library and interfaces directly with the Joint Operation Planning and Execution System (JOPES). JFRG II can generate standard, executive, and ad hoc reports, perform database queries, and export or import data from Transportation Coordinators' Automated Information for Movement System (TC-AIMS) II, MAGTF Deployment Support System (MDSS) II, War Reserve System (WRS) and JOPES. JFRG II operates and functions in a classified environment.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

BASE TELECOMMUNICATIONS INFRASTRUCTURE (BTI) provides all Marine Corps installations with the base area network communications infrastructure that connects the end-user to the Defense Information Systems Agency (DISA) network. BTI sustains upgrades and enhances the telecommunications systems infrastructure for all Marine Corps Installations in order to meet the demands required to support the 5th Element of the MAGTF. BTI is designed to maintain industry currency as it relates to technological capabilities for all voice, video and data transport services via each installation's infrastructure. These data services include support for but are not limited to: telephony (including voice over internet protocol), video-teleconferencing, integrated services digital network, Marine Corps enterprise network, energy monitoring control systems, intrusion detection systems, access control systems, fire alarm control networks and fleet training systems. This includes supporting systems such as optical networks, telecommunications management systems, primary power, voice mail, teleconferencing, and outside plant infrastructure.

ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS) is composed of several main components including Electronic Maintenance Devices (EMD), regional servers, deployment servers, charger racks, and ruggedized deployment cases. EMSS is a rugged organizational-level (O-level), light-weight, one-man portable maintenance device capable of supporting multiple platforms and systems across maintenance communities. EMSS provides a Commercial Off-The-Shelf (COTS) hardware device equipped with network interfaces, Built-In-Test/Built-In-Test Equipment (BIT/BITE) interfaces, and Software Defined Test Instrument (SDTI) General Purpose Electronic Test Equipment (GPETE) capabilities. These hardware capabilities will enable commercial or custom DoD and USMC software capabilities including Interactive Electronic Technical Manuals (IETMs), Computer Based Training (CBT), access to Subject Matter Experts (SMEs) over USMC networks, and other maintenance applications to be hosted on EMSS. With these capabilities, maintainers will make more informed decisions, thereby sustaining force readiness over time.

TRANSPORTATION SYSTEMS PORTFOLIO (TSP): provides funding that supports the USMC Deployment and Execution Support Systems and the Distribution Management Support Systems. These systems and applications support the planning, deployment, distribution, sustainment and redeployment of supplies, equipment and personnel. The TSP portfolio applications utilize AIT read/write devices, active and passive radio frequency identification (aRFID/pRFID) tags and satellite tracking systems. TSP applications support In-Transit Visibility (ITV) and Total Asset Visibility (TAV) initiatives to provide commanders with timely and accurate near real-time data on the location and movement of personnel, equipment and supplies that are in-process, in-transit and in-theater.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: BASE TELECOM (BTI)	0.427	0.406	0.487
Articles:	-	-	-
FY 2013 Accomplishments: Continued test and evaluation (T&E) engineering support for unique systems such as multiplexing technology or other Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems. This support will provide designs for telecommunications systems modification and solutions to complex problems, calculations, and research standards in support of system modernization. Additionally, these funds will be utilized for optical domain test equipment to support testing efforts.			
FY 2014 Plans: Participate in the Defense Information Systems Agency (DISA) Unified Capabilities (UC) (voice, video, collaboration, and data) pilot is critical to BTI modernization strategy. The RDT&E funds will be utilized for testing efforts in support of the DISA UC			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Everything over Internet Protocol (EoIP) effort. After the testing is reviewed by the Joint Interoperability Test Command (JITC), successfully evaluated products will be placed on the DISA Approved Products List (APL). ***FY 2015 Plans:*** Continue test and evaluation (T&E) engineering support for Defense Information Systems Agency (DISA) Unified Capabilities (UC) (voice, video, collaboration, and data) implementation and provide optical domain test equipment to support testing efforts.			
Title: GCSS-MC LOGISTICS CHAIN MANAGEMENT (GCSS-MC) ***Articles:*** ***FY 2013 Accomplishments:*** GCSS-MC/LCM Increment 1 reported a critical change based on schedule as defined by 10 U.S.C. Chapter 144A. The Full Deployment Decision event has slipped more than a year past the Program Manager's estimate based on the 31 December 2011 MAR (Dec 2012). The Increment 1 program schedule critical change was caused by significant technical challenges surrounding Release 1.2 Deployed capability requirements. While the Release 1.2 hardware/software baseline continued to mature throughout FY12, additional Developmental Test and Operational Test (DT&OT) events required to validate the automated Task Organization and Data Synchronization functionalities of the deployed capability were not successful. The Program continued the GCSS-MC baseline upgrade from Oracle eBusiness Suite Release 11 to Release 12 with the award of the system integrator contract. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	19.870 -	- -	- -
Title: JOINT FORCES REQUIREMENT GENERATION II (JFRG II) ***Articles:*** ***FY 2013 Accomplishments:*** FY13 funds utilized to implement Global Force Management Data Initiatives (GFMDI) ***FY 2014 Plans:*** FY14 funds support the modernization effort to incorporatee GFMDI data elements. ***FY 2015 Plans:*** FY15 funds support the modernization effort to incorporatee GFMDI data elements.	0.163 -	0.159 -	0.203 -
Title: TRANSPORTATION SYSTENS PORTFOLIO (TSP) ***Articles:***	- -	- -	2.780 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

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:*** Conduct requirements decomposition and design efforts for the modernization of the Marine Air Ground Task Force (MAGTF) Deployment Support System (MDSS) II.			
Title: ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS)	1.912	2.577	0.654
Articles:	-	-	-
FY 2013 Accomplishments: Commenced Research and Development for the Block II version of the Electronic Maintenance Support Systems to include all subcomponents. The program office conducted investigation and technology analysis to facilitate the transition to Block II using a Pre-Planned Product Improvement (P3I) version of EMSS for wireless capability, advanced diagnostics software applications, and Interactive Electronic Test Manual (IETM) software development. ***FY 2014 Plans:*** Continue Research and Development to establish interfaces with built in test systems residing on various weapon system platforms. The program office will conduct studies and research using a Pre-Planned Product Improvement (P3I) version of EMSS. Capability areas will deploy wireless capability, advanced diagnostics software applications, and IETM software development. ***FY 2015 Plans:*** Commence Research and Development to investigate the utility/ benefit of additional software defined test instruments (SDTI) and software applications which support enhanced maintenance capabilities as well as existing weapon system platform components identified by the fleet.			
Accomplishments/Planned Programs Subtotals	22.372	3.142	4.124

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/BLI 461700 GCSS: *GCSS-MC*	20.829	0.541	-	-	-	-	-	-	-	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

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/BLI 463000 PKI: *PKI*	0.001	-	-	-	-	0.427	-	-	-	Continuing	Continuing
• PMC/BLI 463500 BTI: *BTI*	22.103	14.593	27.367	-	27.367	30.472	20.483	20.642	16.891	Continuing	Continuing
• PMC/BLI 418100: *EMSS*	7.394	7.946	3.679	-	3.679	3.606	3.868	3.952	3.045	Continuing	Continuing
• PMC/BLI 463500 PKI: *PKI*	-	1.304	1.449	-	1.449	1.081	1.353	1.578	1.639	Continuing	Continuing
• PMC/BLI 461700: *TSP*	-	-	0.498	-	0.498	0.399	0.601	-	-	Continuing	Continuing
• PMC/BLI 461600: *GCSS-MC*	-	-	-	-	-	-	1.400	7.654	-	-	9.054

Remarks

D. Acquisition Strategy

GLOBAL COMBAT SUPPORT SYSTEM-MARINE CORPS (GCSS-MC) is pursuing an Evolutionary Acquisition (EA) strategy in order to field operationally suitable and supportable capabilities in the shortest time possible that meets the Logistics Advocate goals. EA offers the fastest method to field this highest of advocate priorities and allows for requirements to be time-phased as the users become more familiar with the strengths and weaknesses of the fielded system. In addition to quicker fielding, an EA approach is particularly well suitable for software intensive programs and offers these benefits: rapid delivery of an initial capability with the explicit intent of delivering continuously improving capabilities in the future and a reduction in the "cycle time" from identification of emergent user requirements, priorities and fielding. The GCSS-MC acquisition strategy will deliver capabilities in increments. Each increment capability will follow a complete acquisition process in accordance with the DOD 5000 publications and OSD's Enterprise Integration roadmap. Increments will include emergent user priorities, advanced technology improvements and expanded functionality. Each increment will repeat the complete acquisition program cycle going through a milestone (MS) C Full Rate Production Decision Review. Increment 1 is divided into two major independent releases: Enterprise Release 1.1 and Deployed Access Release 1.2. This approach differs from the original plan of delivering one release due to the technical complexities related to the overall scope of the solution. More substantial software improvement/system upgrades will be fielded with each Increment as required and prioritized by the user community.

JOINT FORCES REQUIREMENT GENERATOR II (JFRG II) is maintaining current Legacy application until 2016. Program is conducting research and development to design, develop, and deploy a modernized version of the application.

BASE TELECOMMUNICATIONS INFRASTRUCTURE (BTI) provides all Marine Corps installations with the base area network communications infrastructure that connects the end-user to the DISA network. BTI sustains upgrades and enhances the telecommunications systems infrastructure for all Marine Corps Installations in order to meet the demands required to support the 5th Element of the Marine Air Ground Task Force (MAGTF). Participation in the DISA Unified Capabilities (voice, video, collaboration, and data) pilot is critical to BTI modernization strategy. The RDT&E funds will be utilized for testing efforts in support of the DISA Unified Communications Everything over Ethernet effort. After the testing is reviewed by the JITC, successfully evaluated products will be placed on the Approved Products List (APL).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS) is pursuing an evolutionary acquisition strategy in order to field operationally suitable and supportable capability across the Marine Corps as a maintenance aid. EMSS must evolve in concert with the supported platforms maintenance philosophy to provide extended functionality and access to network connectivity.

TRANSPORTATION SYSTEMS PORTFOLIO (TSP): within this portfolio, follows an Evolutionary Acquisition (EA) approach: 1. Define, develop, and deliver an initial or "core" capability based on mature technology. 2. "Core" capability will be incrementally improved over an extended period of time. Incremental Development Model: 1. Iterative cycles of requirements definition, design, build and evaluation. The contracting strategy across the portfolio is to utilize competitive firm-fixed price contracts.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

EMSS Summary Schedule (Multi-Version)

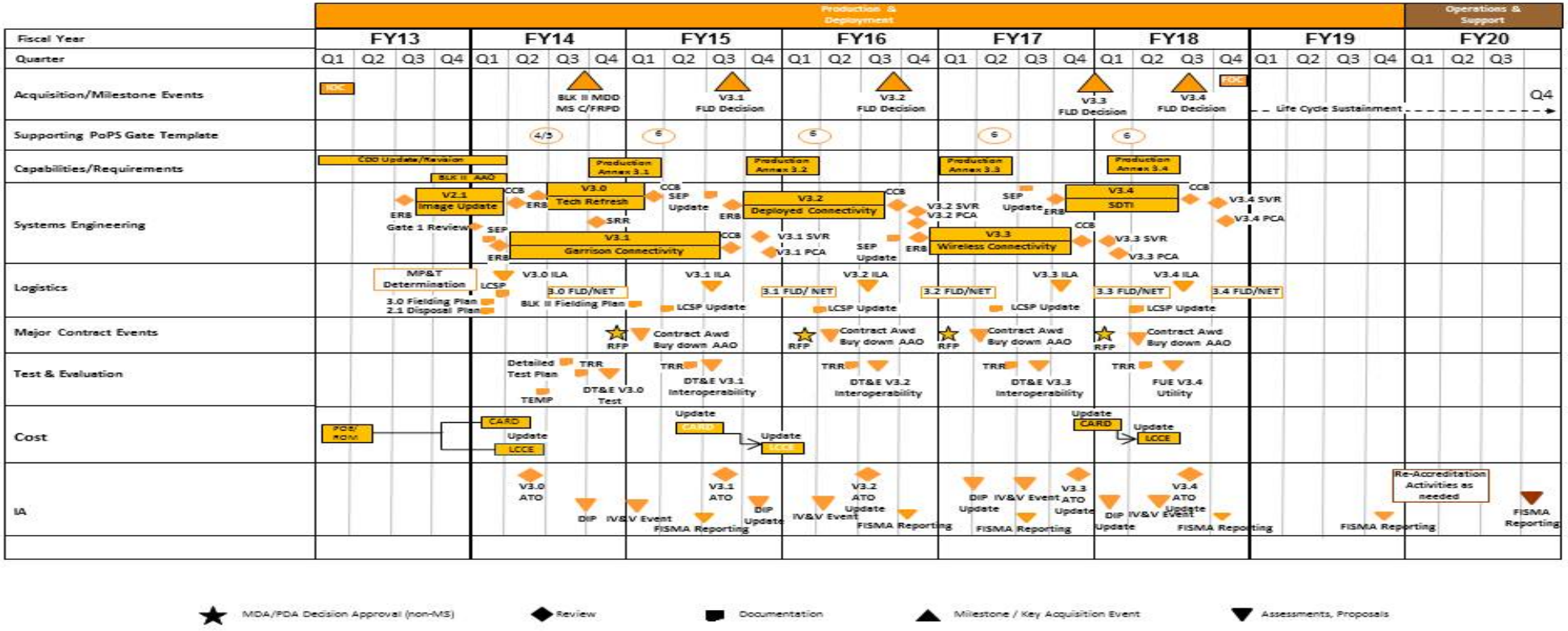


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

JFRG Program Schedule

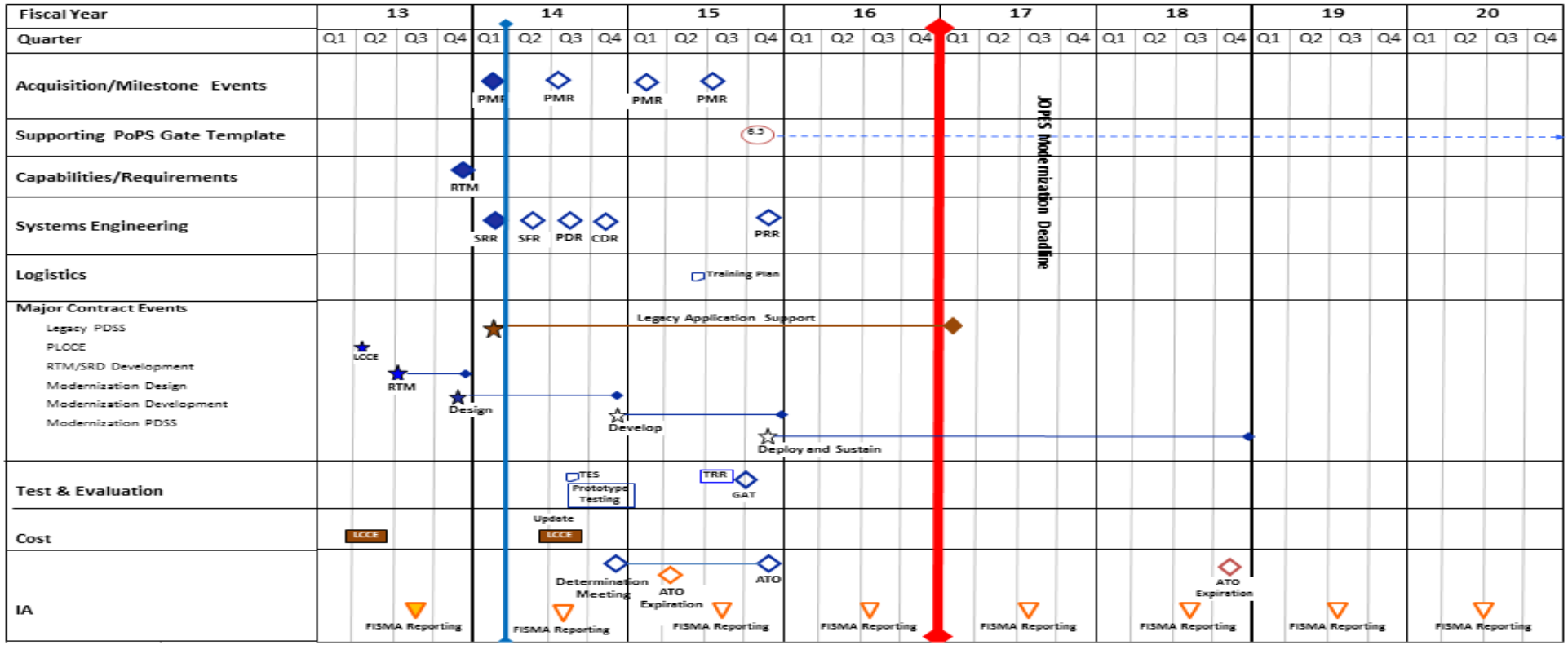
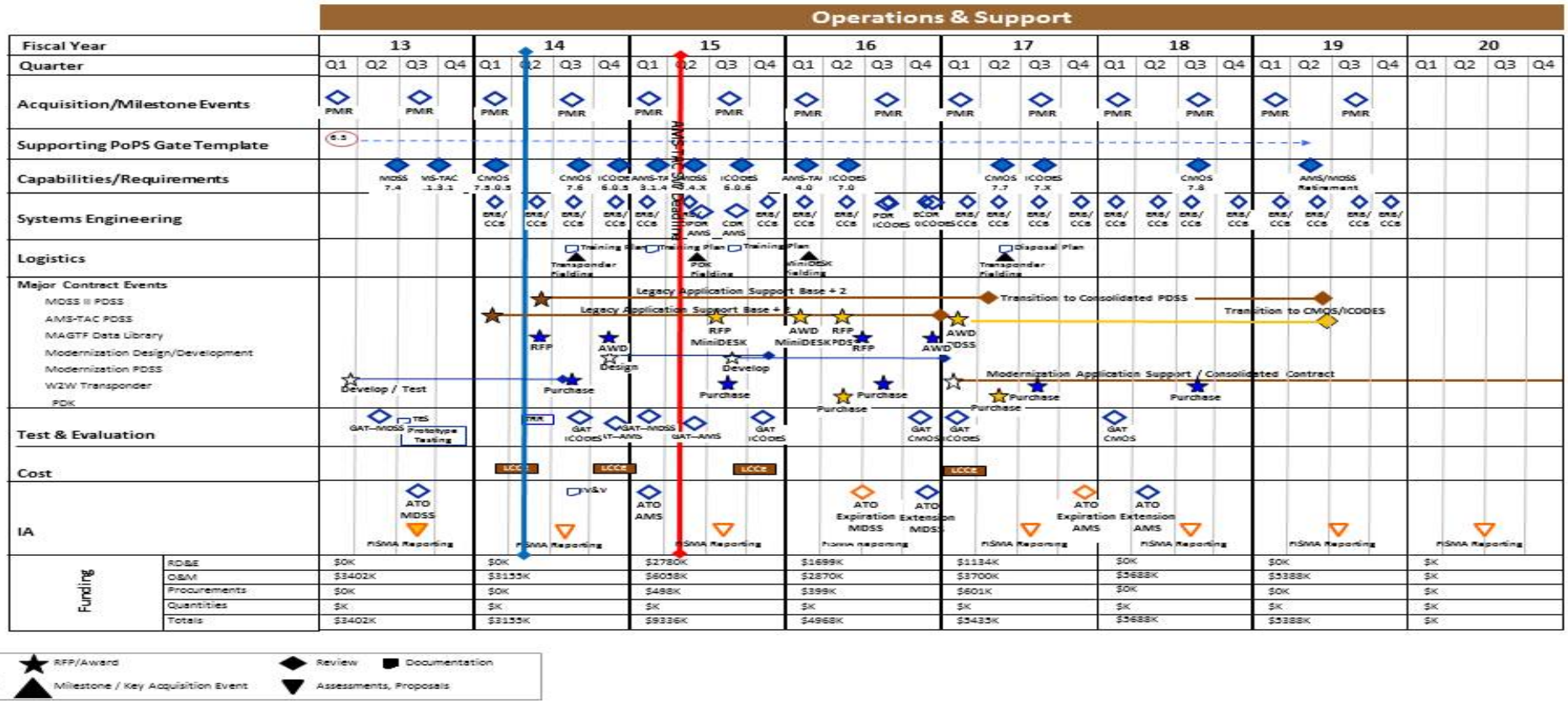


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

TSP (MCPC 431600) Integrated Program Schedule

3 Feb 14 AVP



Legend: RFP/Award; Milestone / Key Acquisition Event; Review; Documentation; Assessments, Proposals

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

BTI Top-Level Program Schedule

As of 4 February 2014

Operations & Support

Fiscal Year	FY12				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	Q1	Q2	Q3	Q4
Acquisition / Milestone Events		MDD					SR			SR	SR				SR				SR				SR				SR	FOC			SR	
Supporting PoPS Gate Template	1						6.5			6.5					6.5				6.5				6.5				6.5				6.5	
Capabilities / Requirements	SON – APR 10	LOC 9 FEB 12					LOC 26 JUN 13																									
Systems Engineering Note: Detailed activities & reviews are depicted in the notional Project Schedule						SEP	CMP PESHE				ISR			ISR	PIR				ISR				ISR			ISR	PIR				ISR	
	PROJECT SYSTEM ENGINEERING																															
Logistics		Checklist								LCCE	LCSP IRFS FP											ILA										
Major Contract Events (Award)																																
Test & Evaluation Note: Detailed T&E activities and reviews are depicted in the notional Project Schedule										TES	TEMP																					
	PROJECT SYSTEM ACCEPTANCE TESTS & ATO																															
Cost							CARD			LCCE				UPDATE CARD	UPDATE LCCE			UPDATE CARD	UPDATE LCCE			UPDATE CARD	UPDATE LCCE			UPDATE CARD	UPDATE LCCE			UPDATE CARD	UPDATE LCCE	
IA						IA Strategy	IA Gate Reviews																									

Type Accreditation
Transport (DWDM) - Authority to Operate
Switch (UC) – Authority to Operate

Update Type Accreditation
Transport (DWDM) - Authority to Operate
Switch (UC) – Authority to Operate

(In $1,000.00)		FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19
PB-15 Controls (29 Jan 2014)	RDT&E	$445	$427	$406	$487	$493	$501	$510	$520
	O&M	$364	$341	$704	$605	$613	$626	$634	$646
	PMC	$21,151	$22,103	$14,593	$27,367	$30,472	$20,483	$20,642	$16,891
	Quantities	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Totals	$21,960	$22,871	$15,703	$28,459	$31,578	$21,610	$21,786	$18,057

Legend: MDA Decision Approval (non-MS); Milestone / Key Acquisition Event; Review; Assessments, Proposals; Documentation

FUNDED & PROGRAMMED
P126 29 Palms Host DWDM/UC
P583 Yuma DWDM/UC
P1047 Lejeune (French Creek) DWDM/UC
P1266 Lejeune (Courthouse Bay) DWDM/UC
P1653 Pendleton Naval Hospital DWDM/UC

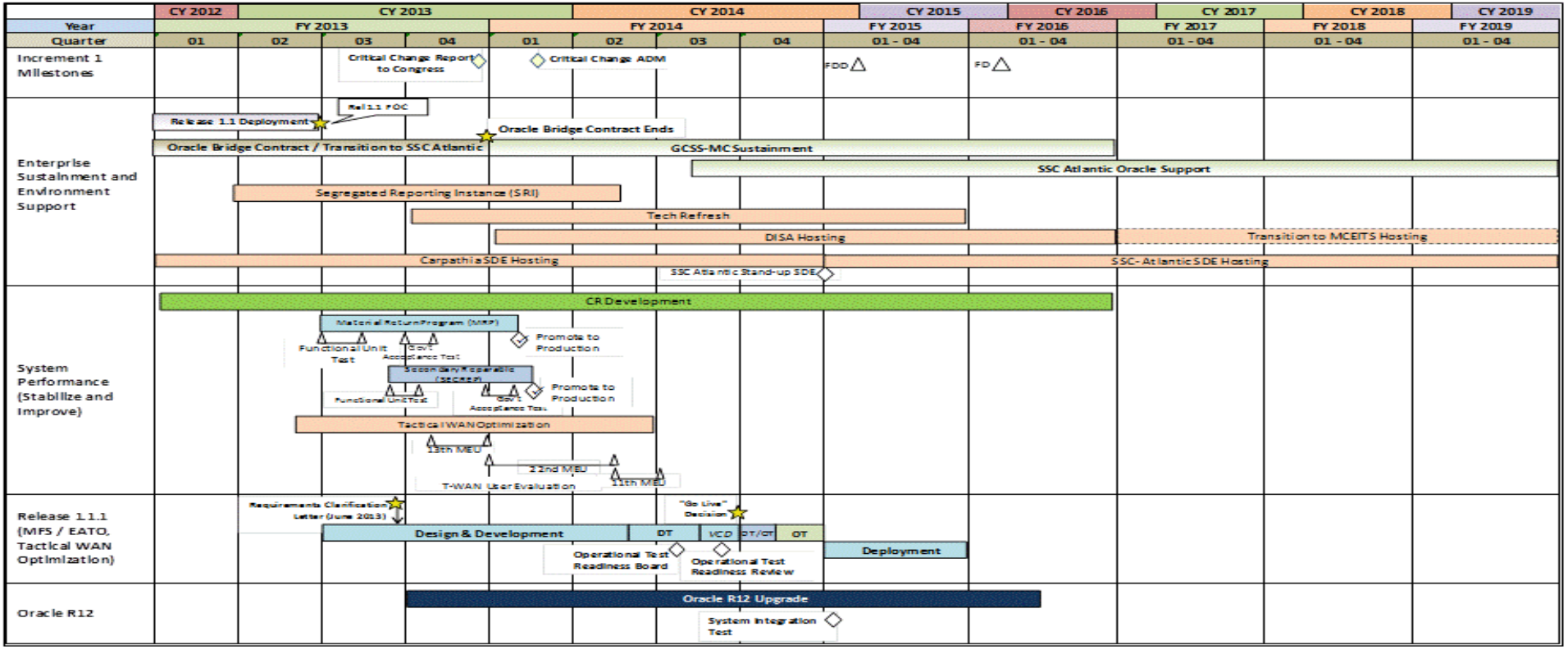
UNFUNDED & UNPROGRAMMED
P541 MCU DWDM/UC
P726 New River DWDM/UC
P818 PAC HQ DWDM/UC

Pendleton
P1014 Area 33 DWDM/UC
P1016 Area 41 DWDM/UC
P1131 MCI-W HQ DWDM/UC
P1132 DCO

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

PEO EIS
ENTERPRISE INFORMATION SYSTEMS
DEPARTMENT OF THE NAVY

GCSS-MC Program Schedule



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206313M / *Marine Corps Comms Systems*				Project (Number/Name) 3099 / *Radar 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**
3099: *Radar System*	148.379	25.066	9.613	12.169	-	12.169	11.813	15.186	17.239	16.369	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

Long Range Radar (AN/TPS-59) - The AN/TPS-59 is a three dimensional ground-based sensor that can detect and track long range Air Breathing Targets (ABT) at ranges of 300 nautical miles and Tactical Ballistic Missiles (TBM) at ranges of 400 nautical miles. The system is experiencing increasing obsolescence and Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues. The program will use a Post Production Support (PPS) contract and Other Government Activities (OGAs) to develop engineering changes to resolve DMSMS and incorporate Mode 5 Identification Friend or Foe (IFF) per DOD mandate.

Family of Target Acquisition Systems (FTAS) - The FTAS provides the MAGTF the capability to locate, identify, and attack enemy indirect fire weapons systems and observe and direct friendly artillery fire. The FTAS consists of the AN/TPQ-46 Firefinder Radar, the AN/TPQ-49 Lightweight Counter Mortar Radar, and the AN/TSQ-267 Target Processing Set. The FTAS is critical in the execution of counterfire and the integration of target acquisition information enabling attack by MAGTF assets. The FTAS also provides artillery firing units the ability to conduct artillery registration and other friendly fire missions. The FTAS encompasses the equipment required to support target acquisition within the target acquisition platoon and is resident in the headquarters battery of each artillery regiment. The program will continue to address engineering issues that arise due to DMSMS items within the FTAS.

Short/Medium Range Air Defense Radar (SHORAD or AN/TPS-63) - The AN/TPS-63 is a two-dimensional, medium-range, medium altitude, transportable radar system, which is doctrinally employed as a tactical gap-filler or as an early warning system for early deployment into the operational area. It has a 360-degree air surveillance capability at a range of 160 miles and complements the co-employed AN/TPS-59 three-dimensional, long-range, air surveillance radar system. The program will use OGAs to develop engineering change proposals related to improved system reliability with the specific purpose of meeting increased fleet operational requirements.

Three Dimensional Expeditionary Long Range Radar (3DELRR) - The Three-Dimensional Expeditionary Long-Range Radar (3DELRR) is a USAF program established to develop a lightweight, expeditionary, transportable, long-range surveillance radar system capable of detecting Airborne Ballistic Targets (ABTs) and Theatre Ballistic Missiles (TBMs). Marine Corps personnel are providing technical, engineering, and programmatic support, as well as, source selection support to the U.S. Air Force 3DELRR program. The program support consists of program management, engineering, logistics, test, and requirements activities. Commencing in FY14, the Marine Corps will no longer provide funding to support the Air Force to support the 3DELRR program.

Virtual Warfare Center (VWC) Support - The project team conducts fully interactive simulated war games at the Virtual Warfare Center (VWC) in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area. The VWC provides a venue for the exploration of advanced engagement concepts focused on persistent forward naval engagements in support of the MAGTF and the development of associated

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

Joint and Service specific tactics, techniques, and procedures (TTPs). VWC support encompasses a set of integrated fire control (IFC) activities that also includes concept/CONOPS development, family of systems architecture development, and systems engineering/integration efforts.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: AN/TPS-59 : Develop Engineering Change Proposals	8.685	3.096	1.065
Articles:	-	-	-
Description: The program will address Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues by continuing use of a Post Production Support (PPS) contract as well as use of Other Government Activities (OGAs). The AN/TPS-59 modification will address DMSMS and the DOD mandated Mode 5 Implementation of the AN/TPS-59 Radar System. ***FY 2013 Accomplishments:*** Continued software integration and ECPs to address obsolescence and DMSMS issues. ***FY 2014 Plans:*** Continue software integration and ECPs to address obsolescence and DMSMS issues. ***FY 2015 Plans:*** Continue software integration and ECPs to address obsolescence and DMSMS issues.			
Title: AN/TPS-59 : Management Service Support	2.024	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Program management and technical support for Long Range Radar efforts. ***FY 2014 Plans:*** Program Office transitions to PMC funding for Program Management and Technical Support in FY14. ***FY 2015 Plans:*** N/A			
Title: AN/TPS-59: Test and Evaluation	0.020	0.330	1.600
Articles:	-	-	-
FY 2013 Accomplishments: Civil Air Patrol (CAP) - Testing Support. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A			
Title: AN/TPS-59 : Engineering and Technical Support	7.488	3.585	5.386
Articles:	-	-	-
FY 2013 Accomplishments: MITRE/NSWC Dahlgren - Engineering Support, SPAWAR - IA Support, MCCDC CD&I - Requirements Support, MCSC - Program Office Travel, Lockheed Martin - Post Production Services and Support. ***FY 2014 Plans:*** MITRE/NSWC Dahlgren - Engineering Support, SPAWAR - Engineering Support, MCSC - Program Office Travel, Lockheed Martin - Post Production Services and Support. ***FY 2015 Plans:*** Continue MITRE/NSWC Dahlgren - Engineering Support, SPAWAR - Engineering Support, MCSC - Program Office Travel, Lockheed Martin - Post Production Services and Support.			
Title: FTAS: Engineering and Technical Support	0.664	0.500	0.254
Articles:	-	-	-
FY 2013 Accomplishments: Tobyhanna Army Depot (TYAD)- ECP development on the AN/TSQ-267. NSWC Dahlgren - Engineering Support for the Family of Target Acquisition systems. Tobyhanna Army Depot (TYAD)- AN/TPQ-46 MILTOPE Computer Refresh Engineering Change Proposal (ECP). MCSC Albany - Program Travel in support of Equipment and Logistics SME. ***FY 2014 Plans:*** Tobyhanna Army Depot (TYAD)- Continuation of ECP development on the AN/TSQ-267 and ECP development on the AN/TPQ-49. NSWC Dahlgren - Engineering Support for the Family of Target Acquisition systems, and Government liason with Fires Software Engineering Directorate (FSED) Ft. Sill. MCSC Albany - Program Travel in support of Equipment and Logistics SME. ***FY 2015 Plans:*** NSWC Dahlgren - Engineering Support for the Family of Target Acquisition systems. MCSC Albany - Program Travel in support of Equipment and Logistics SME.			
Title: FTAS: Develop Engineering Change Proposals	-	-	1.910
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

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 development and testing of an engineering change to resolve a newly identified DMSMS issue within the Radar Cylinder of the AN/TPQ-49. Pending product outcome of the Correlation and Fusion Naval Future Capability Study, FTAS will initiate Correlation and Fusion ECP for the AN/TSQ-267.			
Title: SHORAD: Engineering and Technical Support ***Articles:*** ***Description:*** Continuing development effort to resolve ongoing DMSMS and obsolescence issues. ***FY 2013 Accomplishments:*** NSWC Dahlgren/NSWC Crane/Tobyhanna Army Depot (TYAD) - Engineering Support, Aberdeen Proving Ground (APG) - Testing Support, MCSC - Program Office Travel. ***FY 2014 Plans:*** SPAWAR - IA Support, MCSC - Program Office Travel. ***FY 2015 Plans:*** Tobyhanna Army Depot (TYAD) - Engineering Support, MCSC - Program Office Travel.	0.614 -	0.161 -	0.193 -
Title: 3DELRR: Management Service Support ***Articles:*** ***Description:*** Provides for programmatic and technical support to U.S. Air Force 3DELRR Program. ***FY 2013 Accomplishments:*** Program management and technical support to U.S. Air Force 3DELRR Program. ***FY 2014 Plans:*** Commencing in FY 2014, the Marine Corps will no longer provide program management and technical support to U.S. Air Force 3DELRR Program. ***FY 2015 Plans:*** N/A	1.727 -	- -	- -
Title: VWC: Testing Support	3.844	1.941	1.761

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 Accomplishments: Continued simulated war games at the Virtual Warfare Center (VWC) in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area.			
FY 2014 Plans: Continuation of simulated war games at the Virtual Warfare Center (VWC) in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area.			
FY 2015 Plans: Continuation of simulated war games at the Virtual Warfare Center (VWC) in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area.			
Accomplishments/Planned Programs Subtotals	25.066	9.613	12.169

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/465003: *AN/TPS-59*	37.937	10.009	9.699	-	9.699	30.984	21.826	19.768	21.280	Continuing	Continuing
• PMC/465005: *FTAS*	3.817	3.004	8.923	-	8.923	10.207	8.623	8.410	8.495	Continuing	Continuing
• PMC/465007: *SHORAD (AN/TPS-63)*	3.631	1.713	0.973	-	0.973	1.421	0.729	0.743	-	Continuing	Continuing
• PMC/463000: *AN/TPS-59 MCHS*	0.099	0.092	0.098	-	0.098	0.121	0.143	0.149	0.151	Continuing	Continuing

Remarks

D. Acquisition Strategy

Long Range Radar (AN/TPS-59) - The AN/TPS-59 is a three dimensional ground-based sensor that can detect and track long range Air Breathing Targets (ABT) at ranges of 300 nautical miles and Tactical Ballistic Missiles (TBM) at ranges of 400 nautical miles. The system is experiencing increasing obsolescence and Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues. The program will use a Post Production Support (PPS) contract as well as Other Government Agencies (OGAs) to develop engineering changes to resolve DMSMS and incorporate Mode 5 Identification Friend or Foe (IFF) per DOD mandate.

Virtual Warfare Center (VWC) Support - The project team conducts fully interactive simulated war games at the Virtual Warfare Center (VWC) in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area. VWC support encompasses a set of integrated fire control (IFC) activities that also includes concept/CONOPS development, family of systems architecture development, and systems engineering/ integration efforts. These efforts are led by ONR.

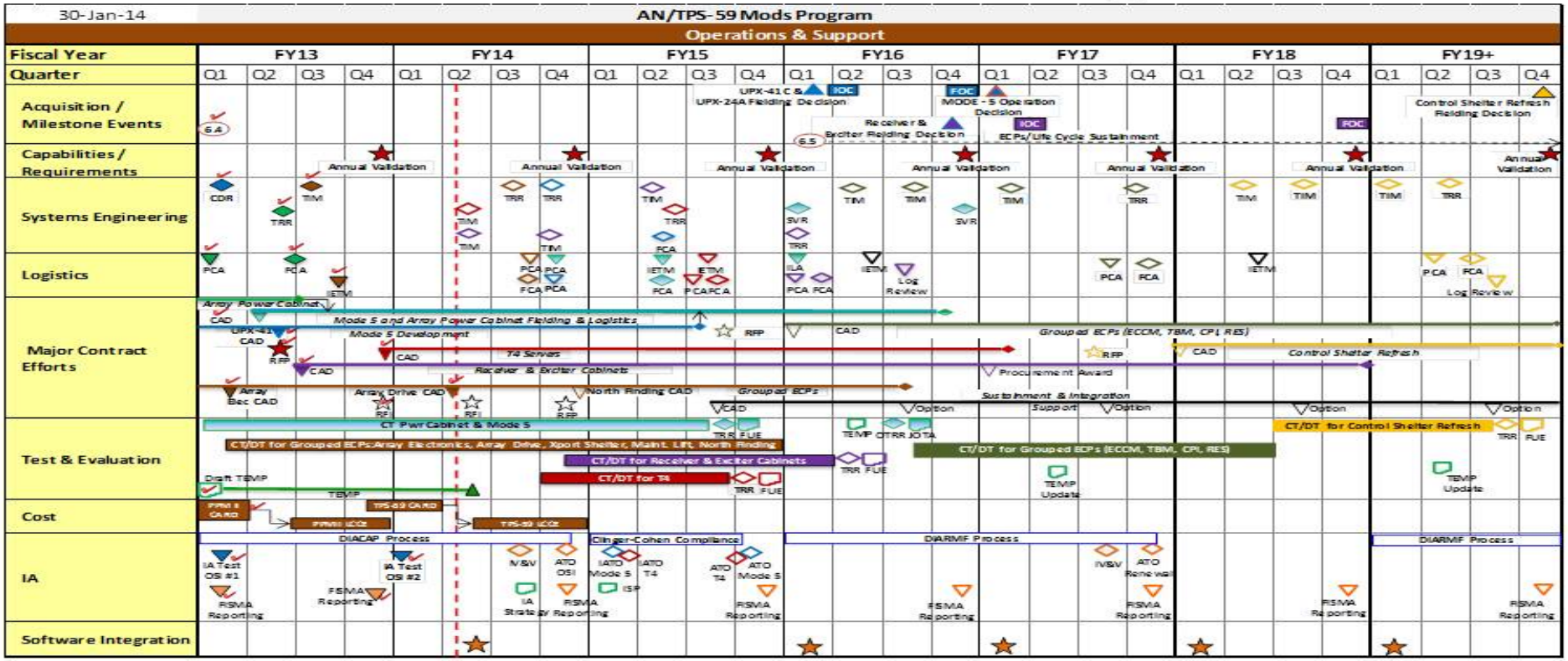
Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

E. Performance Metrics

Milestone Reviews

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206313M / *Marine Corps Comms Systems*	**Project (Number/Name)** 3099 / *Radar System*

AN/TPS-59 Program



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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0206335M *I Common Aviation Command and Control System (CAC2S)*							
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	-	-	32.495	-	32.495	13.538	10.743	3.435	3.500	Continuing	Continuing
3373: *Common Aviation Command and Control System (CAC2S)*	0.000	-	-	32.495	-	32.495	13.538	10.743	3.435	3.500	Continuing	Continuing
MDAP/MAIS Code: **Other MDAP/MAIS Code(s):** N36												

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

Note

Funding for FY2014 and prior is listed in PE 0206313M Marine Corps Comms Systems, Project 2273 Air Ops Cmd & Control (C2) Sys, Accomplishments/Planned Programs Common Aviation Command and Control Systems (CAC2S)

Funding for FY15 and beyond are listed in PE 0206335M Common Aviation Command and Control System (CAC2S), Project 3373 - Common Aviation Command and Control System (CAC2S)

A. Mission Description and Budget Item Justification

Common Aviation Command and Control System (CAC2S) - A coordinated modernization effort to replace the existing aviation command and control equipment of the Marine Air Command and Control System (MACCS) and to provide the Aviation Combat Element (ACE) with the necessary hardware, software, equipment, and facilities to effectively command, control, and coordinate aviation operations. The CAC2S system will accomplish the MACCS missions with a suite of operationally scalable modules to support the Marine Air Ground Task Force (MAGTF), Joint, and Coalition Forces. The CAC2S integrates the functions of aviation command and control into an interoperable system that will support the core competencies of all Marine Corps warfighting concepts. The CAC2S, in conjunction with MACCS organic sensors and weapons systems, supports the tenets of Expeditionary Maneuver Warfare and fosters joint interoperability. CAC2S Increment I will replace legacy aviation command and control systems in the following Marine aviation agencies: Direct Air Support Center (DASC), Tactical Air Command Center (TACC), and Tactical Air Operations Center (TAOC). Funding in FY15 decreased compared to FY14 due to the ramp down of the Engineering, Manufacturing, and Design (EMD) Phase and transition to procurement after Milestone C in 2nd Qtr FY15.

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 7: *Operational Systems Development*			**R-1 Program Element (Number/Name)** PE 0206335M *I Common Aviation Command and Control System (CAC2S)*		
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	-	-	32.495	-	32.495
Total Adjustments	-	-	32.495	-	32.495
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	32.495	-	32.495

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206335M / *Common Aviation Command and Control System (CAC2S)*				Project (Number/Name) 3373 / *Common Aviation Command and Control System (CAC2S)*			
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**
3373: *Common Aviation Command and Control System (CAC2S)*	-	-	-	32.495	-	32.495	13.538	10.743	3.435	3.500	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: N36

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

Note

Funding for FY2014 and prior is listed in PE 0206313M Marine Corps Comms Systems, Project 2273 Air Ops Cmd & Control (C2) Sys, Accomplishments/Planned Programs Common Aviation Command and Control Systems (CAC2S)

Funding for FY15 and beyond are listed in PE 0206335M Common Aviation Command and Control System (CAC2S), Project 3373 - Common Aviation Command and Control System (CAC2S)

A. Mission Description and Budget Item Justification

Common Aviation Command and Control System (CAC2S) - A coordinated modernization effort to replace the existing aviation command and control equipment of the Marine Air Command and Control System (MACCS) and to provide the Aviation Combat Element (ACE) with the necessary hardware, software, equipment, and facilities to effectively command, control, and coordinate aviation operations. The CAC2S system will accomplish the MACCS missions with a suite of operationally scalable modules to support the Marine Air Ground Task Force (MAGTF), Joint, and Coalition Forces. The CAC2S integrates the functions of aviation command and control into an interoperable system that will support the core competencies of all Marine Corps warfighting concepts. The CAC2S, in conjunction with MACCS organic sensors and weapons systems, supports the tenets of Expeditionary Maneuver Warfare and fosters joint interoperability. CAC2S Increment I will replace legacy aviation command and control systems in the following Marine aviation agencies: Direct Air Support Center (DASC), Tactical Air Command Center (TACC), and Tactical Air Operations Center (TAOC). Funding in FY15 decreased compared to FY14 due to the ramp down of the Engineering, Manufacturing, and Design (EMD) Phase and transition to procurement after Milestone C in 2nd Qtr FY15.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Product Development	-	-	6.782
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206335M / *Common Aviation Command and Control System (CAC2S)*	**Project (Number/Name)** 3373 / *Common Aviation Command and Control System (CAC2S)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** Initiate validation and verification of the four (4) Engineering and Development Models (EDMs).			
Title: Support and Management Services	-	-	5.333
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Continue program management, business, engineering, and logistical support.			
Title: Test and Evaluation	-	-	20.380
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Continue support of phase 2 in Information Assurance certification test scans. Complete developmental testing of the Engineering and Development Models (EDMs). Initiate Initial Operational Test and Evaluation (IOT&E) preparations.			
Accomplishments/Planned Programs Subtotals	-	-	32.495

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
• 0206313M/2273: *Common Aviation Command And Control System (CAC2S)*	29.055	44.152	-	-	-	-	-	-	-	-	478.307

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206335M / *Common Aviation Command and Control System (CAC2S)*	**Project (Number/Name)** 3373 / *Common Aviation Command and Control System (CAC2S)*

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/4640: *Common Aviation Command And Control System (CAC2S)*	0.065	0.080	-	-	-	-	-	-	-	-	90.145
• PMC/4644: *Common Aviation Command And Control System (CAC2S)*	-	-	12.272	-	12.272	32.744	58.597	49.919	50.867	Continuing	Continuing

Remarks

D. Acquisition Strategy

CAC2S will employ an evolutionary acquisition strategy utilizing an incremental and phased approach for development and fielding of the CAC2S. The Capability Production Document (CPD) identifies two increments to achieve the full requirements of CAC2S. The current acquisition strategy addresses Increment I of the CAC2S development process and focuses on the requirements that will modernize the assault and air support, air defense and control, and Aviation Combat Element (ACE) battle management capabilities of the Marine Air Command and Control System (MACCS). Increment I of the CAC2S will be accomplished through a two phased approach. Phase 1 will address the requirements to establish the baseline CAC2S capabilities for the MACCS and improve AC2 performance and effectiveness. Phase 2 will address the requirements for remaining ACE Battle Management Command & Control (BMC2) requirements.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206335M / *Common Aviation Command and Control System (CAC2S)*	Project (Number/Name) 3373 / *Common Aviation Command and Control System (CAC2S)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Phase 2	WR	NSWC CD : Crane, In	0.000	-		-		1.031	Nov 2014	-		1.031	Continuing	Continuing	Continuing
Phase 2	C/FPIF	General Dynamics : Pheonix, AZ	0.000	-		-		3.800	Nov 2014	-		3.800	Continuing	Continuing	Continuing
Phase 2	WR	NSWC DD : Dahlgren, VA	0.000	-		-		1.951	Nov 2014	-		1.951	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		6.782		-		6.782	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Phase 2	MIPR	AMSSA : Aberdeen, MD	0.000	-		-		0.501	Nov 2014	-		0.501	Continuing	Continuing	Continuing
Phase 2	WR	SpaWar : Charleston, SC	0.000	-		-		0.250	Nov 2014	-		0.250	Continuing	Continuing	Continuing
Phase 2	MIPR	JITC : Fort Huachuca, AZ	0.000	-		-		0.500	Nov 2014	-		0.500	Continuing	Continuing	Continuing
Phase 2	Sub Allot	MCTSSA : Camp Pendleton, CA	0.000	-		-		0.170	Nov 2014	-		0.170	Continuing	Continuing	Continuing
Phase 2	WR	NSWC Corona : Corona, CA	0.000	-		-		0.376	Nov 2014	-		0.376	Continuing	Continuing	Continuing
Phase 2	Sub Allot	LogCom : Albany, GA	0.000	-		-		0.502	Nov 2014	-		0.502	Continuing	Continuing	Continuing
Phase 2	C/FP	MCSC Safety : TBD	0.000	-		-		0.250	Nov 2014	-		0.250	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		2.549		-		2.549	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206335M / *Common Aviation Command and Control System (CAC2S)*	Project (Number/Name) 3373 / *Common Aviation Command and Control System (CAC2S)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Phase 2	WR	NSWC - Port Huenueme : Port Huenueme, CA	0.000	-		-		1.001	Nov 2014	-		1.001	Continuing	Continuing	Continuing
Phase 2	Sub Allot	MCOTEA : Quantico, VA	0.000	-		-		2.253	Nov 2014	-		2.253	Continuing	Continuing	Continuing
Phase 2	WR	MACCS - 2 : Cherry Point, NC	0.000	-		-		0.500	Nov 2014	-		0.500	Continuing	Continuing	Continuing
Phase 2	Sub Allot	MCTSSA : Camp Pendleton, CA	0.000	-		-		6.200	Nov 2014	-		6.200	Continuing	Continuing	Continuing
Phase 2	MIPR	NAWC AB : Patuxent River, MD	0.000	-		-		6.000	Nov 2014	-		6.000	Continuing	Continuing	Continuing
Phase 2	WR	NSWC CD : Crane, IN	0.000	-		-		4.426	Nov 2014	-		4.426	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		20.380		-		20.380	-	-	-

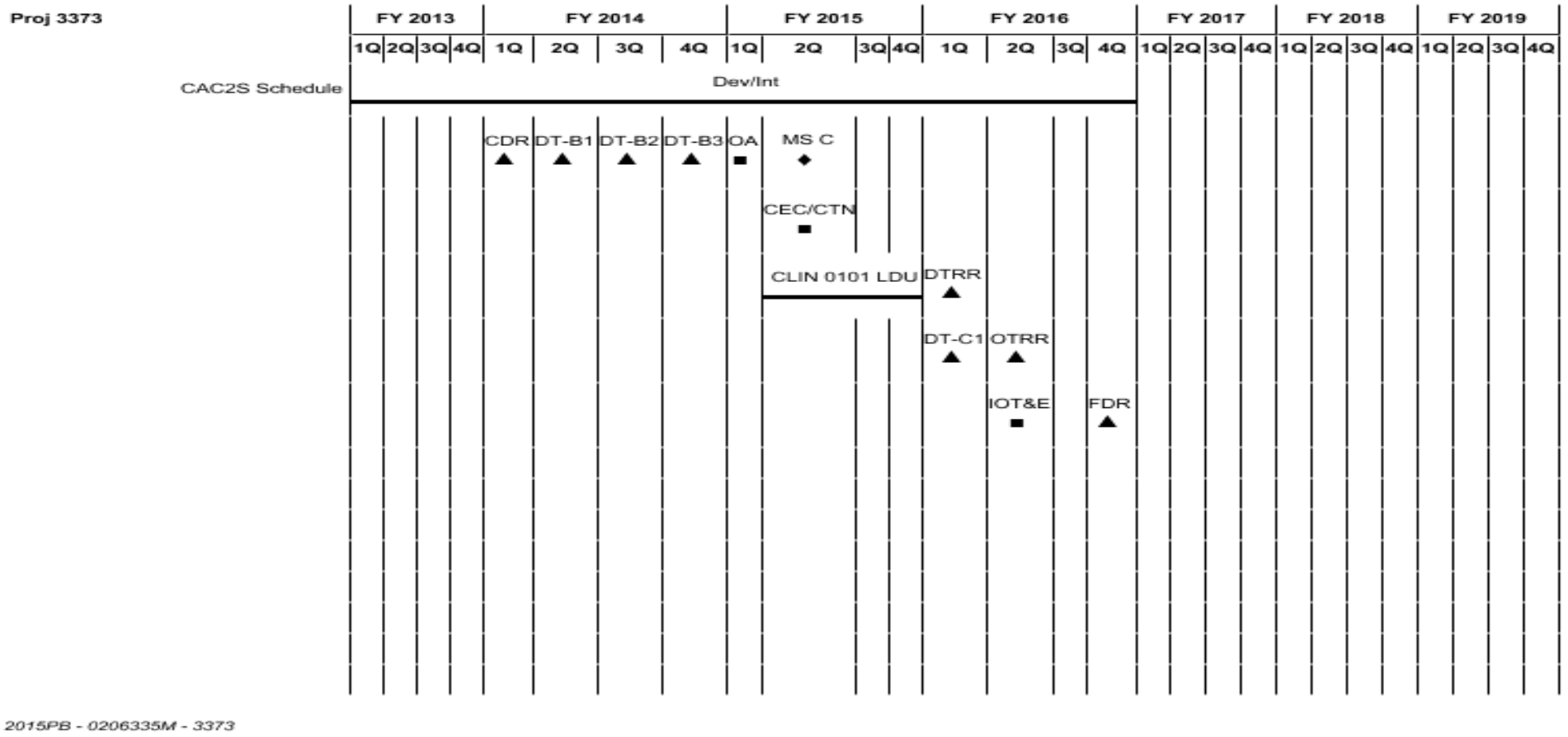
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Phase 2	C/FFP	TBD : TBD	0.000	-		-		1.505	Mar 2015	-		1.505	Continuing	Continuing	Continuing
Phase 2	C/FFP	MITRE : Bedford, MA	0.000	-		-		1.279	Nov 2014	-		1.279	Continuing	Continuing	Continuing
		Subtotal	0.000	-		-		2.784		-		2.784	-	-	-

	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	-		-		32.495		-		32.495	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206335M / *Common Aviation Command and Control System (CAC2S)*	**Project (Number/Name)** 3373 / *Common Aviation Command and Control System (CAC2S)*



2015PB - 0206335M - 3373

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206335M / *Common Aviation Command and Control System (CAC2S)*	**Project (Number/Name)** 3373 / *Common Aviation Command and Control System (CAC2S)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 3373				
CAC2S Schedule: CLIN 0001 Development/Integration	1	2013	4	2016
CAC2S Schedule: Critical Design Review	1	2014	1	2014
CAC2S Schedule: Developmental Test - B1	2	2014	2	2014
CAC2S Schedule: Developmental Test - B2	3	2014	3	2014
CAC2S Schedule: Developmental Test - B3	4	2014	4	2014
CAC2S Schedule: Operational Assessment	1	2015	1	2015
CAC2S Schedule: Milestone C	2	2015	2	2015
CAC2S Schedule: Coop Engagement Capability/Composite Tracking Network Certification and Interopability Test	2	2015	2	2015
CAC2S Schedule: Limited Deployment Units (LDU) Build (PMC BL 464400)	2	2015	4	2015
CAC2S Schedule: Developmental Test Readiness Review	1	2016	1	2016
CAC2S Schedule: Developmental Test - C1	1	2016	1	2016
CAC2S Schedule: Operational Test Readiness Review	2	2016	2	2016
CAC2S Schedule: Initial Operational Test and Evaluation	2	2016	2	2016
CAC2S Schedule: Full Deployment Review	4	2016	4	2016

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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0206623M *I MC Ground Cmbt Spt Arms 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**
Total Program Element	489.869	146.255	116.061	156.626	-	156.626	105.124	83.489	95.922	52.780	Continuing	Continuing
0021: *Assault Amphibious Vehicle 7A1*	100.594	36.468	32.638	104.207	-	104.207	37.137	29.804	46.137	4.631	Continuing	Continuing
1555: *Lt Armored Vehicle Prog*	53.910	25.322	23.754	5.156	-	5.156	18.460	10.401	9.187	9.392	Continuing	Continuing
1901: *MC Grnd Wpnry Prod Improvement*	15.703	10.559	13.823	5.537	-	5.537	5.275	5.450	4.625	4.729	Continuing	Continuing
2086: *Soldier/Marine Enhancement*	13.967	2.751	6.146	4.656	-	4.656	5.413	5.587	5.463	5.899	Continuing	Continuing
2112: *Lightweight 155mm Howitzer*	0.000	-	0.200	0.204	-	0.204	0.207	0.003	0.003	0.003	Continuing	Continuing
2237: *Amphibious Vehicle Test*	0.831	0.933	0.949	0.836	-	0.836	1.002	1.010	0.998	0.921	Continuing	Continuing
2315: *Training Devices/ Simulators*	80.469	19.047	9.697	10.252	-	10.252	11.919	10.860	10.139	9.175	Continuing	Continuing
2503: *Initial Issue*	49.932	5.475	9.142	5.498	-	5.498	5.119	6.185	6.173	4.857	Continuing	Continuing
2513: *Body Armor*	33.387	6.184	0.572	3.431	-	3.431	4.867	4.830	4.585	4.688	Continuing	Continuing
2928: *Exp Indirect Fire Gen Supt Wpn Sys*	13.189	2.270	2.391	1.953	-	1.953	2.768	2.731	2.583	2.369	Continuing	Continuing
3098: *Fire Support System*	96.321	17.155	16.221	14.400	-	14.400	12.449	6.121	5.503	5.580	Continuing	Continuing
4002: *Family of Raid Reconnaissance*	2.684	0.259	0.528	0.496	-	0.496	0.508	0.507	0.526	0.536	Continuing	Continuing
9C85: *Marine Personnel Carrier (MPC)*	28.882	19.832	-	-	-	-	-	-	-	-	-	48.714

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

A. Mission Description and Budget Item Justification

This PE provides modification to Marine Corps Expeditionary Ground Force Weapon Systems to increase lethality, range, survivability and operational effectiveness. In addition, the PE provides for the development of AAV7A1 reliability, maintainability, operational and safety modifications, improvements in command and control, and product improvements to the family of LAVs. The AVTB provides facilities and personnel which perform a broad range of testing, repair and technical services to

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0206623M *I MC Ground Cmbt Spt Arms Sys*

amphibious vehicles. This program is funded under Operational Systems Development Program Element (PE) because it encompasses engineering and manufacturing and manufacturing development for upgrades of existing systems.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	181.693	139.594	179.167	-	179.167
Current President's Budget	146.255	116.061	156.626	-	156.626
Total Adjustments	-35.438	-23.533	-22.541	-	-22.541
• Congressional General Reductions	-	-0.003			
• Congressional Directed Reductions	-	-23.530			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-16.860	-			
• SBIR/STTR Transfer	-4.357	-			
• Program Adjustments	-	-	-76.568	-	-76.568
• Rate/Misc Adjustments	0.001	-	54.027	-	54.027
• Congressional General Reductions Adjustments	-0.222	-	-	-	-
• Congressional Directed Reductions Adjustments	-14.000	-	-	-	-

Change Summary Explanation

The decrease in funding from FY14 to FY15 is a result of changes in the acquisition strategy to the AAV and LAV programs, and terminations of the Marine Personnel Carrier (MPC), Mission Payload Module (MPM), and Disable Point Target (DPT) programs.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	Project (Number/Name) 0021 / *Assault Amphibious Vehicle 7A1*	

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
0021: *Assault Amphibious Vehicle 7A1*	100.594	36.468	32.638	104.207	-	104.207	37.137	29.804	46.137	4.631	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	10.000	-	10.000	-	-	-	-		

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

A. Mission Description and Budget Item Justification

The Assault Amphibious Vehicle (AAV) program provides life-cycle support to ensure cost-effective combat readiness for the AAV Family of Vehicles (FOV). This is accomplished through engineering changes resulting from continuous review of sub-systems to maintain system supportability, safety, reduce total ownership costs, improve fleet readiness, address obsolescence issues, and improve vehicle survivability and performance. The AAV program also includes a survivability upgrade which will increase AAVP7A1 survivability and force protection while maintaining the required land and water mobility performance. This upgrade is derived from the need for an operationally effective amphibious armored personnel carrier capability bridge until the future amphibious portfolio of vehicles reaches full operational capability.

The increase from FY14 to FY15 represents the AAV Survivability Upgrade prototype build contract option award, and design engineering for AAV turret, power train, and suspension improvements; as well as nonrecurring engineering and design for AAV electrical characterization, automatic fire supression system, C2 system enhancements, and AAV obsolescence and safety modifications.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Product Development	15.759	24.792	68.538
Articles:	-	-	10.000
Description: AAV Survivability Upgrade will improve the legacy AAV Force Protection capability. Improvements include improved belly protection, integrated blast mitigating seats, integrated spall liners, protected fuel, sponson armor, and selected improvements for water and land mobility.			
FY 2013 Accomplishments: Initiated design, development, and support activities for the AAV Survivability Upgrade. Initiated automotive and suspension improvements, RAM baseline testing, and AAV mobility technical demonstration testing. AAV Upgrade Engineering, Manufacturing, and Design (EMD) and prototype development (3rd Qtr FY14 award).			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 0021 / *Assault Amphibious Vehicle 7A1*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Complete automotive and suspension improvements, RAM baseline testing, and AAV mobility technical demonstration testing. Award EMD design, development, and support contract. Conduct preliminary design review. ***FY 2015 Plans:*** Conduct AAV Upgrade Critical Design Review. Award EMD prototype contract option; build EMD prototypes and provide associated support. Begin nonrecurring engineering efforts to support AAV Turret improvements; R7 Recovery Variant improvements; Power Train, Suspension, and Hull enhancements.			
Title: Test and Evaluation	2.455	0.730	0.183
Articles:	-	-	-
Description: AAV Operations Support: Evaluation and testing of safety improvements to include upgraded intercoms, radios, and fact-of-life changes to maintain the AAV Family of Vehicles. ***FY 2013 Accomplishments:*** Initiated AAV performance baseline to include aluminum alloy, soft soil and water testing. ***FY 2014 Plans:*** Complete AAV performance baseline and hull analysis testing. Continue evaluation and testing of safety improvements and fact-of-life changes to maintain the AAV Family of Vehicles. ***FY 2015 Plans:*** Initiate developmental test planning.			
Title: Engineering and Technical Support	8.181	3.152	27.224
Articles:	-	-	-
Description: Provide engineering and technical support for AAV sustainment and modifcations, and Survivability Upgrade efforts. ***FY 2013 Accomplishments:*** Provided engineering and technical support for human systems integration, digital integration facility, and material and travel associated with these efforts. Provided technical and engineering services in support of AAV baseline and hull analysis testing, AAVC7A1 software sustainment and transition, and AAVC7A1 tech refresh planning and analysis efforts. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 0021 / *Assault Amphibious Vehicle 7A1*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue engineering and techncial support for human systems integration, digital integration facility, and material and travel associated with these efforts. Provide technical and engineering support for digital architecture design, development, and analysis. Provide technical and engineering services in support of AAV Survivability Upgrade design evaluation and development. ***FY 2015 Plans:*** Begin nonrecurring engineering and design for AAV electrical, and command and control (C2) systems at the digital integration facility. Begin nonrecurring engineering and design for fire suppression system, auxiliary system enhancements, and future AAV obsolescence and performance modifications in support of AAV survivability efforts. Continue to provide technical and engineering services in support of digital architecture design, development, and analysis. Provide engineering and technical services in support of AAV Survivability Upgrade design, development, and prototype build. Provide material and travel associated with these efforts.			
Title: Program Management ***Articles:*** ***Description:*** Contract management support services for program office support activities. ***FY 2013 Accomplishments:*** Provided technical and program support in development of the AAV Survivability Upgrade statement of work, acquisition plan, acquisition strategy document, and related acquisition documentation. Provided program management services in support of ECP development, trade studies and analyses, supply chain, and government property management in support of AAV sustainment and modification efforts. ***FY 2014 Plans:*** Provide program management services in support of ECP development, trade studies and analysis, and supply chain and government property management in support of AAV sustainment and modification efforts. Provide program support for acquisition documentation development in support of AAV Survivability Upgrade Milestone B. ***FY 2015 Plans:*** Continue progam management services in support of ECP development, trade studies and analysis, supply chain, and government property management in support of AAV sustainment and modification efforts. Continue to provide program management services in support of AAV Survivability Upgrade.	10.073 -	3.964 -	8.262 -
Accomplishments/Planned Programs Subtotals	36.468	32.638	104.207

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 0021 / *Assault Amphibious Vehicle 7A1*

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/2021: *AAV Product Improvement Program*	16.068	32.360	16.756	-	16.756	26.937	114.560	109.076	115.448	612.589	1,983.233

Remarks

D. Acquisition Strategy

The USMC intends to competitively award a contract to upgrade 392 Assault Amphibious Vehicles. The program's main focus is on improving Marine force protection capabilities. To support the required capabilities, the Survivability Upgrade program will seek to incorporate Non-Developmental Item (NDI) and/or Commercial off the Shelf (COTS) solutions into the existing AAVP7A1 Reliability, Availability, Maintainability/Rebuild to Standard (RAM/RS). The acquisition strategy seeks to minimize cost, schedule, and maximize value, technology readiness, and commonality, while ensuring the selected manufacturer meets the capability attributes established for the AAVP7A1 RAM/RS. R&D will fund competitive designs with MS B in FY14 followed by EMD and production. IOC is scheduled for FY19.

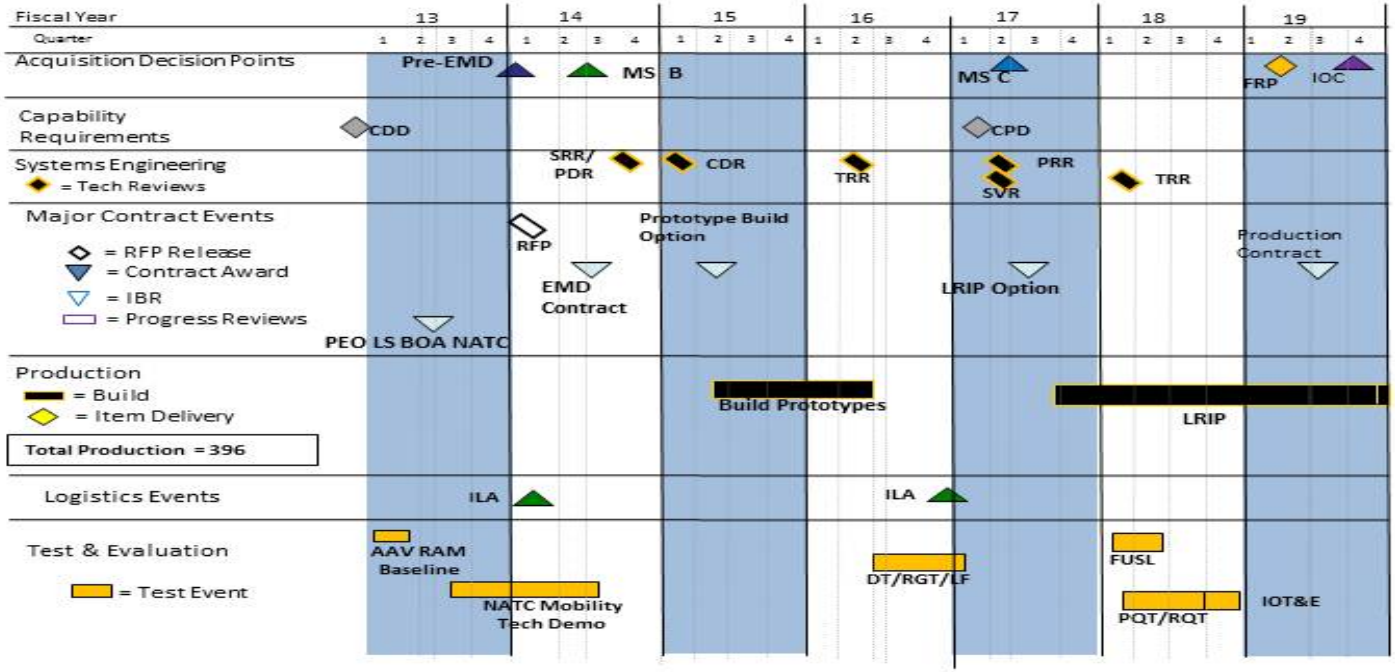
E. Performance Metrics

Milestone Reviews:
Milestone B: 3rd quarter of FY14
Milestone C: 2nd quarter of FY17

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 0021 / *Assault Amphibious Vehicle 7A1*

AAV Integrated Program Plan

As of 11 OCT 2013



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	Project (Number/Name) 1555 / *Lt Armored Vehicle 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
1555: *Lt Armored Vehicle Prog*	53.910	25.322	23.754	5.156	-	5.156	18.460	10.401	9.187	9.392	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 Light Armored Vehicle Family of Vehicles (LAV FOV) consists of six fielded LAV configurations, and one communications/intelligence-configured asset on a LAV chassis. The LAV FOV provides a logistically self-contained, highly mobile, and lethal combined arms combat system to the Marine Air Ground Task Force (MAGTF). The LAV Product Improvement Program funds modification and sustainment activities and the development and testing of modifications of three programs; the LAV Modification Program, the LAV Anti-Tank Modernization (ATM) Program, and the LAV Survivability Upgrades Program. These programs will ensure that the LAV FOV will be capable of conducting its assigned missions by enhancing lethality and survivability; reliability, availability, maintainability and durability; as well as reducing operations and support costs.

The funding decrease from FY14 to FY15 reflects adjustments to the LAV Acquisition Program Changes and resulting realignment of funds. The Mobility and Obsolescence Program moved from the LAV Survivability Program to the LAV Modification Program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: LAV MODIFICATIONS	15.981	15.204	5.156
Articles:	-	-	-

FY 2013 Accomplishments:

Continued research, development and testing of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues: Mobility and Obsolescence requirements development, Milestone B (MS B) preparation and Request for Proposal (RFP) development, Tow Lug Development, First Article Testing for Mission Role Variant (MRV) Fuel Tanks, Blast Attenuating Seat Performance Specification Development for Driver, Vehicle Commander, LAV Troop, Gunners locations, LAV LED Recovery Work Lamp Development and Program Management (PM) support.

FY 2014 Plans:

Continue development of the Mobility and Obsolescence Kits consisting of Powerpack, Driveline, Steering, Electrical System, Suspension, Hull Modifications and Ballistic Protection Upgrade Package (BPUP) Kits. MS B approval, RFP Release, Research & Development (R&D) Contract award, Power Pack, Driveline, Steering, Suspension, Hull Modifications and Electrical System Developmental Test and Operational Assessment Planning, Preliminary Design and Integrated Baseline Reviews, supportability analysis, provisioning and PM support. FY14 plans were adjusted due to the LAV Acquisition program changes and resulting

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 1555 / *Lt Armored Vehicle Prog*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
realignment of funds. The Mobility and Obsolescence Program moved from the LAV Survivability Program to the LAV Modification Program. ***FY 2015 Plans:*** Support Developmental Testing, continue Engineering Change Proposal (ECP), Integrated Logistic Support (ILS) data development and Critical Design Review for the Mobility and Obsolescence Kits consisting of Powerpack, Driveline, Steering, Electrical System, Suspension, Hull Modifications, BPUP Kits and PM support.			
Title: LAV ANTI-TANK SYSTEM	6.880	1.921	-
Articles:	-	-	-
FY 2013 Accomplishments: Completed design interface and prototype development, began Developmental Testing, Technical Manual Updates, Operational Assessment planning and Program Management (PM) support. ***FY 2014 Plans:*** Complete Technical Manual Updates, prepare Independent Logistics Assessment (ILA) pre-brief and ILA Certification, complete Developmental Testing, begin Operational Assessment Testing, Milestone C (MS C) Preparation, PM support and the following Technical Reviews: Functional Configuration Audit, System Verification Review, Operational Test Readiness Review & Operational Test Readiness Review Board. ***FY 2015 Plans:*** N/A			
Title: LAV SURVIVABILITY UPGRADES	2.461	6.629	-
Articles:	11.000	-	-
FY 2013 Accomplishments: Long Lead Item Material Contract consisting of 11 Items for the Power Packs (engine/transmission) associated with the Mobility and Obsolescence program. Continued with development of System Technical Support (STS) Directive 15, Technical Reviews, LOG Reviews, Provisioning Conferences, Mobility and Obsolescence Program Milestone B (MS B) preparation and Program Management (PM) support. Engineering Change Proposal (ECP) development on the LAV Ballistic Seats. ***FY 2014 Plans:*** ECP development on LAV-25 fuel tank, complete modeling and simulation testing seats, seats initial capabilities document P-spec completion, Preliminary Design Review (PDR) and Critical Design Review (CDR) LAV-25 fuel tank and PM Support. FY14 plans			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 1555 / *Lt Armored Vehicle Prog*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
were adjusted due to the LAV Acquisition program changes and resulting realignment of funds. The Mobility and Obsolescence Program moved from the LAV Survivability Program to the LAV Modification Program. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	25.322	23.754	5.156

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/2038: *LAV PIP*	25.826	6.003	77.736	-	77.736	118.788	164.192	177.109	140.619	Continuing	Continuing
• PMC/7000: *LAV ATM Spares*	-	-	4.767	-	4.767	1.310	0.634	1.011	1.031	-	8.753

Remarks

D. Acquisition Strategy

The LAV Modification program funds numerous low-dollar, yet extremely important minor modifications, support equipment and tools and other projects that increase LAV reliability and readiness while simultaneously reducing operations and support costs. The Marine Corps PM-LAV Modification Team uses multi-disciplined integrated project teams consisting of engineering, logistical, contracting and financial personnel to manage Modification projects. The majority of contracts issued under the Modification line are subject to the competitive acquisition process. Currently the LAV Modification and Sustainment program will capture the Mobility and Obsolescence kits consisting of Power Pack, Driveline, Steering, Electrical System, Suspension, Hull Modifications and Ballistic Protection Upgrade Package (BPUP) Kits. The Mobility and Obsolescence program will address the Family of Light Armored Vehicles (FOLAV) automotive system obsolescence and reduced performance due to increased Gross Vehicle Weight (GVW). This will be achieved through acquisition and the integration of replacement Powerpack, Driveline, Steering, Electrical System, Suspension, Hull Modifications and Ballistic Protection Upgrade Package (BPUP) Kits. This effort will require deliverable kits during the Engineering & Manufacturing Development (EMD) phase, to include Engineering Change Proposals (ECPs) and Modification Instructions (MI) for each of the 7 LAV variants and all Integrated Logistics Support (ILS) products (training, technical publications, tools, test equipment, provisioning, etc.) to support Developmental Testing, Operational Assessment, Independent Operational Test and Evaluation and fielding.

The LAV Anti-Tank Modernization (ATM) program will focus on integrating a new turret into the LAV-AT variant with options for production. The LAV-ATM is a replacement for the obsolete M901A1 turret to correct operational and readiness deficiencies. It will be capable of firing the current family of Tube-launched, Optically tracked, Wire-guided (TOW) missiles and be forward compatible with the next generation of heavy anti-armor missiles. The program was approved in December of 2009 as part of the Material Development Decision to enter at Milestone B (MS B) based on the technical maturity of the capabilities required, schedule, and budget. Milestone B approval was achieved in Mar 2011 and the EMD contract was awarded in Apr 2012. Once the EMD phase is complete, a combined MS C and Full Rate Production Review (FRPR) are planned to be followed by a Production and Deployment Phase and Operations and Support Phase.

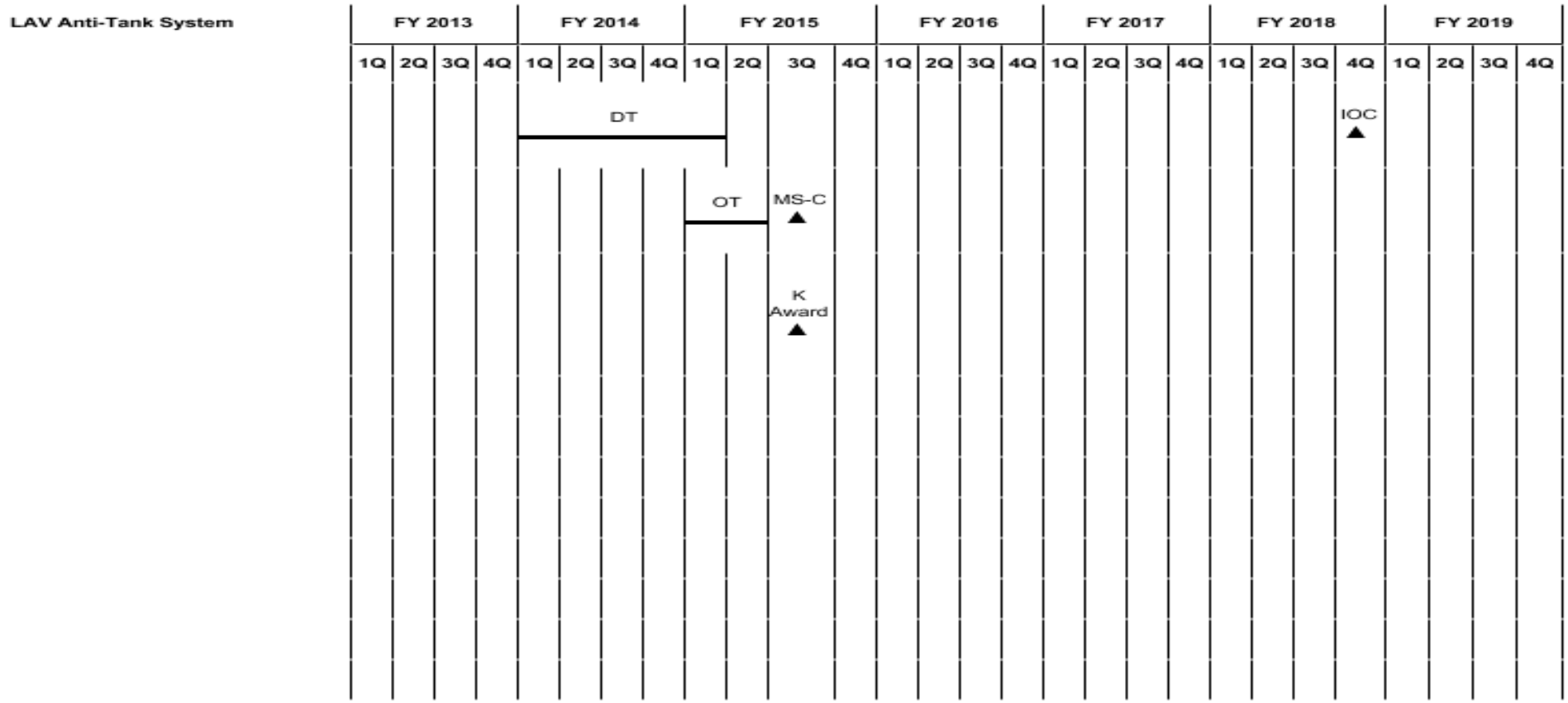
Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 1555 / *Lt Armored Vehicle Prog*

The Survivability Upgrades program will only include replacing and relocating the legacy LAV-25 fuel cells (currently located under the scout seats in the LAV-25) with self sealing fuel cells and adding blast attenuating seats for all 7 LAV variants. These projects are being executed as ECPs.

E. Performance Metrics

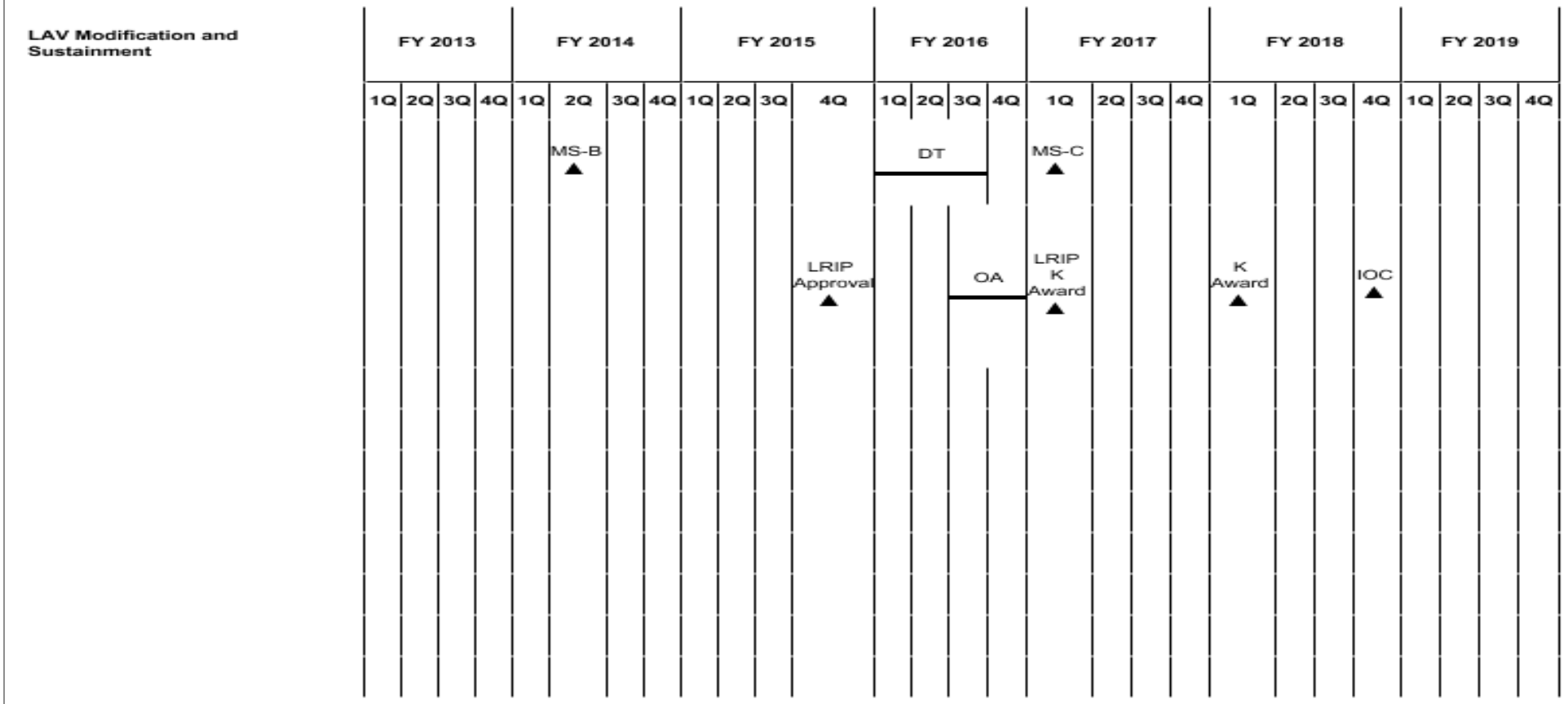
Milestone Reviews

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 1555 / *Lt Armored Vehicle Prog*



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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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2015PB - 0206623M - 1555

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206623M / *MC Ground Cmbt Spt Arms Sys*				Project (Number/Name) 1901 / *MC Grnd Wpnry Prod Improvement*			
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**
1901: *MC Grnd Wpnry Prod Improvement*	15.703	10.559	13.823	5.537	-	5.537	5.275	5.450	4.625	4.729	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 develops joint and Marine Corps unique improvements to infantry weapons technology, non-lethal systems technology, improvements for Night Vision Equipment, Rifle Combat Optics, Family of Individual Optics, and monitors national and international weapons developments.

The decrease in funding from FY14 to FY15 is a result of the terminations of the Mission Payload Module and Disable Point Target programs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Infantry Weapons Modifications	1.208	-	-
Articles:	-	-	-
Description: The Infantry Weapons Modification program develops joint and Marine Corps unique improvements to infantry weapons and fire support technology. The improvements address critical operational and logistics deficiencies in fielded infantry weapon systems and equipment. Efforts will be conducted to analyze, design, develop, and field modifications. This allows timely response to safety and performance issues that require immediate attention to maintain operational readiness. Beginning in FY14, Infantry Weapons Modifications is included under Family of Infantry Weapons Systems to form a single level of effort.			
FY 2013 Accomplishments: Conducted Product Improvement Program testing for various Machine Gun Mounts, including but not limited to the M192 Lightweight Ground Mount which is used with M249 Light Machine Gun. Continued to evaluate performance of various types of ammunition currently under development. Continued efforts to analyze, design, develop, and field modifications.			
FY 2014 Plans: N/A			
FY 2015 Plans: N/A			
Title: Mission Payload Module (MPM)	4.429	5.888	-
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 1901 / *MC Grnd Wpnry Prod Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: The Mission Payload Module (MPM) launches non-lethal payloads to greater ranges with broader area coverage, greater duration of effects, and volume of fire. This will be initially deployed from the Marine Corps Transparent Armored Gun Shield (MCTAGS). MPM will deliver counter-personnel, non-lethal effects applicable to controlling crowds, denying/defending areas, controlling access, and engaging threats. This program has been terminated and does not have RDT&E,N funding beyond FY2014. ***FY 2013 Accomplishments:*** Completed the Source Selection Evaluation process to award the Engineering and Manufacturing Development (EMD) Phase contract. FY 2013 accomplishments also included, but not limited to, finalizing the accreditation plan for models used in conjunction with munition development and test operating procedures utilized during the EMD phase. ***FY 2014 Plans:*** Assisting the contractor with the system design, beginning with System Functional Review. System design will be further developed through the Preliminary Design Review and post-PDR assessment. ***FY 2015 Plans:*** N/A			
Title: Night Vision Mod Line (NVM)	2.177	-	-
Articles:	-	-	-
Description: The Night Vision Mod Line provides sustainment of existing systems through modifications and life-cycle management efforts. Activities focus on the maintenance and update of integrated and increasingly organic logistics support. The modifications funded by this program focus primarily on correction of deficiencies (e.g., safety, size, weight, and power) and service life extension of current systems. The program supports over 30 distinct systems and a combined total of over 600,000 principal end items. This funding line also supports the Marine Corps organic approach to night vision equipment total life-cycle sustainment through the acquisition and procurement of expeditionary maintenance systems. Beginning in FY14, the Night Vision Modification (NVM) Program is combined with the Family of Optical Systems and Modifications (FOSAM) program to form a single level of effort line. ***FY 2013 Accomplishments:*** Continued to develop and conduct testing of the conversion to in-line modification kits for the AN/PAS-13D Thermal Weapon Sights. Continued the development of prototype modification kits to convert stand-alone AN/PAS-17C Miniature Night Sights to an in-line configuration that can be used with magnified day optics. Continued the development of mount interface between in-line			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 1901 / *MC Grnd Wpnry Prod Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
night vision devices and the host weapons, M249 and M240B. Conducted Size, Weight and Power (SWAP) reduction study for AN/PEQ-15 and AN/PEQ-16A. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Escalation of Force-Equipment (EoF-E) ***Articles:*** ***Description:*** Escalation of Force Equipment (EoF-E) is a mod (level-of-effort) funding line to support/sustain all fielded Escalation of Force (EoF) equipment and capabilities. Additionally, EoF-E supports type-classification, testing and procurement of new advancements and technologies to provide an increased capability over existing or outdated equipment currently or associated in the Escalation of Force Mission Modules (EoF-MMs). ***FY 2013 Accomplishments:*** Evaluated Light Emitting Diode (LED) light sets to greatly enhance the Vehicle Check Point (VCP) capability within the EoF-MM. This new capability better illuminated the inspection area within a VCP which greatly increased the Warfighter's ability to inspect and detect threats such as IEDs inside vehicles. Also completed vibration, temperature and humidity testing for the Non-Lethal/ Tube Launched Munition System (NL/TLMS). ***FY 2014 Plans:*** Evaluating and upgrading the Translation capability within the Escalation of Force - Mission Module. The present system is obsolete and needs to be replaced with the latest technology. Funding is being used to assess present technologies to replace the legacy systems, and also to assess upgrades to the EoF-MM, NL/TLMS, and LA-9/P Lasers to sustain/support equipment and capabilities. ***FY 2015 Plans:*** Continue to assess upgrades to the EoF-MM, NL/TLMS, and LA-9/P Lasers to sustain/support equipment and capabilities.	0.288 -	0.252 -	0.066 -
Title: Ocular Interuption (OI) ***Articles:*** ***Description:*** Ocular Interruption (OI) is the replacement of the 'Dazzling Laser' program for the LA-9/P and the Glare Mount 532P-M (Mini Green) laser. OI is a 'non-damaging' dazzling system that will be used in Escalation of Force Missions. This program will be supported by the Joint Non Lethal Directorate beginning in FY15.	1.032 -	1.063 -	- -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Completed the System Engineering Plan, Market Research Summary Report, Capability Production Document, Acquisition Decision Memorandum to release Request for Proposals, Proposal Evaluation, development of Test and Evaluation Master Plan and Life Cycle Sustainment Plan. ***FY 2014 Plans:*** Funding is being used for the Contract award, Issuance of Delivery Order 1, Laser Hazard Evaluation, System Verification Testing, final product down select, and Milestone C decision for Ocular Interruption. The funding decrease from FY14 to FY15 is a result of the Joint Non-Lethal Directorate providing funding through FY17. ***FY 2015 Plans:*** N/A			
Title: Sniper System Capability Set (SSCS)	0.006	0.323	-
Articles:	-	-	-
Description: The intent of the Scout Sniper Capability Set (SSCS) program is to establish a consolidated kit that includes common items that are needed by sniper elements throughout the Marine Corps. The SSCS program is composed of a suite of items designed to support scout sniper employment. It includes precision rifles as well as ancillary equipment to include the Scout Sniper Ballistic Computer (SSBC) and Sniper Tripod. The SSCS is employed by sniper teams throughout the Marine Corps within infantry battalions, reconnaissance elements, and the Marine Corps Special Operations Command. ***FY 2013 Accomplishments:*** Initiated testing of the improved buttstock for the M110 Semi-Automatic Sniper System (SASS). The improved buttstock is a component of the M110 SASS conversion kit, which will increase the portability and human factors of the overall system, such as Length of Pull. Testing will require live-fire evaluation of multiple offerors' bid samples and will involve dispersion and reliability testing, as well as a Limited User Evaluation. ***FY 2014 Plans:*** Support testing and evaluation of the integrated Scout Sniper Ballistic Computer/Hand Held Weather Station. This testing will support determination of a best value solution for a system that will provide improved first-round hit probability and reduced system weight and lifecycle cost. In addition, funds will be used for testing and evaluation of modifications to the M40 Series Sniper Rifle. Improvements will increase operational availability and reduce maintenance time and system weight, such as a lightweight barrel and integrated suppressor. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A			
Title: Family of Optical Systems and Modification (FOSAM)	1.148	4.116	3.198
Articles:	-	-	-
Description: Program title changed at PB14 from Family of Optical Systems to Family of Optical Systems and Modifications (FOSAM). FOSAM is a level of effort program that provides for research and development, procurement, and assessment of optical systems and implementation of modifications for these systems as well as life-cycle management efforts. The research and development of future capabilities include, but are not limited to, fused/multi-spectral (e.g., combined image intensifier and thermal imaging) optical and laser systems. Additionally, this line supports the procurement of over 600,000 magnified day optics, thermal imagers, image intensifier, lasers, and illuminators principle end items (PEI) due to combat losses, wash-outs, and increases in Approved Acquisition Objectives. Sustainment efforts include sustainment of optics capabilities and/or improvements to the performance, maintainability, supportability, service life, ergonomics, and safety enhancements. ***FY 2013 Accomplishments:*** Conducted a Fusion Optics Assessment pilot test to evaluate Benefits of Fusion and comparison of technologies for Head Mounted Thermal Systems. Initiated Human Systems Integration of Display Presentation (HSIDP) study. Concluded electro-Optical Countermeasure Assessment. ***FY 2014 Plans:*** Funding is to complete an HSIDP Study, conduct activities to support evaluation of ONR Integrated day-Night Sight Technology (IDNST) prototypes, and to conduct evaluation of Multi-Color Infrared Imaging (MCIRI). ***FY 2015 Plans:*** Funding will be used to assess multiple prototypes of ONR IDNST to inform the development of a joint capability document for future production. Funding will also be used to conduct technology development and evaluation to support life cycle extension and improvement of current optics and inform future optics requirements generation to address capability gaps.			
Title: Disable Point Target (DPT)	0.271	0.655	-
Articles:	-	-	-
Description: The Disable Point Target (DPT) is a Non-Lethal System(s) that will accurately engage/incapacitate a single individual or multiple engagements from 10-50 meters Threshold(T); 2-100 meters Objective(O) for a duration of 30 seconds (T) and 60 seconds (O). Capability provides the Marine with an increased standoff distance during crowd control/human shield situations while simultaneously keeping Marines beyond the reach of a hostile threat. This program has been terminated and does not have RDT&E,N funding beyond FY2014. ***FY 2013 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 1901 / *MC Grnd Wpnry Prod Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Completed an Analysis of Alternatives (AoA) and Life Cycle Cost Estimate (LCCE). ***FY 2014 Plans:*** Funding is being used to obtain a Milestone A Technology Development (TD) Phase Decision and execute the TD Phase contracts. ***FY 2015 Plans:*** N/A			
Title: Company and Battalion Mortars ***Articles:*** ***Description:*** This funding is used to provide system development and demonstration efforts and pre-Milestone C activities, for the Next Generation of Lightweight Handheld Mortar Ballistic Computer software and hardware. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** This funding will be used to provide system development and demonstration efforts, pre-Milestone C activities, and purchasing Non-developmental Items (NDI) for testing and evaluation of candidate systems and modifications for Company and Battalion Mortars, and for the development of software for Lightweight Handheld Mortar Ballistic Computer.	- -	- -	1.195 -
Title: Family of Infantry Weapons Systems (FIWS) ***Articles:*** ***Description:*** Family of Infantry Weapons Systems (FIWS) is not a new start, but has a new program title beginning in FY14 to include efforts previously funded by Infantry Weapons Modifications and Principle End Item Reprocurement programs. FIWS is a level of effort line that provides for continuous monitoring, research and development, assessment of and implementation of Joint Service and USMC unique system modifications. These efforts include: sustain weapon capability and/or improve the performance; maintainability; supportability; service life; ergonomics; and safety enhancements. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:***	- -	1.526 -	1.078 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 1901 / *MC Grnd Wpnry Prod Improvement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Funding is being used to conduct Product Improvement Program testing for various Machine Gun Mounts, continue to evaluate performance of various types of ammunition currently under development and continue efforts to analyze, design, develop, and field modifications. ***FY 2015 Plans:*** Funding will be used to conduct Product Improvement Program testing for various Machine Gun Mounts. Will continue to evaluate performance of various types of ammunition currently under development. Will continue efforts to analyze, design, develop, and field modifications.			
Accomplishments/Planned Programs Subtotals	10.559	13.823	5.537

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/2319: *Joint Non-Lethal Weapons Directorate*	-	4.559	8.333	-	8.333	12.344	9.855	3.155	0.777	Continuing	Continuing
• PMC/2208-01: *Escalation of Force - Equip (EoF-E)*	1.665	1.119	0.289	-	0.289	1.442	1.355	1.381	1.407	Continuing	Continuing
• PMC/4930: *Night Vision Equipment (NVE)*	44.478	6.162	9.798	-	9.798	3.259	5.422	9.268	9.476	Continuing	Continuing
• PMC/2208-02: *Ocular Interruption (OI)*	-	2.302	-	-	-	-	1.636	4.144	7.931	Continuing	Continuing
• PMC/2220-01: *Infantry Weapons Modifications*	8.170	-	-	-	-	-	-	-	-	-	38.631
• PMC/2220-02: *Family of Infantry Weapons Systems*	-	7.760	1.840	-	1.840	11.779	8.522	5.176	5.294	Continuing	Continuing
• PMC/2220-03: *Company and Battalion Mortars*	1.309	0.838	0.890	-	0.890	1.123	-	0.816	3.362	Continuing	Continuing

Remarks

Joint Non-Lethal funding supports Mission Payload Module, Ocular Interruption, and Disable Point Target programs.

D. Acquisition Strategy

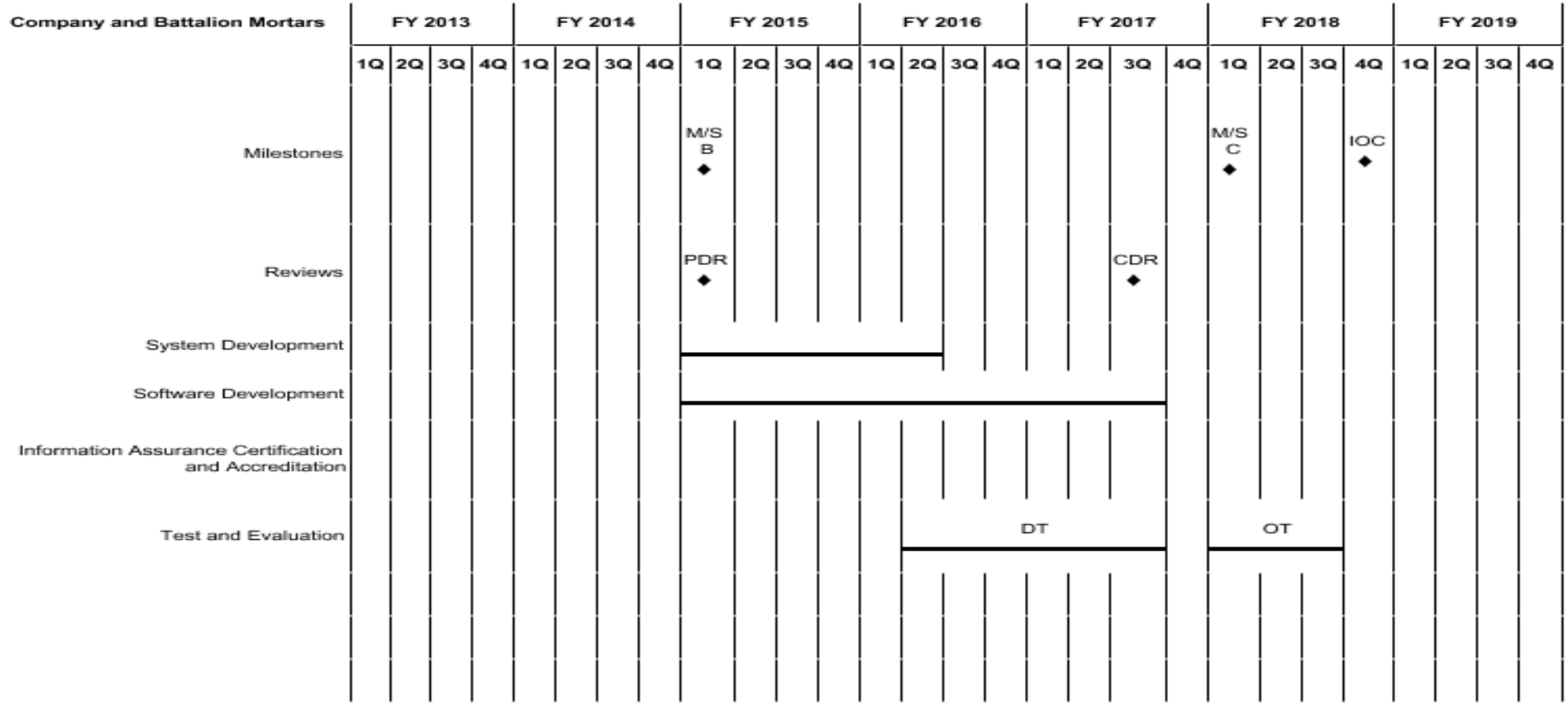
These programs range from off-the-shelf modifications to developmental items for safety, reliability, and technology up-grades to meet Marine Corps requirements.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 1901 / *MC Grnd Wpnry Prod Improvement*

E. Performance Metrics

Milestone Reviews

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 1901 / *MC Grnd Wpnry Prod Improvement*



2015PB - 0206623M - 1901

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 1901 / *MC Grnd Wpnry Prod Improvement*

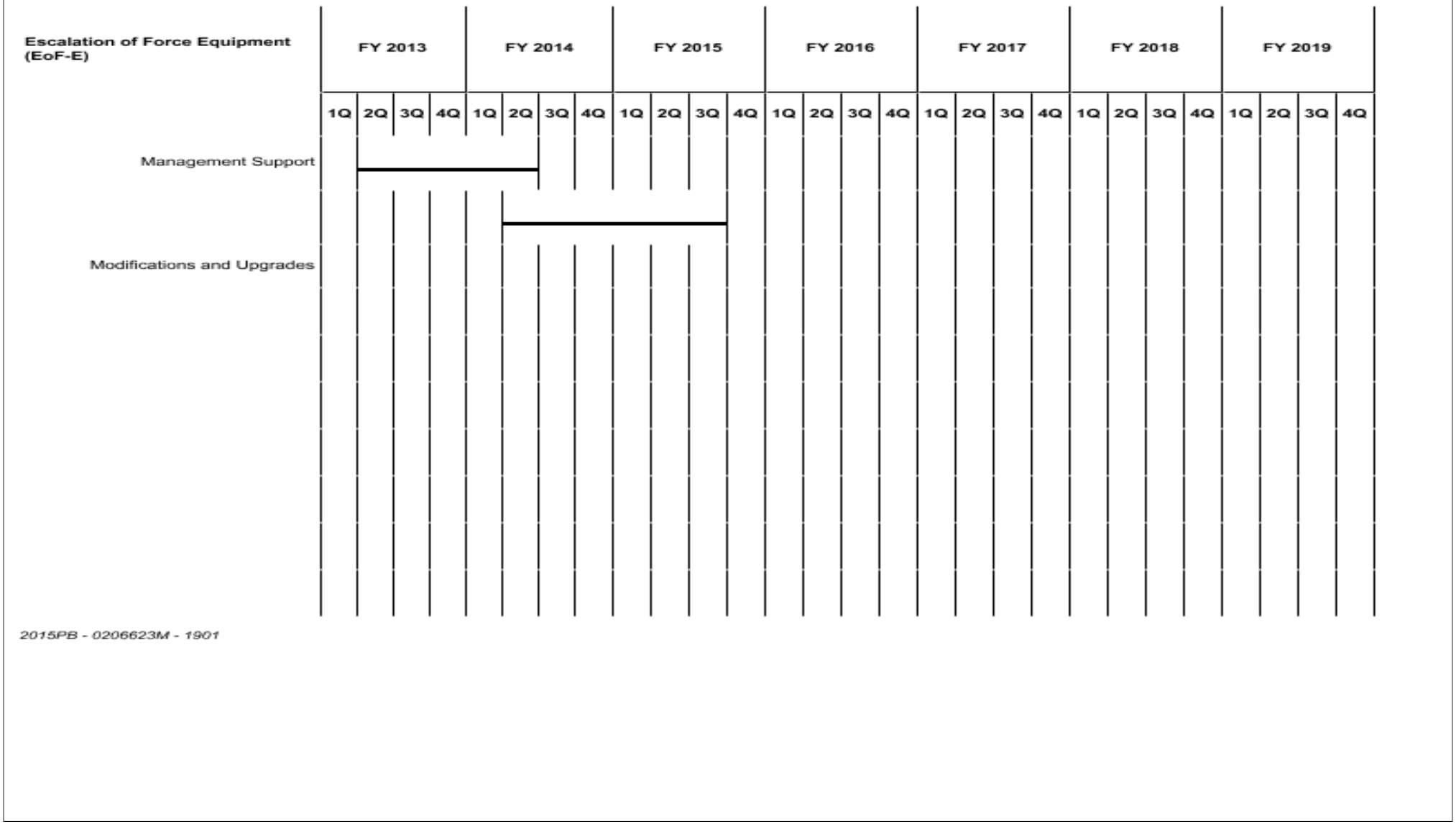


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 1901 / *MC Grnd Wpnry Prod Improvement*

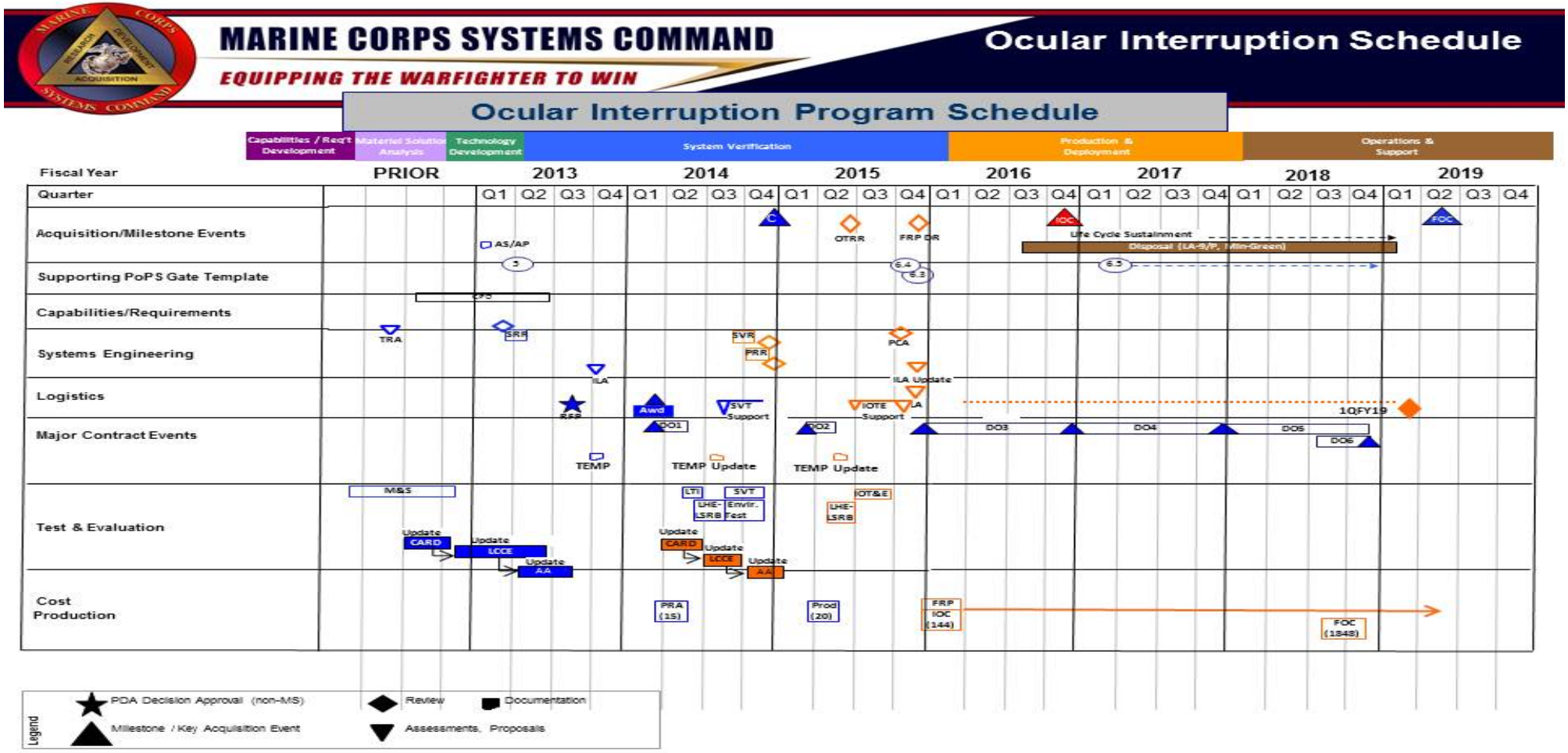


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206623M / *MC Ground Cmbt Spt Arms Sys*				Project (Number/Name) 2086 / *Soldier/Marine Enhancement*			
COST ($ in Millions)	**Prior Years**	**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**
2086: *Soldier/Marine Enhancement*	13.967	2.751	6.146	4.656	-	4.656	5.413	5.587	5.463	5.899	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 Expeditionary Rifle Squad (MERS) mission is to manage the infantry squad "squad as a system" by conducting integration, systems engineering, human factors, and modernization efforts across all the products that are worn, carried, and consumed by the rifle squad. Physical integration, capability analysis, modeling and simulation, ergonomics, and configuration management are facilitated by this program in working with the various program managers and project officers in the development of their unique items that contribute to the squads overall capabilities. Weight and volume management are fundamental considerations in the insertion or modernization of any squad equipment. MERS works with Joint and NATO soldier modernization programs to harvest new technologies to increase the capability of the rifle squad. The program also ensures the integration of the rifle squad into the various mobility platforms currently in service and being developed to ensure a Marine and his equipment can operate effectively. This program is essential to ensure the combined synergistic equipment effects enhance the war-fighting functions of the Marine rifle squad towards the strategic Marine Corps war-fighting vision for the future.

Marine Enhancement Program (MEP) provides Research, Development, Test and Evaluation funding for low visibility, low cost items. It focuses on items of equipment which will benefit the individual Marine by reducing the load, increasing survivability, enhancing safety, and improving combat effectiveness. The emphasis of the program is on non-developmental item/commercial off the shelf (NDI/COTS) available items which can be quickly evaluated and fielded. This program is coordinated with the Army's Soldier Enhancement Program (SEP).

Ammunition Life Cycle Management Program responsibility for Total Life Cycle Management for ground conventional munitions. Accordingly, PM Ammo is a member of the joint services Ammunition Logistics Research and Development IPT (ALR&D IPT). Each year the IPT solicits R&D projects from all of the services. The IPT looks for innovative ideas to enhance logistical support for munitions. Approximately 20 Ammo Logistics R&D projects are voted on each year by the IPT. They are prioritized by voting actions of the Senior Review Board and funding sources are identified. Since the funding for ammunition will likely decrease as the Marine Corps draws down and we end our participation in OEF, ammunition logistics R&D projects designed to extend the shelf life of our current inventory, provide enhanced packaging to protect our munitions, and other such projects will go a long way to ensure the Marine Corps can maintain a reliable conventional ammunition inventory into the future. New Start in FY15.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Marine Enhancement Program (MEP)	0.543	3.073	1.750
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2086 / *Soldier/Marine Enhancement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Based on the mission and the nature of the MEP as an accelerated acquisition process and based on future MEP candidate submissions/selections the projected projects we funded in FY13 - Modular Scalable Vest and Enhanced Hearing Protection ***FY 2014 Plans:*** FY14 funding increase is based on an anticipated increase in FY14 MEP candidate submissions/selections. The exact number of projects is yet to be determined. ***FY 2015 Plans:*** The plans are dependent upon candidate submissions and which candidates are selected to receive funds.			
Title: Marine Expeditionary Rifle Squad (MERS)	2.208	3.073	2.406
Articles:	-	-	-
FY 2013 Accomplishments: Supported all the various Marine Corps Systems Command program offices that provide equipment to the Marine rifle squad or provide mobility platforms that support the squad. Resourced and utilized the Gruntworks Squad Integration Facility as an asset to execute integration projects and usability trials. Conducted user assessments and attribute workshops in support of CREW program. Supported concept development of Modular Scalable Vest with PdM ICE. Conducted data collection in support of Tropical Uniform initiative at the Jungle Warfare Training Center. Supported development of representative anthropometry models to support programs. Provided reports, presentations and assessments on a variety of new equipment currently in development for the squad. Conducted Human Systems Integration support throughout the Command and other organizations. Worked closely with ONR on transition agreements for two projects. Provided expertise to variety of projects internal and external to the Command related to infantry specific issues. Continued to develop key capabilities within the Gruntworks Squad Integration facility. ***FY 2014 Plans:*** Continue to support all the Marine Corps Systems Command program offices that provide equipment to the Marine rifle squad or provide mobility platforms that support the squad. Resource and utilize the Gruntworks Squad Integration Facility as an asset to execute integration projects and usability trials. Conduct human performance trials utilizing MC-LEAP and other data collection methodologies. Conduct usability trials and limited user evaluations for Joint Battle Command Platform at the infantry platoon and squad level. Support Modular Scalable Protection System and Tropical Uniform projects with human factors expertise. Conduct experiments using the Marine Corps Load Effects Assessment Program. Develop integrated seating solutions for combat equipped Marines for ACV, MPC, JLTV and other mobility programs and synchronize seat belt and retention systems among the platforms. Conduct R&D on squad systems in conjunction with Army squad system projects. Conduct surveys with post deploying infantry battalions on usability and integration of equipment utilized during deployment. Conduct human performance testing of Marines utilizing current and prototype configurations of infantry rifle squad equipment. Evaluate and transition technologies from ONR and other S&T activities that enhance capabilities of the squad or provide a desired capability. Seek weight and volume			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2086 / *Soldier/Marine Enhancement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
reduction replacements for current infantry equipment that support integration of components. Implement requirements from MERS Capabilities Development Document that will be finalized in FY14. ***FY 2015 Plans:*** Continue to support all the Marine Corps Systems Command program offices that provide equipment to the Marine rifle squad or provide mobility platforms that support the squad. Resource and utilize the Gruntworks Squad Integration Facility as an asset to execute integration projects and usability trials. Conduct human performance trials utilizing MC-LEAP and other data collection methodologies. Conduct usability trials and limited user evaluations for Joint Battle Command Platform at the infantry platoon and squad level. Support Modular Scalable Protection System and Tropical Uniform projects with human factors expertise. Conduct experiments using the Marine Corps Load Effects Assessment Program. Develop integrated seating solutions for combat equipped Marines for ACV, MPC, JLTV and other mobility programs and synchronize seat belt and retention systems among the platforms. Conduct R&D on squad systems in conjunction with Army squad system projects. Conduct surveys with post deploying infantry battalions on usability and integration of equipment utilized during deployment. Conduct human performance testing of Marines utilizing current and prototype configurations of infantry rifle squad equipment. Evaluate and transition technologies from ONR and other S&T activities that enhance capabilities of the squad or provide a desired capability. Seek weight and volume reduction replacements for current infantry equipment that support integration of components. Implement requirements from MERS Capabilities Development Document that will be finalized in FY15.			
Title: Ammunition Life Cycle Management	-	-	0.500
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Support the Ammunition Logistics R&D IPT by funding two of the fifteen projects that have the most logistical impact to the Marine Corps.			
Accomplishments/Planned Programs Subtotals	2.751	6.146	4.656

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2086 / *Soldier/Marine Enhancement*

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 BLI 2208: *Marine Enhancement Program*	2.332	1.313	2.919	-	2.919	2.507	2.462	2.508	2.556	-	33.804

Remarks

D. Acquisition Strategy

Non Developmental Item/Commercial off the Shelf (NDI/COTS)

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	Project (Number/Name) 2112 / *Lightweight 155mm Howitzer*	

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
2112: *Lightweight 155mm Howitzer*	-	-	0.200	0.204	-	0.204	0.207	0.003	0.003	0.003	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 Lightweight 155mm Howitzer (LW155), also known as the M777A2, provides direct, reinforcing, and general support fires to maneuver forces. It replaces all howitzers in all missions in the USMC and replaces the M198 howitzer as the general support artillery for light forces in the Army. The LW155 fires unassisted projectiles to a range of 15 miles and assisted projectiles to 19 miles. The addition of the digital fire control system enables the weapon to program and fire the improved Excalibur precision-guided munition to ranges in excess of 25 miles with better than 10-meter Circular Error Probable (CEP) accuracy. The LW155 is the first ground combat system whose major structures are made of high strength titanium alloy and the system makes extensive use of hydraulics to operate the breech, load tray, recoil and wheel arms. The combination of titanium structures and the use of hydraulic systems resulted in a significant weight savings over the M198 system (7000 lbs.). Compared to the M198, the LW155 emplaces three-times faster and displaces four-times faster. It traverses 32 percent more terrain worldwide and is 70 percent more survivable than the M198. The LW155 was first introduced into the Marine Corps in April 2005 and since then 10th, 11th, 12th and 14th Marines and the schoolhouses have been fielded. The Army has been fielding the system to its Stryker Brigades and Fires Brigades. The LW155 is currently in OEF with both Services.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: ECP Material Solutions	-	0.200	0.204
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Funding will support the LW155 Howitzer's requirements for research and development to remedy technical issues arising from the field or validated performance enhancements. These will include areas such as the cannon assembly, titanium structures, fire control systems and future power technology.			
FY 2015 Plans: Funding will support engineering analysis for Digital Fire Control System component upgrades. Funding will support concepts to increase M777A2 range and future power technology solutions.			
Accomplishments/Planned Programs Subtotals	-	0.200	0.204

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2112 / *Lightweight 155mm Howitzer*

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
• 218500: *PMC - LW155*	17.889	3.655	4.532	-	4.532	7.536	2.657	0.363	0.178	-	1,332.364

Remarks

D. Acquisition Strategy

Production and fielding of the LW155 has concluded and has now entered into the Sustainment Life Cycle Phase. The program will continue to perform research and development to remedy obsolescence issues, diminishing manufacturing sources, technical issues and emergent threats.

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	Project (Number/Name) 2237 / *Amphibious Vehicle Test*	

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
2237: *Amphibious Vehicle Test*	0.831	0.933	0.949	0.836	-	0.836	1.002	1.010	0.998	0.921	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 Amphibious Vehicle Test Branch (AVTB) is a component of Marine Corps Systems Command (MCSC) and is the Department of Defense's only certified amphibious vehicle test capability. The AVTB plans, executes, analyzes and reports results of developmental and integrated test and evaluation events, predominately supporting the development and performance validation of amphibious and ground combat vehicle system capabilities. The AVTB conducts or supports testing for the MCSC; Navy PEOs and Program Management Offices; the Office of Naval Research; and HQMC PP&O and CD&I, as directed. The AVTB mission is to plan, execute, analyze and report developmental and integrated test and evaluation of USMC wheeled, ground combat vehicles and other events in order to characterize the performance of amphibious and ground combat vehicle systems and enable informed acquisition decisions.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Contracts	0.933	0.949	0.836
Articles:	-	-	-

FY 2013 Accomplishments:

Provided the necessary support resources to safely and effectively conduct simultaneous developmental testing on amphibious vehicles and other prototype systems for the Marine Corps and Navy. Coordinated and executed the maintenance, refurbishment, upgrade, and replacement of test equipment. Provided program support, supplies, and services at the AVTB test site, as well as various off-site test locations, in order to support tests and test resources. Testing for FY13 included: (1) Assault Amphibious Vehicle (AAV) Reliability, Availability, and Maintainability (RAM) baseline determination for PEO LS / PM AAA; (2) Marine Personnel Carrier (MPC) demonstrations for PEO LS / PM AAA; (3) Augmented Reality Visualization Common Operational Picture (ARVCOP) multi-vehicle demonstration for NAVSEA; (4) Field User Evaluation of new AAV Emergency Egress Lighting System for PEO LS / PM AAA; (5) Hydrodynamic Test Rig feasibility assessment in support of the NAV program office; (6) small boat craft and operators to support the Office of Naval Research's Fleet experimentation exercise - Trident Warrior; (7) LAV variant upgrades water performance validation.

FY 2014 Plans:

Provide the necessary support resources to safely and effectively conduct simultaneous developmental testing on amphibious vehicles and other prototype systems. FY14 priorities include providing continual support for Hydrodynamic Test Rig focused technology demonstrations in support of the NAV program office; provide small boat craft and operator support to the Office of Naval Research's annual Fleet experimentation exercise - Trident Warrior; support LAV variant water testing; test Networking

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2237 / *Amphibious Vehicle Test*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
on the Move (NOTM) integrated with the AAV; conduct AAV baseline in support of PEO LS / PM AAA and, specifically, the AAV survivability upgrade; test the Topographic Production Capability (TPC) system to validate MilStd 810 compliance. Additionally, the AVTB will continue to improve and expand on existing capabilities to prepare for the NAV and upgraded AAV system testing beginning during FY16. ***FY 2015 Plans:*** The AVTB anticipates continued testing of the HTR to support the NAV design development and technology risk reduction efforts; LAV variant water testing; AAV baseline and focused testing to inform the upgrade acquisition and contracting process; provide resources and technical expertise to ONR's Exercise Trident Warrior; and provide test support to other MCSC, Navy PEO and PMM requirements.			
Accomplishments/Planned Programs Subtotals	0.933	0.949	0.836

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Work will be led in-house. Necessary contractor support will be provided by Marine Corps Base Camp Pendleton via existing contracts. SouthWest Regional Transportation Office will be used for vehicle leases.

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	Project (Number/Name) 2315 / *Training Devices/Simulators*	

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
2315: *Training Devices/ Simulators*	80.469	19.047	9.697	10.252	-	10.252	11.919	10.860	10.139	9.175	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

(U) Training simulators supported by this program element include Combined Arms Command & Control Training Upgrade System (CACCTUS), Deployable Virtual Training Environment (DVTE), Multiple Integrated Laser Engagement System (MILES) 2000, Marine Air/Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Enhancements, Range Modernization/Transformation (RM/T), Supporting Arms Virtual Trainer (SAVT), Squad Immersive Training Environment (SITE) and Training Support. These training systems provide tactical weapons and decision-making skill training from entry level through (MAGTF) staff level. Systems will be interoperable and will allow for mission planning, mission rehearsal and concept evaluation in a valid synthetic environment with objective, and timely feedback. Through live, virtual and constructive simulation, the Marine Corps will have the means to train jointly, educate, develop doctrine and tactics, formulate and assess operational plans, assess warfighting situations, and define operational requirements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Combined Arms Command and Control Trainer Upgrade System (CACCTUS)	5.621	3.725	6.088
Articles:	-	-	-
Description: CACCTUS is a combined arms staff training system that when fully fielded will enable comprehensive Marine Corps staff, unit, and team training both at home station Combined Arms Staff Training (CAST) facilities and through distributed training involving CAST facilities across the Marine Corps. CACCTUS is an upgrade to the USMC's CAST that provides fire support training for the Marine Air Ground Task Force (MAGTF) elements up to and including Marine Expeditionary Brigade (MEB) level. Using the system components and simulation capabilities, two dimensional (2D) and three dimensional (3D) visuals, interfaced Command, Control, Communications, Computers and Intelligence (C4I), synthetic terrain, and an After Action Review (AAR), the concept of operations for the CACCTUS system is to immerse the trainees in a realistic, scenario-driven environment to enable commands and their battle staffs to train or rehearse combined arms tactics, techniques and procedures for decision-making processes.			
FY 2013 Accomplishments: - Continued development of Distributed Ops and Virtualization - Continued development of Live, Virtual, and Constructive (LVC) training capabilities - Continued development of warfare specific software application in support of forward observer to regimental staff training requirements			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2315 / *Training Devices/Simulators*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Completed fielding of version 6 with additional Strikelink Forward Air Controller (FAC) functionality - Initiated development of After Action Review (AAR) functionality ***FY 2014 Plans:*** - Continue development of Distributed Ops and Virtualization - Continue development of LVC training capabilities - Continued development of warfare specific software application in support of forward observer to regimental staff training requirements - Initiate development of some Distributed Operations capability - Initiate development of Backward compatibility for scenario development - Continue development of AAR functionality ***FY 2015 Plans:*** - Continue development of Distributed Ops and Virtualization - Continue devleopment of AAR functionality - Initiate development of new architecture to support maturing hardware platforms			
Title: Deployable Virtual Training Environment (DVTE)	2.189	0.269	0.587
Articles:	-	-	-
Description: DVTE is a laptop Personal Computer (PC) based simulation system capable of emulating organic and supporting Infantry Battalion weapons systems and training scenarios to facilitate training and readiness based training. Its portable configuration allows Marines to train in areas where there are few options for training garrison, aboard ship, at remote reserve locations, and deployed. DVTE training includes language and culture training, platoon and squad level tactics, employment of supporting arms, and various Recognition of Combatants (ROC) packages. DVTE is part of a Commander's "training toolkit" contributing to the building block approach to standards based training focusing on achieving an improved level of combat readiness. Due to DVTE being non-MAGTF Integration Plan compliant, there is minimal risk of losing the expanded training capability. As a result, funds were reduced throughout the FYDP. DVTE will utilize operations and maintenance funding for future software updates. ***FY 2013 Accomplishments:*** - Continued incremental DVTE network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2315 / *Training Devices/Simulators*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Completed the additional efforts specified under the DVTE Capability Development Document (CDD) Increment II that includes Command, Control, Communications, Computers and Intelligence (C4I) Integration and DVTE interoperability. - Initiated the efforts specified under the DVTE Software Capability Development Document (CDD) Increment II that includes improved Call For Fire (CFF) and Close Air Support (CAS) capability to replace/decrease actual live training events. ***FY 2014 Plans:*** - Continue incremental DVTE network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan. - Continue the additional efforts specified under the DVTE Software Capability Development Document (CDD) Increment II that includes improved Call For Fire (CFF) and Close Air Support (CAS) capability to replace/decrease actual live training events. ***FY 2015 Plans:*** - Continue incremental DVTE network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan. - Continue the additional efforts specified under the DVTE Software Capability Development Document (CDD) Increment II that includes improved Call For Fire (CFF) and Close Air Support (CAS) capability to replace/decrease actual live training events.			
Title: Marine Air/Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Enhancements	2.498	2.635	2.004
Articles:	-	-	-
Description: MTWS is the only Marine Corps aggregate-level constructive simulation system designed to support the training of Senior Commanders and their staffs in command and control processes and procedures. The system provides interactive, multi-sided, force-on-force, real-time modeling and simulation with stand-alone tactical combat scenarios for air ground, surface, and amphibious operations that interfaces to fielded Marine Corps Command, Control, Communications Computers and Intelligence (C4I) systems such as Command and Control Personal Computer (C2PC) and Intelligence Operations Server (IOS). MTWS provides the battle staff the ability to seamlessly train with and use other C4I systems during the execution on an MTWS supported training event. Through the implementation of a High Level Architecture (HLA) interface between MTWS and the entity-level Joint Conflict and Tactical Simulation (JCATS) system, high resolution tactical objectives can be simulated in JCATS and reflected within the context of a larger operation scenario conducted in MTWS.			
FY 2013 Accomplishments: - Continued interoperability development of the MTWS High Level Architecture (HLA) bridge - Continued interoperability development of MTWS integration into the Joint Live Virtual Constructive (JLVC) Federation - Continued development to increase levels of software capability to meet the changing operational environment that Marines fight in daily			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Continue interoperability development of the MTWS High Level Architecture (HLA) bridge - Continue interoperability development of MTWS integration into Joint Live Virtual Constructive (JLVC) Federation, with primary focus on amphibious landings - Continue development to increase levels of software capability to meet the changing operational environment that Marines fight in daily - Initiate design/development and test of a detailed unified architecture in support U.S. Korea Command (KORCOM) interoperability - Initiate server virtualization testing ***FY 2015 Plans:*** - Continue interoperability development of MTWS integration into Joint Live Virtual Constructive (JLVC) Federation, with primary focus on amphibious landings - Continue design/development and test of a detailed unified architecture in support U.S. Korea Command (KORCOM) interoperability - Continue server virtualization testing			
Title: Multiple Integrated Laser Engagement System (MILES) ***Articles:*** ***Description:*** MILES 2000 is the base technology for Range Instrumentation development that is used in Force-on-Force (FoF), Free Play, and FoF Target exercises. MILES 2000 is an integral component of the Position Location Instrumentation (PLI) providing individual Marine feedback and engagement adjudication. The MILES program has been terminated there are no additional funds beyond FY13. ***FY 2013 Accomplishments:*** - Completed minimal Live, Virtual and Constructive (LVC) training technologies integration with the Instrumented Tactical Engagement System (I-TESS), the Squad Immersive Training Environment (SITE) and the Infantry Immersion Trainers (IITs). ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.048 -	- -	- -
Title: Range Modernization/Transformation (RM/T) ***Articles:***	6.496 -	1.000 -	- -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: RM/T developments are associated with modernizing live training ranges at major USMC bases and stations. This development effort enhances After Action Review (AAR) with ground truth feedback, realistic representation of Opposing Forces (OPFOR), and will upgrade the range and exercise control capabilities. RM/T integrates Live, Virtual, and Constructive training technologies, thereby, enhancing fielded live-fire, force-on-target, and force-on-force training capabilities. Reduction of funding is a result of funding cuts and Training and Education Command (TECOM) decision to realign RDTE funding to OMMC to sufficiently sustain, operate, and allow for safety and environmental controls on fielded assets. ***FY 2013 Accomplishments:*** - Completed effort associated with development of the dynamic training system capable of real-time and post mission battle tracking, data collection, and deliverance of After Action Review to meet current and future regular/irregular warfare training requirements. - Continued to increase effort associated with software upgrades to the Range Instrumentation Systems Exercise Controller (RISCon) to ensure integration of numerous Immersive Infantry Training systems (i.e. Avatar, Automatic Performance Evaluation and Lessons Learned, Specs audio system, and Tactical Video Capture System). - Initiated development of Live Core System Instrumented-Tactical Engagement Simulation System II (I-TESS II) upgrades. ***FY 2014 Plans:*** - Continue to perform minimum software upgrades to the Range Instrumentation Systems Exercise Controller (RISCon) and ensure integration of numerous target systems. ***FY 2015 Plans:*** N/A			
Title: Squad Immersive Training Environment (SITE)	1.742	1.836	1.518
Articles:	-	-	-
Description: SITE is an integrating construct or "toolkit" of Live, Virtual and Constructive (LVC) training capabilities used to significantly improve infantry squad operational readiness and squad leader tactical decision-making skills. The collection of LVC training capabilities within SITE will enhance opportunities for squad collective training to increase tactical proficiency, confidence, and readiness for real world operations. SITE will enhance skill transfer and assessment by enabling squads to finish, test, and remediate training in preparation for a capstone exercise such as pre-deployment training. ***FY 2013 Accomplishments:*** - Continued to produce acquisition, program of record, and systems engineering documentation and product development to include (1) Analysis of Alternatives (AoA); (2) material solution analysis; (3) Systems Design Specification; (4) Interface			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Design Document; and (5) an overarching System Engineering Master Plan (SEMP) crossing current training systems to steer development of standards and a roadmap for system capability upgrades and sustained interoperability. The SEMP will include a methodical, phased approach to develop SITE capabilities over time and to initiate interoperability plans addressing highest priority AoA gaps. - Initiated development of Live Core System Instrumented-Technical Engagement Simulation System II (I-TESS II) upgrades to include Shoulder-Launched Multipurpose Assault Weapon (SMAW) and Javelin simulators. - Initiated Technical Interchange Meetings monitoring progress of the Virtual Battle Space 2 (VBS2) development of the SITE specific enhancements for Indigenous Populations, Patrollings, Combat Hunter, conduct missions, communications, Tactical SITE Exploitation, and Tactical Vehicle Load Plans. ***FY 2014 Plans:*** - Continue to produce additional documentation associated with product development to include (1) Systems Design Specification; (2) Interface Design Document; and (3) an overarching System Engineering Master Plan (SEMP) crossing current training systems to steer development of standards and a roadmap for system capability upgrades and sustained interoperability. - Continue Live Core System Instrumented-Tactical Engagement Simulation System II (I-TESS II) upgrades to include One Tactical Engagement Simulation System (OneTESS) integration. - Continue capability upgrades to the VBS2 environment for realistic After Action Review and Operations. - Initiate transition of Office of Naval Research Technology Insertion Program for Savings (TIPS) project Squad Leader Decision Trainer, cost analysis activities for transition of PercepTS, and Augmented Immersive Team Training (AITT) transition deliverables to provide immersive training capabilities with existing programs of record. ***FY 2015 Plans:*** - Continue to provide immersive training capabilities with existing programs of record systems and develop capability upgrades to include integration of I-TESS II enhancements with Range Instrumentation Systems Exercise Controller (RISCon). - Initiate Training Effectiveness Evaluation events for system enhancements for I-TESS II SMAW and Javelin weapons, and OneTESS. - Initiate transition of Office of Naval Research project PercepTS and AITT products and deliverables.			
Title: Supporting Arms Virtual Trainer (SAVT)	0.395	0.171	-
Articles:	-	-	-
Description: The SAVT will advance the training capability, operational readiness, and tactical proficiency of USMC Joint Terminal Attack Controllers (JTACS), Forward Observers (FOs), and Forward Air Controllers (FACs). The personnel will use training scenarios that require the placement of tactical ordnance on selected targets using Joint Close Air Support (JCAS) procedures and observed fire procedures for Naval Surface Fire Support (NSFS), artillery and mortar fire to perform destruction,			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
neutralization, suppression, illumination/coordinated illumination, interdiction and harassment fire missions. Programmatic effort provided by Government Engineering Labor support for project will complete in FY14. ***FY 2013 Accomplishments:*** - Continued to provide Govt Engineering Labor support for modeling and simulation for aircraft enhancements to SAVT - Continued Government Engineering Labor support for enhancements of Digital Channel Associated Signalling (CAS) to integrate Marine organic equipment and Digital CAS providing interoperability amongst virtual training systems. ***FY 2014 Plans:*** - Continue to provide Govt Engineering Labor support for modeling and simulation for aircraft enhancements to SAVT - Continue Government Engineering Labor support for enhancements of Digital Channel Associated Signalling (CAS) to integrate Marine organic equipment and Digital CAS providing interoperability amongst virtual training systems. ***FY 2015 Plans:*** N/A			
Title: Training Support ***Articles:*** ***Description:*** Provide training solution development efforts for the modernization of training systems by providing high fidelity, immersive simulations and capabilities. Integrates existing live, virtual, and constructive training capabilities to provide fully coordinated Marine Air Ground Training Force (MAGTF) training exercises that realistically simulate the operating environment. ***FY 2013 Accomplishments:*** - Completed incremental Deployable Virtual Training Environment (DVTE) network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan. - Initiated and completed additional efforts specified under the DVTE Capability Development Document (CDD) Increment II that includes Command, Control, Communications, Computers and Intelligence (C4I) and DVTE interoperability. ***FY 2014 Plans:*** - Initiate the development of tools that will provide Return on Investment (ROI) capability for training events - Continue interoperability development of MAGTF Tactical Warfare Simulation (MTWS) integration to Joint Live Virtual Constructive (JLVC) Federation, with primary focus on amphibious landings. - Initiate server virtualization testing ***FY 2015 Plans:*** - Continue development of MAGTF Tactical Warfare Simulation (MTWS) integration to JLVC Federation	0.058 -	0.061 -	0.055 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Continue server virtualization testing - Initiate design/development and test of a detailed unified architecture in support U.S. Korea Command (KORCOM) interoperability and amphibious landings for MTWS.			
Accomplishments/Planned Programs Subtotals	19.047	9.697	10.252

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/6532-01: *Training Devices, CACCTUS*	1.665	3.269	2.520	-	2.520	1.601	2.034	2.713	3.936	Continuing	Continuing
• PMC/6532-02: *Training Devices, RM/T*	42.018	2.522	-	-	-	3.852	5.931	6.234	6.366	Continuing	Continuing
• PMC/6532-03: *Training Devices, DVTE*	2.303	1.282	-	-	-	-	1.128	1.434	1.457	Continuing	Continuing
• PMC/6532-04: *Training Devices, SAVT*	0.599	-	-	-	-	-	-	-	-	-	1.938
• PMC/4630: *Common Computer Resources, MTWS*	0.656	0.585	0.546	-	0.546	0.552	0.560	0.574	0.587	Continuing	Continuing

Remarks

D. Acquisition Strategy

(U) CACCTUS - Exercise option on existing contract (T&M), Commercial Enterprise Omnibus Support Services (CEOSS) contract (C/FFP), and Work Request to Navy-NAWCTSD. New competitive contract planned for late 4th quarter FY14.
(U) DVTE - Exercise final option in FY14 for developmental hardware. A new sole source FFP for VBS2 SW Dev in FY15.
(U) MILES - New Competitive Firm Fixed Price (FFP) and Work Request to Navy-NSWC Carderock for battery certification
(U) MTWS - Sole Source Firm Fixed Price (SS/FFP) Option Year 2 and MIPR to Army-CECOM to be placed on MITRE contract. New competitive contract planned for 2nd quarter award in FY15.
(U) RM/T - MIPR to the Army planned for award on existing Consolidated Product-line Management Contract, Work Request to Navy-NAWCTSD, and New Competitive Firm Fixed Price (C/FFP).
(U) SAVT - Work Request to Navy-NAWCTSD
(U) SITE - New Competitive Firm Fixed Price (C/FFP) and Commercial Enterprise Omnibus Support Services (CEOSS) contract (C/FFP)
(U) Training Support - MTWS Sole Source Firm Fixed Price (SS/FFP) Option Year 2 award in 2nd quarter FY14. A new competitive contract is planned for award in 2nd quarter FY15.

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E. Performance Metrics

N/A

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Combined Arms Command & Control Training Upgrade System (CACCTUS) PROGRAM SCHEDULE

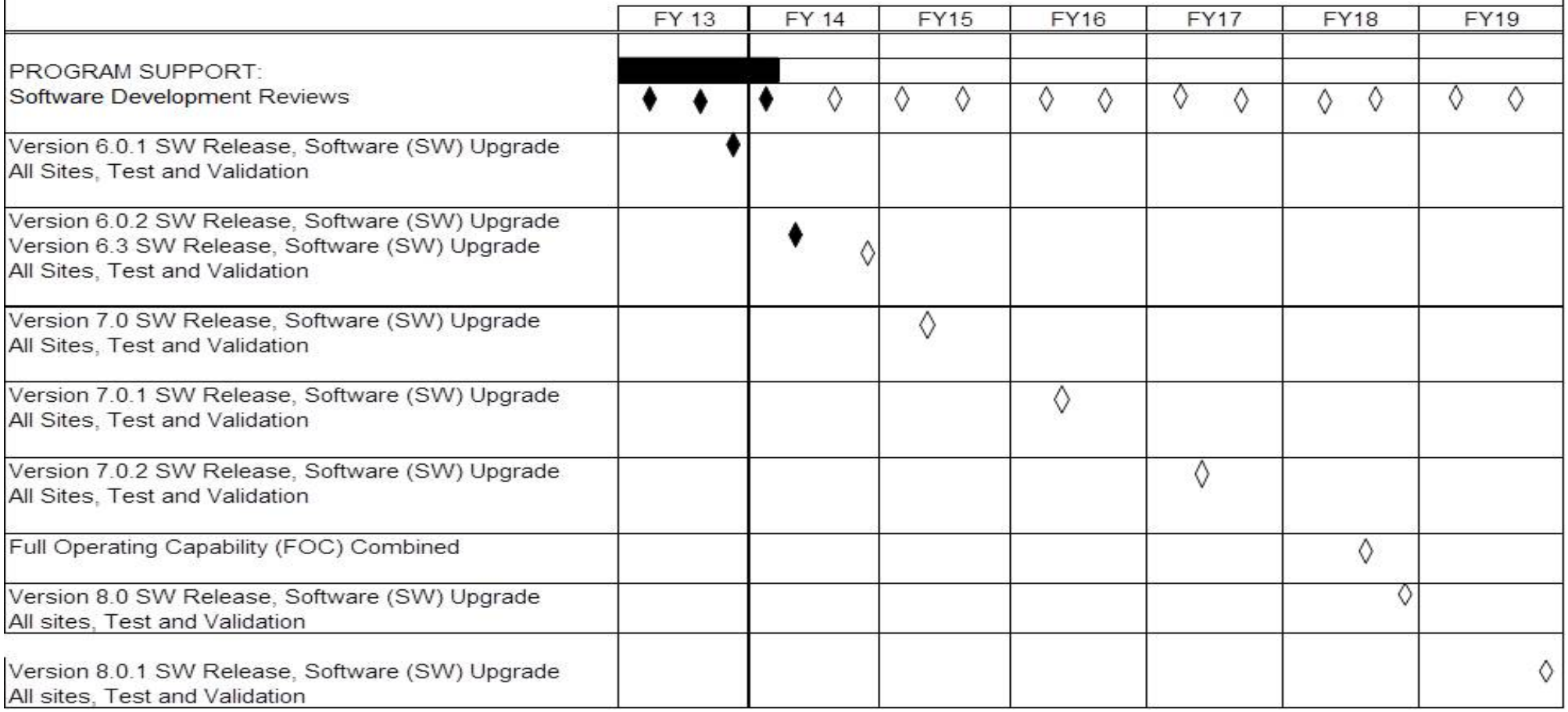


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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Deployable Virtual Training Environment (DVTE) PROGRAM SCHEDULE

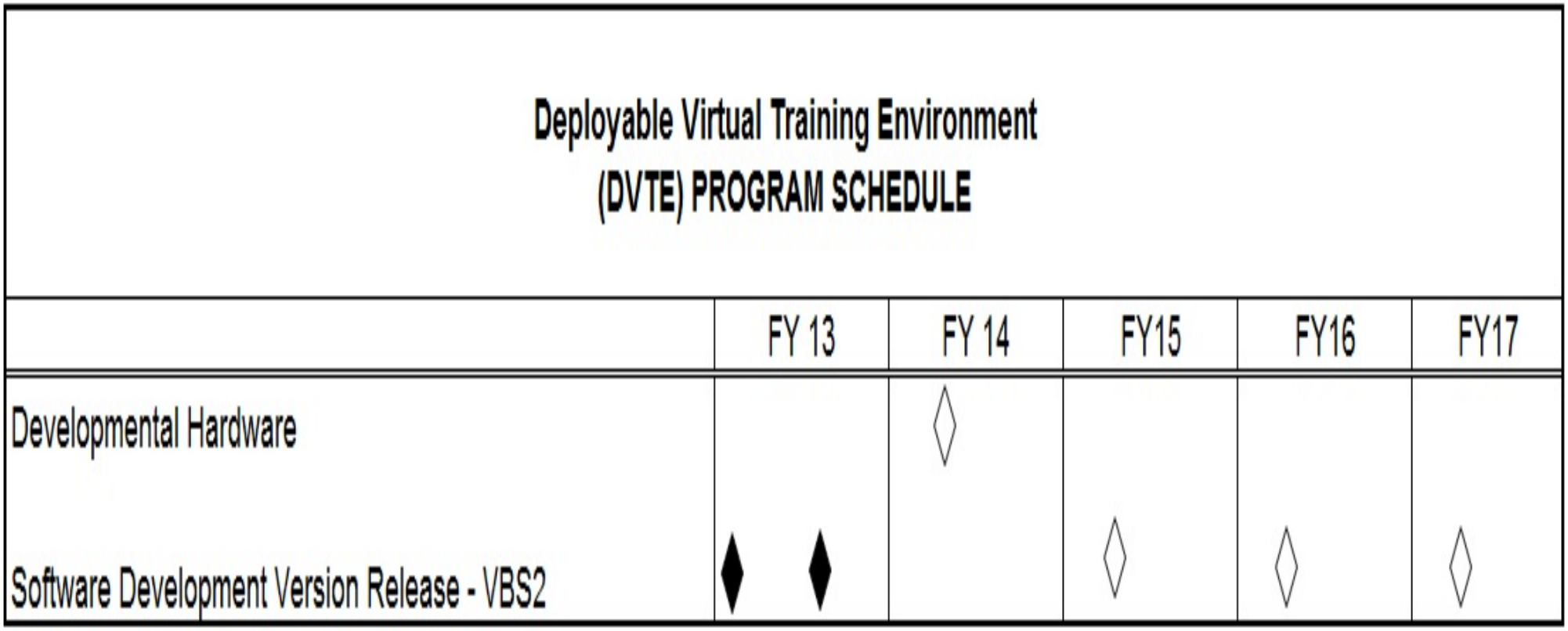


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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Marine Air-Ground Task Force (MAGTF) Tactical Warfare Simulation
(MTWS) PROGRAM SCHEDULE

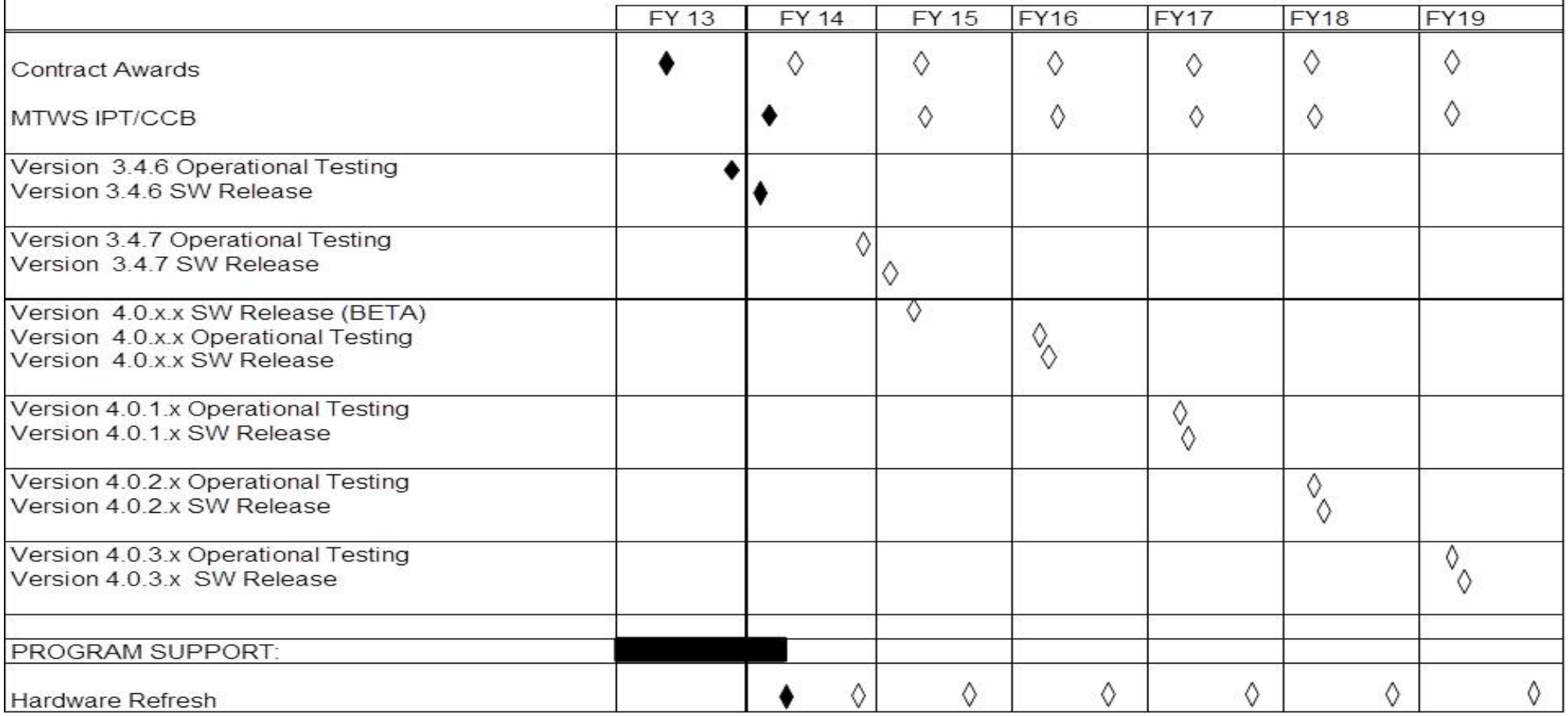


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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460510 - SITE

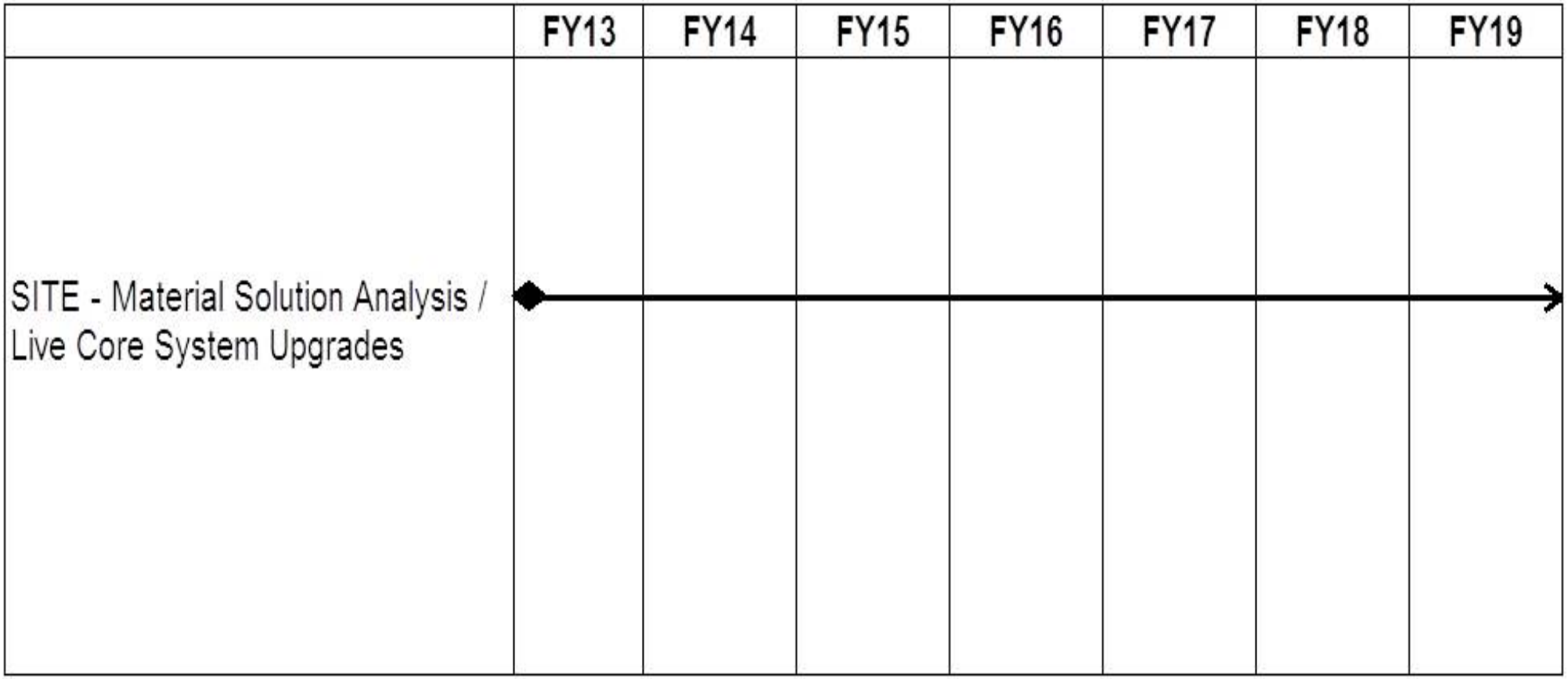


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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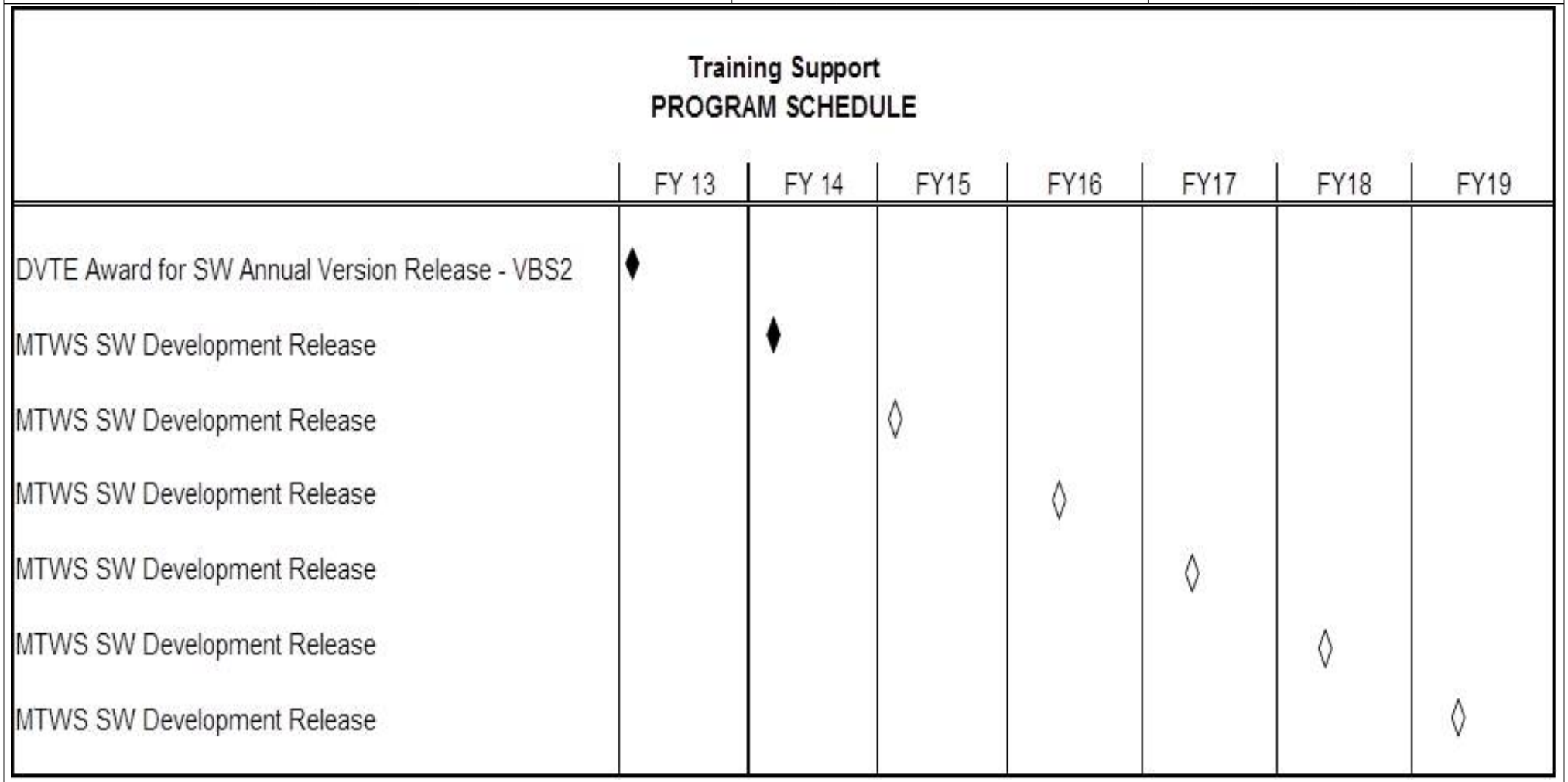


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COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
2503: *Initial Issue*	49.932	5.475	9.142	5.498	-	5.498	5.119	6.185	6.173	4.857	Continuing	Continuing
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 Family of Combat Equipment Support and Services provides research, development, test and evaluation on low cost items with emphasis on non-developmental/ commercially available items. Much of the RDT&E is conducted in coordination/concert with other services and joint organizations, and in consideration of RDT&E efforts being pursued by the other Services. Items approved for procurement will transition into Procurement Marine Corps and the Operation and Maintenance Marine Corps lines for Individual Combat Equipment, Medical Equipment and Shelters. The focus is to provide state of the art combat equipment (e.g. lightweight helmet, sleeping bags, load bearing systems, etc.), medical equipment (e.g. Authorized Medical Allowance (AMAL)/Authorized Dental Allowance (ADAL), Enroute Care, Mobile Medical Monitors, etc.), and Family of Shelters (soft wall, different frames and fabrics, etc.). The benefits will be reduced logistics, less weight, improved combat effectiveness, better echelon I and II care for Marines, improved individual and unit protection, tactical mobility, etc. The employment of state-of-the-art equipment will ensure Marines are equipped with the best items that technology can offer.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: *Clothing and Flame Resistant Organizational Gear	0.718	0.796	0.664
Articles:	-	-	-

FY 2013 Accomplishments:

Continued test and evaluation efforts to utilize technological advances in fabric and design for the Marine Corps Combat Utility Uniform (MCCUU) and the Enhanced Fire Resistant Combat Essemble (EFRCE) in conjunction with focus groups and lessons learned from OIF and OEF to improve the evolving configuration. Finalized fabric lab testing and choose a vendor to achieve final designs. Continued to evaluate Marine Corps Uniform Board (MCUB) and CMC uniform requirement for future upgrades.

FY 2014 Plans:

Flame Resistant Organizational Gear (FROG) will continue to seek improvements and take advantage of advanced technology in fabric and uniform durability, design, and test footwear. Continue to evaluate and support new Combat Development and Integration (CD&I) office uniform initiatives from the Marine Corps Uniform Board (MCUB) and CMC. Begin Flame and Footwear research, development and testing for the tropical boot and Male Dress Cap.

FY 2015 Plans:

Flame Resistant Organizational Gear (FROG) will continue to seek improvements and take advantage of advanced technology in fabric and uniform durability, design, and test footwear. Continue to evaluate and support new Combat Development and

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Integration (CD&I) office uniform initiatives from the Marine Corps Uniform Board (MCUB) and CMC. Continue Flame and Footwear research, development and testing for the tropical boot.			
Title: *Family of Mountain Cold Weather Clothing & Equipment (FMCWCE)	1.176	1.283	0.930
Articles:	-	-	-
FY 2013 Accomplishments: Continued to evaluate product improvements through research of advanced technology necessary to continue modernization efforts within the MCWCE capabilities. Continued to research and develop the capability set of clothing and equipment to facilitate MAGTF operations in mountainous and cold weather environments. Evaluated new capabilities such as advanced Military Ski System, Extreme Cold Weather Sleep System, Glove, Improved Fleece Jacket, and Extreme Cold Weather Boot for increased environmental protection, versatility, and survivability. Completed the evaluation of the All Purpose Liner and Improved Sleeping Mat. Implemented rapid technological advances in the outdoor commercial market within the stated requirements. Researched, developed, and evaluated reduced load while increasing insulation values of Fleece, Extreme Cold Weather Parkas, and Extreme Cold Weather Boots.			
FY 2014 Plans: Continue research and development of current industry technology to further increase existing equipment effectiveness while lightening the load of the individual Marine in both weight and volume. Further the research, develop, and evaluate reduced load while increasing insulation values of Desert and Woodland Fleece, Cold Weather Gloves, and Extreme Cold Weather Boots. Begin the development of the Marine Corps Cold Weather Infantry Kit and over the snow mobility in both snowshoes, skis, and sleds and Three Season Sleep System.			
FY 2015 Plans: Continue research and development of industry technology to further increase existing equipment effectiveness while lightening the load of the individual Marine in both weight and volume. Research, develop, and evaluate reduced load while increasing insulation values of Desert and Woodland Fleece, Extreme Cold Weather Parkas, and Extreme Cold Weather Boots. Additionally, equipment technology advances will drive the development of the Marine Assualt Climbers Kit (MACK) to effectively and safely negotiate horizontal and vertical obstacles. Continue the development of the Marine Corps Cold Weather Infantry Kit (MCCWIK) and over the snow mobility in both skis and sleds.			
Title: *Family of Improved Load Bearing Equipment	0.252	0.346	0.308
Articles:	-	-	-
FY 2013 Accomplishments:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continued to explore product improvements and advanced technology for the Family of Improved Load Bearing Systems. Completed testing and evaluation for durability of pouches, and specifications reviews. Continued testing for next generation Block II Individual Water Purification System (IWPS). ***FY 2014 Plans:*** Complete research, development and evaluation for Block II. Begin research and development for Block III IWPS de-salinization effort and freeze thaw testing. Continue to explore product improvements and advanced technology for the Family of Improved Load Bearing Systems. ***FY 2015 Plans:*** Continue research, development and evaluation for Blocks III IWPS de-salinization effort. Continue to explore product improvements and advanced technology for the Family of Improved Load Bearing Systems.			
Title: *Family of Individual Warfighter Equipment (formerly Combat Support Equipment) ***Articles:*** ***FY 2013 Accomplishments:*** Continued research, development and evaluation of product improvements and advanced technology necessary to facilitate modernization efforts within the IWE capabilities. Continued to test and evaluate the COTS and NDI products which are major components of the IWE program and are significantly improved annually by industry; leveraging industry initiatives is a major aspect of this program. Continued research and evaluation of advanced technology on the Martial Arts Kit, Mechanical Breachers Kit, and the Ultra High Intensity Illumination System. ***FY 2014 Plans:*** Continue to exploit industry's development of technological advances in Mechanical Breachers Kit and Waterproof Bags for USMC Pack. Continue to test and evaluate to ensure operational effectiveness of the IWE components. Continue the modernization of existing programs through Minor Modification, leveraging the technological advances of industry. ***FY 2015 Plans:*** Continue to exploit industry's development of technological advances in Mechanical Breachers Kit and Waterproof Bags for USMC Pack. Continue to test and evaluate to ensure operational effectiveness of the IWE components. Continue the modernization of existing programs through Minor Modification, leveraging the technological advances of industry.	0.127 -	0.144 -	0.105 -
Title: *Family of Field Medical Equipment ***Articles:*** ***FY 2013 Accomplishments:***	1.999 -	5.372 -	2.467 -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
-Continued testing Commercial-Off-The-Shelf/Non-developmental (COTS/NOI) medical equipment items for the Enroute Care System, Forward Resuscitative Surgical System, and X-ray equipment to determine future viability in an operational environment. -Continued testing of medical equipment items to evaluate their functionality and ability to improve the quality of healthcare provided to the warfighter and reduce the logistics footprint of USMC medical equipment. -Continued testing for possible application technology for insertion. -Completed testing of Hydrogen Peroxide Sterilizer. -Completed testing of mobile and ruggedized field X-ray units to replace current digital radiological units that have exceeded life expectancy. -Began Research and Development Studies on the application of Freeze Dried Pooled Plasma within the USMC Health Service Support organization. ***FY 2014 Plans:*** -Continue to test Commercial-Off-The-Shelf/Non-developmental (COTS/NOI) medical equipment items for the Enroute Care System, Forward Resuscitative Surgical System, and X-ray equipment to determine future viability in an operational environment. -Continue testing of medical equipment items to evaluate their functionality and ability to improve the quality of healthcare provided to the warfighter and reduce the logistics footprint of USMC medical equipment. -Continue testing for possible application technology for insertion. -Complete Research and Development Studies on the application of Freeze Dried Pooled Plasma within the USMC Health Service Support organization. -Begin collaborative development efforts with other services on the Autonomous Critical Care System. ***FY 2015 Plans:*** -Continue to test Commercial-Off-The-Shelf/Non-developmental (COTS/NOI) medical equipment items for the Enroute Care System, Forward Resuscitative Surgical System, and X-ray equipment to determine future viability in an operational environment. -Continue testing of medical equipment items to evaluate their functionality and ability to improve the quality of healthcare provided to the warfighter and reduce the logistics footprint of USMC medical equipment. -Continue testing for possible application technology for insertion. -Continue collaborative development efforts with other services on the Autonomous Critical Care System.			
Title: *Family of Shelters and Shelter Equipment (FSSE)	0.828	0.900	0.560
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Completed evaluations of the Arctic Shelter for durability in harsh climatic environments and assessed the ability of an Infrantry Squad of 15 Marines wearing their individual cold weather combat gear and equipment to operate simultaneously inside the shelter. Continued testing of energy efficient LED light technologies for shelters and shelter equipment. ***FY 2014 Plans:*** Complete testing of energy efficient LED light technologies for shelters and shelter equipment. Begin testing of energy efficient technologies for new composite materiels for rigid wall shelters and energy efficient field heating systems. Begin development and testing for next generation heater capability for soft wall shelters. The current inventory of general purpose medium tents is adequate to meet mission requirements. ***FY 2015 Plans:*** Complete testing of energy efficient technologies for new composite materiels for rigid wall shelters and energy efficient field heating systems. Complete testing of next generation heaters for the Arctic Shelter and compatibility with soft wall shelters in inventory. Continue enhancing energy efficient technologies for shelters, lighting and shelter equipment. The current inventory of general purpose medium tents is adequate to meet mission requirements.			
Title: *Family of Combat Field Feeding	0.375	0.301	0.464
Articles:	-	-	-
FY 2013 Accomplishments: Researched and tested multiple solutions to reduce the footprint size for the Tray Ration Heater System. Began to analyze, evaluate, and test concepts for a new and improved sanitation system. ***FY 2014 Plans:*** Continue testing options to reduce the footprint size of the current Tray Ration Heater System. Continued to analyze, evaluate, and test concepts for a new and improved sanitation system. ***FY 2015 Plans:*** Continue testing options to reduce the footprint size of the current Tray Ration Heater System. Continue to analyze, evaluate, and test concepts for a new burner. Begin to analyze, evaluate, and test concepts for a new burner.			
Accomplishments/Planned Programs Subtotals	5.475	9.142	5.498

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/6522-01: *Field Medical Equipment*	7.832	19.823	-	-	-	-	-	-	-	-	101.733

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2503 / *Initial Issue*

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/6613: *Combat Field Feeding System*	8.354	2.390	-	-	-	-	-	-	-	-	46.301
• PMC/6522-02: *Family of Shelters & Shelter Equipment*	38.676	3.306	-	-	-	-	-	-	-	-	41.982

Remarks

D. Acquisition Strategy

Family of Ballistic Protection Systems, Family of Mountain Cold Weather Clothing and Equipment, Family of Improved Load Bearing Equipment, Family of Individual Warfighter Equipment, Clothing and Flame Resistant Organizational Gear, items utilize various acquisition strategies. These programs leverage heavily on current developments and technology in commercial industry. As a result, the government's R&D phase is relatively short. Contracting is performed by either Marine Corps Systems Command Contracting Directorate, the Naval Research Laboratory or the U.S. Army Natick Soldier Research, Development and Engineering Center via Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts. ID/IQ contracts are used to decrease the government risk, allow maximum contract flexibility and capitalize on the savings realized by utilizing Economic Order Quantities.

Shelters: The Shelter acquisition strategy is to modify Non-Developmental Items (NDI) to further meet the requirements of the Marine Corps, to support development of multi-service items through inter-service agreements and to adopt Commercial-Off-the-Shelf (COTS) items.

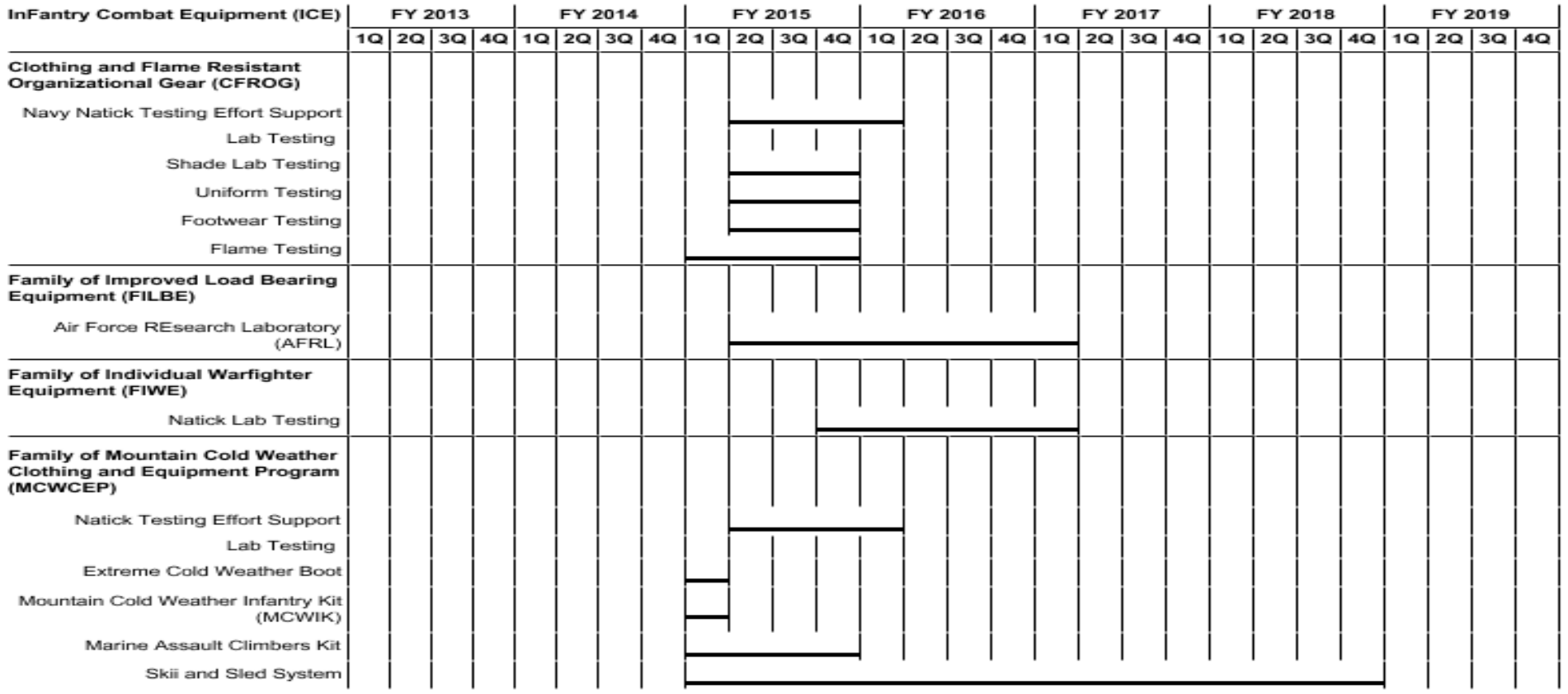
Family of Field Medical Equipment: These programs leverage heavily on current development and technology in the commercial medical industry. The field medical acquisition strategy is to modify Non-Developmental Items (NDI) and adopt Commercial-Off-the-Shelf (COTS) items.

Combat Field Feeding Systems: This program utilizes various acquisition strategies and leverages heavily on current developments and technology in commercial industry. As a result, the government's RDTE phase is relatively short. Contracting is performed by either Marine Corps Systems Command Contracting Directorate, the Naval Research Laboratory or the U.S. Army Natick Soldier Research, Development and Engineering Center via Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts. ID/IQ contracts are used to decrease the government risk, allow maximum contract flexibility and capitalize on the savings realized by utilizing Economic Order Quantities.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2503 / *Initial Issue*



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	Project (Number/Name) 2513 / *Body Armor*	

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
2513: *Body Armor*	33.387	6.184	0.572	3.431	-	3.431	4.867	4.830	4.585	4.688	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

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

Note

This project was previously in Project 2503 Initial Issue under Family of Ballistic Protection.

A. Mission Description and Budget Item Justification

Body Armor Development (BAD) provides the most technologically advanced ballistics protection at the lightest weight in the world today. With current combat operations, these items have generated considerable Congressional and public interest because the items are considered life-saving equipment. When evaluated in total, BAD programs provide the critical systems that save lives, reduce the severity of combat injuries, and increase combat effectiveness by keeping more Marines in the fight. A key component of all of the BAD programs is that as new threats emerge on the battlefield, BAD equipment must constantly adapt to meet these new threats. BAD programs are truly a force multiplier on the battlefield of today and tomorrow. It includes Modular Scalable Vest (MSV), Enhanced Small Arms Protective Inserts (ESAPI), Helmet, and Eye Protection.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Body Armor Development	6.184	0.572	3.431
Articles:	-	-	-

FY 2013 Accomplishments:

Developed and tested new commercial technologies to further develop hard and soft body armor systems to include a modular scalable design in order to reduce the number of armor systems, system weight, and increase the survivability, lethality and mobility of the individual Marine. Completed the initial phase to develop both torso, pelvic and headborne systems to assess blunt trauma/shock forces on the body and how ballistic materials and designs can afford the most protection while reducing weight and lightening the load. Completed the initial phase of research for active and passive hearing protection products that provide a sense of presence and protection against transient impact noise, and blocks and/or reflects harmful blast shock wave in the ear canal. Further reviewed and initiated hard armor development for the Enhanced Capability Helmet.

FY 2014 Plans:

Continue to develop both the Headborne and Modular Scalable Vest (MSV) systems to increase the survivability, lethality and mobility of the individual Marine. Continue to research active and passive hearing protection products that provide a sense of

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2513 / *Body Armor*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
presence and protection against transient impact noise and blocks and/or reflects harmful blast shock wave in the ear canal. Complete hard armor development for the Enhanced Capability Helmet. ***FY 2015 Plans:*** Continue to develop both the Headborne and Modular Scalable Vest (MSV) systems to increase the survivability, lethality and mobility of the individual Marine. Continue to research active and passive hearing protection products that provide a sense of presence and protection against transient impact noise and blocks and/or reflects harmful blast shock wave in the ear canal. The increase in funding from FY14 to FY15 supports testing.			
Accomplishments/Planned Programs Subtotals	6.184	0.572	3.431

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

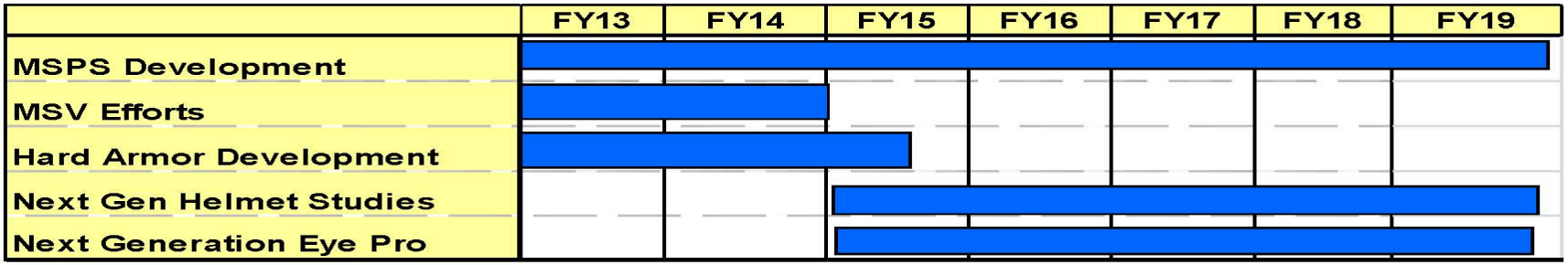
Marine Corps Body Armor Research, Development, Testing & Evaluation activities include seeking new developments in ballistic technology that feature reductions in weight, improvements in ballistic performance, enhanced operational effectiveness through improved product designs and the application of new material technologies to reduce total ownership costs by improving the expected service life of fielded systems. In order to accomplish these goals, PdM-Infantry Combat Equipment (ICE) uses a broad array of government and contractor performers to achieve the desired end state. This includes efforts being conducted in conjunction with partnered government performers, research and development contracts and partnership intermediaries where applicable. The Marine Corps also seeks to leverage advancements in industry capabilities to rapidly field non-developmental and commercially available off the shelf armor solutions after confirming performance through characterizing ballistic performance and expected subjective user acceptance as measured during user evaluations.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2513 / *Body Armor*

Family of Ballistic Protection Systems (FBPS)
Planning Schedule



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	Project (Number/Name) 2928 / *Exp Indirect Fire Gen Supt Wpn 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
2928: *Exp Indirect Fire Gen Supt Wpn Sys*	13.189	2.270	2.391	1.953	-	1.953	2.768	2.731	2.583	2.369	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

High Mobility Artillery Rocket Systems (HIMARS) is a C-130 transportable, wheeled, indirect fire, rocket/missile system capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM). The system includes one launcher, two Re-Supply Systems, and the MFOM. HIMARS will provide the Fleet Marine Force with 24 hour ground-based, responsive General Support/General Support Reinforcing (GS/GSR) indirect fires which accurately engage targets at long range (60+km), with high volumes of lethal fire under all weather conditions throughout all phases of combat operations ashore, to include irregular warfare and distributed operations. HIMARS is a significant improvement over previously fielded ground fire support systems. During a 24 hour period, the system is expected to conduct multiple moves and multiple fire missions. Guided Multiple Launch Rocket System (GMLRS) is the primary munition for units fielded with the HIMARS and MLRS rocket and missile platforms. GMLRS provides close, medium, and long range precision and area fires to destroy, suppress, and shape threat forces and protect friendly forces against cannon, mortar, rocket and missile artillery, light material and armor, personnel, command and control, and air defense surface targets. GMLRS integrates guided and control packages and an improved rocket motor achieving greater range and precision accuracy, requiring fewer rockets to defeat targets, thereby reducing the logistics burden.

The two fielded variants are GMLRS with Dual Purpose Improved Conventional Munitions (DPICM/Increment 1) and GMLRS Unitary (U/Increment 2), a 200 pound class high explosive warhead. The GMLRS U is the only variant currently in production, integrating a multi-mode fuse and high explosive warhead making it an all weather, low collateral damage, precision strike rocket. GMLRS U expands the MLRS target set into urban and complex environments by adding point, proximity, and delay fusing modes. GMLRS U are being fired in support of Overseas Contingency Operations (OCO), and has demonstrated high effectiveness and low collateral damage while supporting Marines in combat. A third variant of GMLRS, the alternative warhead (AW/Increment 3) is being developed to replace DPICM and meet the requirements outlined in a 25 June 2008 cluster munitions policy, which requires all cluster munitions by 2019 to produce less than 1% Unexploded Ordinance (UXO) on the battlefield. HIMARS satisfies the Marine Corps requirement for an indirect fire system that is responsive, maneuverable, and is capable of engaging targets at long range. The Reduced Range Practice Rocket (RRPR) includes training devices for tactical training, classroom training and handling exercises.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: HIMARS Testing	-	2.190	0.500
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2928 / *Exp Indirect Fire Gen Supt Wpn Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Description: Executed in conjunction with the U.S. Army, the Support Test and Evaluation Program for Marine Corps Principle End Items. The U.S. Army Program Office continues to provide improvements to these end items (e.g. alternate warheads). This funding will be used to provide adequate support and oversight to ensure testing supports Marine Corps requirements ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Execution will be in conjunction with the U.S. Army, the Support Test and Evaluation Program for Marine Corps Principle End Items. The U.S. Army Program Office provides improvements to these end items (i.e. alternate warheads). This funding will be used to provide adequate support and oversight to ensure testing supports Marine Corps requirements for the following: Shipboard Shock & Vibration Testing: Shock testing will derive from MIL-S-901 (Near-Miss Shock Qualification using the WOX-7B shock machine) and vibration using MIL-STD-167-1. This test will be a 20 day event at Dahlgren, VA. Based on the minimal differences between GMLRS Alternative Warhead (AW),GMLRS DPICM and GMLRS U and analysis of Previous Hazards of Electromagnetic Radiation to Ordnance (HERO) testing results for GMLRS DPICM and GMLRS U NSWCDD Electromagnetic Effects Branch has determined that the Marine Corps will formalize the analysis of munition configurations and previous test results and submit a report on their findings by utilizing Army Subject Matter Expertise and prior test findings. ***FY 2015 Plans:*** Guided Multiple Launch Rocket System (GMLRS) follow on testing will consist of any testing required due to deficiencies discovered during US Army E3 testing at Redstone Test Center (RTC) or during Shipboard Shock & Vibration testing at NSWCDD and as required by the Marine Corps Systems Command and NSWCDD.			
Title: HIMARS AWP Test Articles	2.091	-	-
Articles:	3.000	-	-
FY 2013 Accomplishments: Procured three (3) GMLRS Alternative Warhead (AW) Rocket pods and associated Performance Oriented Packaging (POP) boxes for USMC shipboard shock and vibration testing. Each pod will contain one live rocket and five mass simulators. The live rockets will be located in tube #4 and the other five tubes shall contain the mass simulators. The live rockets will be GMLRS AW variants with all electronics, energetics and fuzing. Testing will be conducted in FY14 at Naval Surface Warfare Center, Dahlgren Division (NSWC/DD). ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2928 / *Exp Indirect Fire Gen Supt Wpn Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** N/A			
Title: HIMARS Fire Control System Obsolescence	-	-	1.453
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Evaluation efforts that focus on improving HIMARS readiness, reliability and maintainability by eliminating obsolete parts and reducing the number of Line Replaceable Units (LRUs) by consolidating Fire Control System functions.			
Title: HIMARS Program Support	0.179	0.201	-
Articles:	-	-	-
Description: HIMARS is a joint program run from the Army Program Office in Huntsville, AL. Funding supports Program Management at Quantico, Marine Corps Liaison Officer at Army Program Office (Huntsville) and contractor support. Marine Corps onsite liaison officer resides at Huntsville to support joint acquisition and program planning. ***FY 2013 Accomplishments:*** HIMARS is a joint program run from the Army Program Office in Huntsville, AL. Funding supported Program Management at Quantico, Marine Corps Liaison Officer at Army Program Office (Huntsville) and contractor support. Marine Corps onsite liaison officer resides at Huntsville to support joint acquisition and program planning. ***FY 2014 Plans:*** HIMARS is a joint program run from the Army Program Office in Huntsville, AL. Funding supports Program Management at Quantico, Marine Corps Liaison Officer at Army Program Office (Huntsville) and contractor support. Marine Corps onsite liaison officer resides at Huntsville to support joint acquisition and program planning. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	2.270	2.391	1.953

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2928 / *Exp Indirect Fire Gen Supt Wpn Sys*

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/BLI 221200: *High Mobility Artillery Rocket System (HIMARS)*	84.829	5.467	19.474	-	19.474	19.512	36.082	39.932	36.632	Continuing	Continuing

Remarks

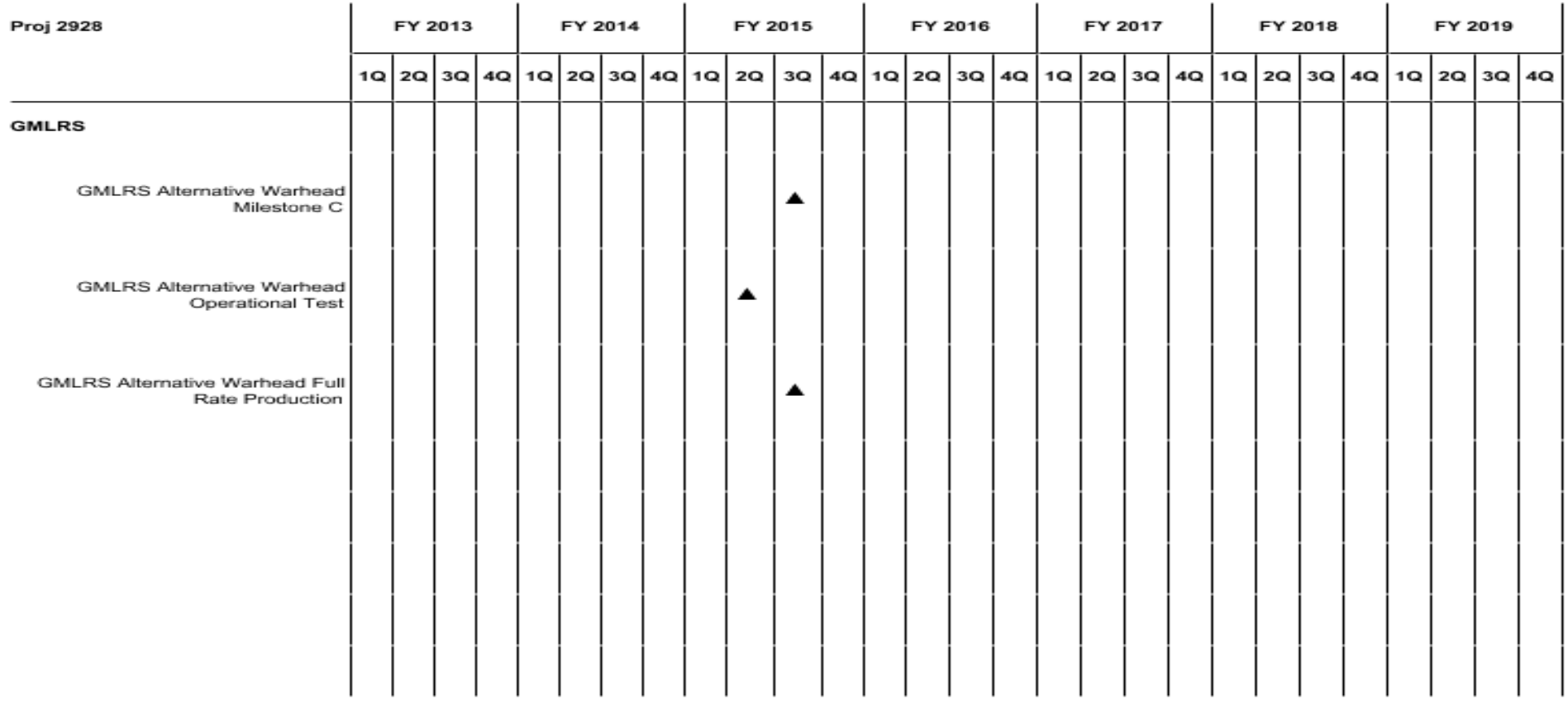
D. Acquisition Strategy

USMC HIMARS is procuring the Army rocket launcher, the current/future Multiple Launch Rocket System Family of Munitions (MFOM) and a Medium Tactical Vehicle Replacement (MTVR) based Resupply System (truck(s) with associated trailer(s)). The Marine Corps launcher and ammo requirements closely match U.S. Army requirements. The U.S. Army HIMARS program received increased funding and is now an Acquisition Category (ACAT) IC level program. Marine Corps Resupply System requirements are unique. Accordingly, the Marine Corps is an integrator and must ensure the required warfighting capability is fielded to the Marine Corps operating forces. The USMC has aligned funds to reflect an emphasis on not only hardware development, but also the integration of these principle end items while providing associated evaluation and oversight, and the development of associated rocket munitions in conjunction with the Army. Additionally, the Marine Corps program is establishing the training and support methodologies that will result in associated skill sets required within the Marine Corps. The Marine Corps strategy is incorporating acquisition and capability upgrades to both the systems and rocket munitions. These improvements parallel the U.S. Army's acquisition strategy.

E. Performance Metrics

Milestone Reviews

Exhibit R-4, **RDT&E Schedule Profile:** PB 2015 Navy		**Date:** March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 2928 / *Exp Indirect Fire Gen Supt Wpn Sys*



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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206623M / *MC Ground Cmbt Spt Arms Sys*				Project (Number/Name) 3098 / *Fire 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**
3098: *Fire Support System*	96.321	17.155	16.221	14.400	-	14.400	12.449	6.121	5.503	5.580	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 develops Joint and Marine Corps unique improvements to artillery fire support technology that supports the artillery triad of fires and fire support equipment. These initiatives include but are not limited to the following: the Expeditionary Fire Support System (EFSS), munitions development & testing (to include rocket munitions), as well as testing and development of the Family of Artillery Munitions (FAM), Common Laser Ranger Finder (CLRF) integrated capability, and the Modeled Meteorological Information Manager (MMIM).

EFSS is an all-weather, ground based indirect fire system designed to support the vertical assault element of the Ship-To-Objective Maneuver (STOM) force. The EFSS is defined as a Launcher, Mobility Platform (prime mover), Ammunition, Ammunition Supply Vehicle, and Technical Fire Direction and Control equipment necessary for orienting weapons to an azimuth of fire. EFSS supports irregular warfare and distributed operations.

FAM is used to develop and mature artillery munitions for the Marine Corps triad of fire.

The CLRF is a lightweight, eye-safe target laser rangefinder capable of being carried and employed by a single Marine. CLRF Integrated Capability (CLRF IC) is a replacement to the existing CLRF Suite of Equipment. CLRF IC provides the observer the ability to perform target detection, recognition, identification, and location determination in a suite of systems.

The Modeled Meteorological Information Manager (MMIM) will be the primary artillery meteorological capability at the artillery battalion and regiment providing the ability to create, receive, manage, and transmit near real time gridded meteorological information supporting artillery and target acquisition systems significantly enhancing the accuracy of meteorological information.

The Fire Support Mod Line is a set of Marine Corps efforts to address critical operational and logistics deficiencies in existing, fielded fire support/weapons systems and equipment. The line provides technical refresh, development of target acquisition, and artillery survey and meteorological systems. Funding is used to ensure Clinger Cohen Act (CCA) and Information Assurance (IA) requirements are met, execution of product improvements/modifications, and upgrades to system hardware and software for the Ground Counter Fire Sensor (GCFS), Marine Artillery Survey Set (MASS), Meteorological Station Group (MSG), Global Positioning System Survey (GPS-S) and the Improved Position Azimuth Determining System (IPADS), Lightweight Target Designator (LTD) and the CLRF as well as for upgrades, engineering change proposals, and modifications for guided munitions and fire control systems. Funding is also used for upgrades, engineering change proposals (ECPs) and modifications for guided munitions and fire control systems which falls within Fire Support Systems for the Marine Corps.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 3098 / *Fire Support System*

The Internally Transportable Vehicle (ITV) is a program in this project that is a lightweight, highly mobile vehicle that provides a deployed Marine Air-Ground Task Force (MAGTF) with a ground vehicle internally transportable in the MV-22 and CV-22 tilt-rotor aircraft as well as the CH53-E and MH-47 aircraft. The ITV has two configurations: The Light Strike Vehicle (ITV-LSV) and EFSS Prime Mover (ITV-PM).

Insensitive Munitions Program's purpose is to field munitions that are insensitive munitions (IM) compliant.

Conventional Ground Ammunition project identifies and develops Insensitive Munitions (IM) Technologies to address IM shortfalls in new Marine Corps development or improvements to legacy Conventional Ground Ammunition to meet OSD mandated IM compliance requirements. These IM Technology investments directly support the development of the bi-annual Marine Corps Insensitive Munitions Strategic Plan (IMSP) to address the identified IM technology needs of the Marine Corps.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Common Laser Range Finder (CLRF)	0.820	0.400	-
Articles:	-	-	-
Description: The Common Laser Range Finder (CLRF) is a lightweight, eye-safe target laser rangefinder capable of being carried and employed by a single Marine. CLRF Integrated Capability (CLRF IC) is a replacement to the existing CLRF Suite of Equipment. CLRF IC provides the observer the ability to perform target detection, recognition, identification, and location determination in a suite of systems. There is no funding required in FY15 because the Engineering and Manufacturing Development phase will be completed in FY14.			
FY 2013 Accomplishments: Continued CLRF IC development efforts in the Technology Development Phase focusing on weight reduction and integration of a precise, non-magnetic azimuth sensing capability and started the Engineering and Manufacturing (E&M) Development Phase.			
FY 2014 Plans: CLRF IC development efforts continue in the Engineering and Manufacturing Development Phase and are scheduled to be completed. Source selection is planned for 4Q FY14.			
FY 2015 Plans: N/A			
Title: Modeled Meteorological Information Manager (MMIM)	0.238	0.249	0.228
Articles:	-	-	-
Description: The Modeled Meteorological Information Manager (MMIM) will be the primary artillery meteorological capability at the artillery battalion and regiment providing the ability to create, receive, manage, and transmit near real time gridded meteorological information supporting artillery and target acquisition systems significantly enhancing the accuracy of meteorological information. MMIM will save over $1.3 million in annual operations, maintenance, and fuel costs by eliminating the			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 3098 / *Fire Support System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
requirement for 42 M1152 High Mobility Multi-purpose Wheeled Vehicles, 21 M101A3 Trailers and 21 OV-103 Generator Groups associated with the current legacy capability. ***FY 2013 Accomplishments:*** Completed integration of the GFS Model into the Core Software application to modernize the system and extend the service life. ***FY 2014 Plans:*** Supporting the Army (progam PICA) in their development of the next generation MMIM. ***FY 2015 Plans:*** Testing and finalization of the MMIM is planned to support final software development and information assurance activities.			
Title: Expeditionary Fire Support Systems (EFSS) ***Articles:*** ***Description:*** EFSS is an all-weather, ground based indirect fire system designed to support the vertical assault element of the Ship-To-Objective Maneuver (STOM) force. EFSS is defined as a Launcher, Mobility Platform (prime mover), Ammunition, ammunition Supply Vehicle, and Technical Fire Direction and control equipment necessary for orienting weapons to an azimuth of fire. EFSS supports irregular warfare and distributed operations. ***FY 2013 Accomplishments:*** Upgraded EFSS weapon system, specifically digitization (there is currently a communications gap to the system) to support the guided rounds. Developed extended range guided ammunition. Developed and tested hardware for the guided rounds and had the various field activities test the hardware. Integrated ballistics and firing tables (software development) and qualified energetics. Additionally, FY13 R&D was used to incrementally fund the development of the Precision Extended Range Munition (PERM). ***FY 2014 Plans:*** FY14 R&D is being used to incrementally fund the development of the Precision Extended Range Munition (PERM). The increase in FY14 funding will support the Government conduct of the PERM demonstration test. ***FY 2015 Plans:*** FY15 R&D will be used to complete PERM demonstration testing and conduct engineering and safety analysis of the demonstration test results.	6.741 -	11.887 -	11.618 -
Title: Fire Support Mods (FSM) ***Articles:*** ***Description:*** Funding is used for upgrades, engineering change proposals (ECP), and modifications to system hardware and software for the Ground Counter Fire Sensor (GCFS), Marine Artillery Survey Set (MASS), Meteorological Station Group (MSG),	1.892 -	1.979 -	1.747 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 3098 / *Fire Support System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Global Positioning System Survey (GPS-S), the Improved Position Azimuth Determining System (IPADS), and the Joint Terminal Attack Controller-Laser Target Designator (JTAC-LTD) as well as technical refresh for target acquisition, and artillery survey and meteorological systems. Funding is also used for upgrades, engineering change proposals (ECPs) and modifications for guided munitions and fire control systems which falls within Fire Support Systems for the Marine Corps. ***FY 2013 Accomplishments:*** Funding was used for development and testing of event classification for GCFS. ***FY 2014 Plans:*** Software Integration Support: Requirements to transmit information digitally to support current artillery and target acquisition systems dictates that survey, meteorological, and targeting information conform to current and anticipated established variable message formatting to ensure continued compatibility with communication and fire support systems. The funding for this is being provided to ARDEC to update and integrate digital message formats from the IPADS, GCFS & MMIM to meet required standards associated with new digital transmission kernels. FSS IA Support: This funding is being used to meet the Clinger-Cohen requirements for FSS systems. Support is required to develop & conduct IA activities, Develop DoD required architecture and Information Support plans. Acoustics Analysis: This funding is supporting the analysis of the current acoustic capability to determine sustainment, enhancement, suitability and affordability opportunities associated with continued development of a system that meets the CPD & MROC validated capability. ***FY 2015 Plans:*** FY15 RDTE will be used to develop GCFS digital communications. FY15 RDTE will be used to develop an ECP to begin transitioning the AIM FNC into the baseline CLRF IC system.			
Title: Family of Artillery Munitions (FAM) ***Articles:*** ***Description:*** FAM - Efforts include acquisition planning for future munitions, replacement of existing stockpiles, and providing technologically enhanced artillery munitions in order to mitigate/fill capability gaps in range, accuracy, and lethality and reduce undue logistical burden. Additionally, the program office addresses Weapon System Explosives Safety Review Board (WSESRB) requirements for naval transportation issues for all artillery projectiles, propellants, and fuzes. ***FY 2013 Accomplishments:***	0.308 -	0.333 -	0.307 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 3098 / *Fire Support System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Received SSSTRP approval for UMR, JSWSRB approval for UMR, FISTRP approval for UMR. First USMC UMR Quantities sent to Crane, (Excalibur 1a-1 and 1a-2) Lithium Battery Package approval, Shock Acceptance approval, (Excalibur 1b) Completed SET-S2 and SET-P2 Testing. Completed Insensitive Munitions (IM) Tests, Passed IOT&E. ***FY 2014 Plans:*** Ammunition CATT I/II development at Aberdeen Proving Ground. Actively monitor and provide funding for U.S. Army artillery ammunition development programs in order to leverage and influence Army developmental efforts. ***FY 2015 Plans:*** FY15 Plans - Actively monitor and provide funding for U.S. Army artillery ammunition programs in order to leverage and influence Army developmental efforts.			
Title: Insensitive Munitions	1.086	-	-
Articles:	-	-	-
Description: All DoD services are required to field munitions that are insensitive munitions (IM) compliant. IM compliancy is measured by the performance of munitions to six tests; Fast Cook-Off, Slow Cook-Off, Bullet Impact, Fragment Impact, Sympathetic Detonation, and Shape Charge Jet. Services are required to submit IM Strategic Plans annually delineating how they intend on executing their Service IM effort to maximize IM improvements to both new development and legacy munitions. These IM Strategic Plans, Supporting Plan of Actions, and Milestones, with funding trial, are submitted to the JROC, demonstrating each Service's commitment to the continuing effort to improve IM, for approval. In order to achieve the system's IM performance, a weapon system's developer must have new technology to apply to its poorly performing IM system. Under this program, the USMC invests in IM technology which will improve its existing munitions IM reactions and complies with the OSD mandate for maximum feasible IM compliance. ***FY 2013 Accomplishments:*** With the current level of funding the USMC is supporting five projects: (1) LAW FFE IM Propulsion - Developed two venting concepts utilizing eutectic alloys to vent the rear countermass fluid prior to propellant gas build up - Developed test plans and instrumentation configurations for baseline propulsion system testing and executed baseline testing (2) Multi Point Initiation System - Conducted modeling & simulation efforts that recreated JIMTP multi-point array tests. - Down-selected explosive candidates for further testing; - Conducted initial array testing with IMX-104 (3) Micro Electro Mechanical System Fuzing - Developed a tactical charge holder that contains the explosive ink and MEMS fuze.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 3098 / *Fire Support System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Developed a piezoelectric energy harvester to energize the entire fuze. (4) Nano-RDX Booster - Scaled up Nano-RDX material and pressed into boosters - Completed Initiation reliability testing with fuze and PBXN-114 (5) IM Compliant 120mm Tail Charge - Working Interior Ballistics modeling for the 120mm EFSS - Completed candidate designs for the composite tail charge assembly ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Family of Internally Transportable Vehicle (FITV) ***Articles:*** ***Description:*** Internally Transportable Vehicle (ITV) program fields expeditionary vehicles to ground units to support various operations. Provides the Marine Air-Ground Task Force (MAGTF) ground combat units with a vehicle transportable in the MV-22 and CV-22 tilt-rotor aircraft as well as the CH53-E and MV-47 aircraft. The ITV is an integral part of the Expeditionary Fire Support System (EFSS). ***FY 2013 Accomplishments:*** Initiated testing of safety and reliability improvements for the ITV. These efforts included: Prime Mover Drive Shaft / U-joint Improvements, Rear Steer Improvements, Air Box Redesign, Brake Light flicker and Battery Cutoff Switch. Initiated engineering and programmatic support. ***FY 2014 Plans:*** Continued safety and reliability enhancements in support of ITV. ***FY 2015 Plans:*** N/A	6.070 -	0.214 -	- -
Title: Conventional Ground Ammunition ***Articles:*** ***Description:*** All DoD services are required to field munitions that are insensitive munitions (IM) compliant. IM compliancy is measured by the performance of munitions to six tests; Fast Cook-Off, Slow Cook-Off, Bullet Impact,	- -	1.159 -	0.500 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 3098 / *Fire Support System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Fragment Impact, Sympathetic Detonation, and Shape Charge Jet. Services are required to submit IM Strategic Plans annually delineating how they intend on executing their Service IM effort to maximize IM improvements to both new development and legacy conventional ground ammunition. These IM Strategic Plans, Supporting Plan of Actions, and Milestones, with funding trial, are submitted to the JROC, demonstrating each Service's commitment to the continuing effort to improve IM characteristics of Conventional Ground Ammunition, for approval. In order to achieve the system's IM performance, the Conventional Ground Ammunition developer/owner must have new technology identified and available to address IM shortfalls at the onset of the ammunition development or available for insertion during improvement opportunities for legacy ammunition. Under this program, the USMC invests in IM technology which will improve its existing munitions IM reactions or ability to reliably initiate IM technologies and complies with the OSD mandate for maximum feasible IM compliance. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** (1) Fire-From-Enclosure Rocket IM Propulsion (509K @ U.S. Army Armament Research Development and Engineering Center, Picatinny, NJ) - Final propellant iteration development (Test Material) - Propellant Sensitivity Testing - Engineering IM Tests - Full Scale IM Testing - Ballistic Testing (2) Multi Point Initiation System (100K @ Naval Surface Warfare Center Indian Head, Indian Head, MD) - Additional multi point array design and reliability testing - Go/No-Go Billet Testing - Advanced Characterization - MPI/Meduim Caliber incorporation guidelines development (3) Micro Electro Mechanical System Fuzing (200K @ Naval Surface Warfare Center Indian Head, Indian Head, MD) - Laboratory/Field survivability testing of all up configuration - All-Up Round Fabrication (Design improvements based on initial testing) - Live Fire Demonstration (Functionality & Survivability) (4) IM Compliant 120mm Tail Charge (350K @ U.S. Army Armament Research Development and Engineering Center, Picatinny, NJ) -Slow Cook-Off Testing to determine auto-ignition temperature of components -CHEETAH Modeling of propellant			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 3098 / *Fire Support System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
-Propellant Characterization Tests (Closed Bomb, Mechanical Properties, Heat Flow Calorimetry) -Fiber Reinforced Plastic Fin Boom development ***FY 2015 Plans:*** (1) Fire-From-Enclosure Rocket IM Propulsion (250K @ U.S. Army Armament Research Development and Engineering Center, Picatinny, NJ) - Venting design development - Eutectic material proof of concept - Slow Cook-Off testing (design verification/improvement) - Final vent design verification (2) IM Compliant 120mm Tail Charge (250K @ U.S. Army Armament Research Development and Engineering Center, Picatinny, NJ) - Continue Propellant Characterization assessments/tests - Continue Fiber Reinforced Plastic Fin Boom development & testing			
Accomplishments/Planned Programs Subtotals	17.155	16.221	14.400

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
• PMC/206400: *Expeditionary Fire Support Systems*	2.499	0.589	5.742	-	5.742	5.542	7.024	0.100	0.101	-	108.062
• PMC/473300: *Common Laser Range Finder (CLRF)*	3.242	0.001	8.178	-	8.178	5.203	9.523	10.778	9.779	-	46.739
• PMC/473301: *Modeled Meterological Information Manager (MMIM)*	1.500	0.250	0.250	-	0.250	0.450	0.500	0.509	0.466	-	8.261
• PMC/473302: *Fire Support Mods*	2.567	3.498	3.432	-	3.432	3.541	3.650	3.713	3.788	-	73.700
• PMC/523000: *Items less Than $5 Million*	2.784	2.885	2.964	-	2.964	3.018	3.198	3.259	3.325	Continuing	Continuing

Remarks

D. Acquisition Strategy

These programs range from off-the-shelf modifications to developmental items. Development will typically be conducted at government labs.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 3098 / *Fire Support System*

Efforts that fall under the Expeditionary Fire Support System (EFSS) funding line include; The EFSS system; the High Explosive Rocket Assisted Projectile (HE-RAP); and the Precision Extended Range Munition (PERM). The strategy for HE-RAP consists of procuring 350 HE-RAP test articles that can be utilized to conduct some minor characterization testing and data gathering for future Marine Corps operations. The acquisition approach for PERM is being conducted in two phases; In Step 1, two CPFF contracts were awarded to two vendors for the development and delivery of production representative rounds. Step 1 allows the development of existing technology, the management of technology risks, and demonstration of PERM designs prior to Milestone C (MS C). In Step 2 one FFP contract will be awarded for the production and delivery of the Total Munitions Requirement (TMR) and a priced option for the procurement of the vendor's Technical Data Package (TDP) for the approved material solution. PERM will supplement the capability of EFSS by increasing the effective range from 8km to up to 20 km.

Currently the Family of Artillery Munitions (FAM) Program includes four (4) artillery munitions which are being developed by the Army. The Army is in possession of these programs but continues to interact with the FAM IPT to ensure USMC requirements and capability needs are met. This allows the USMC to become users of the munition and certify the round for naval transportation. The munitions include but are not limited to; XM1156 Precision Guidance Kit (PGK), Excalibur, Joint Extended Range Illumination Projectile (JERIP), and XM1128 155mm RAP Round. Each munitions status is tracked to ensure Marine Corps requirements are satisfied throughout the systems lifecycle. The Marine Corps guides WESRB certification to bring ordnance from the Army into the Marine Corps inventory. Fire power enhancement used selected upgrades from Army developmental programs to create a system that more readily meets Marine Corps requirements.

CLRF-IC will be procured using competitive contract strategy upon completion of the Engineering Manufacturing Development phase.

MMIM was procured and is managed by the US Army. The Marine Corps is an active participant in the Army program.

Fire Support Mods: A Sole Source contract was awarded to upgrade the GCFS command post computer and procure an Interface Control Document that will allow the program office to complete the digital communications requirement using competitive contracting. Limited research and analysis will be done as necessary to support ECPs for the MASS, IPADS and miscellaneous targeting devices.

The ITV Program will identify existing commercial off-the-shelf (COTS), government off-the-shelf (GOTS), and military off-the-shelf (MOTS) components to improve ITV reliability and safety by utilizing the Nevada Automotive Test Center (NATC).

The Insensitive Munitions Program is intended to invest in technologies that will improve the IM responses of currently fielded USMC priority munitions items in accordance with the USMC IM Strategic Plan and the OSD mandate to field IM compliant munitions to the maximum extent practicable.

The Conventional Ground Ammunition strategy is to invest in Insensitive Munitions (IM) technologies to address IM shortfalls of priority programs identified in the bi-annual Marine Corps Insensitive Munitions Strategic Plan (IMSP). Once the IM technologies have been successfully demonstrated and matured, the intent is to insert the new technologies into new conventional ground ammunition development as well as provide opportunities to improve legacy munitions IM characteristics. The IM R&D effort directly addresses the mandated OSD requirement to obtain incremental IM improvement in pursuit of becoming fully IM compliant to the maximum extent practicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 3098 / *Fire Support System*

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 3098 / *Fire Support System*

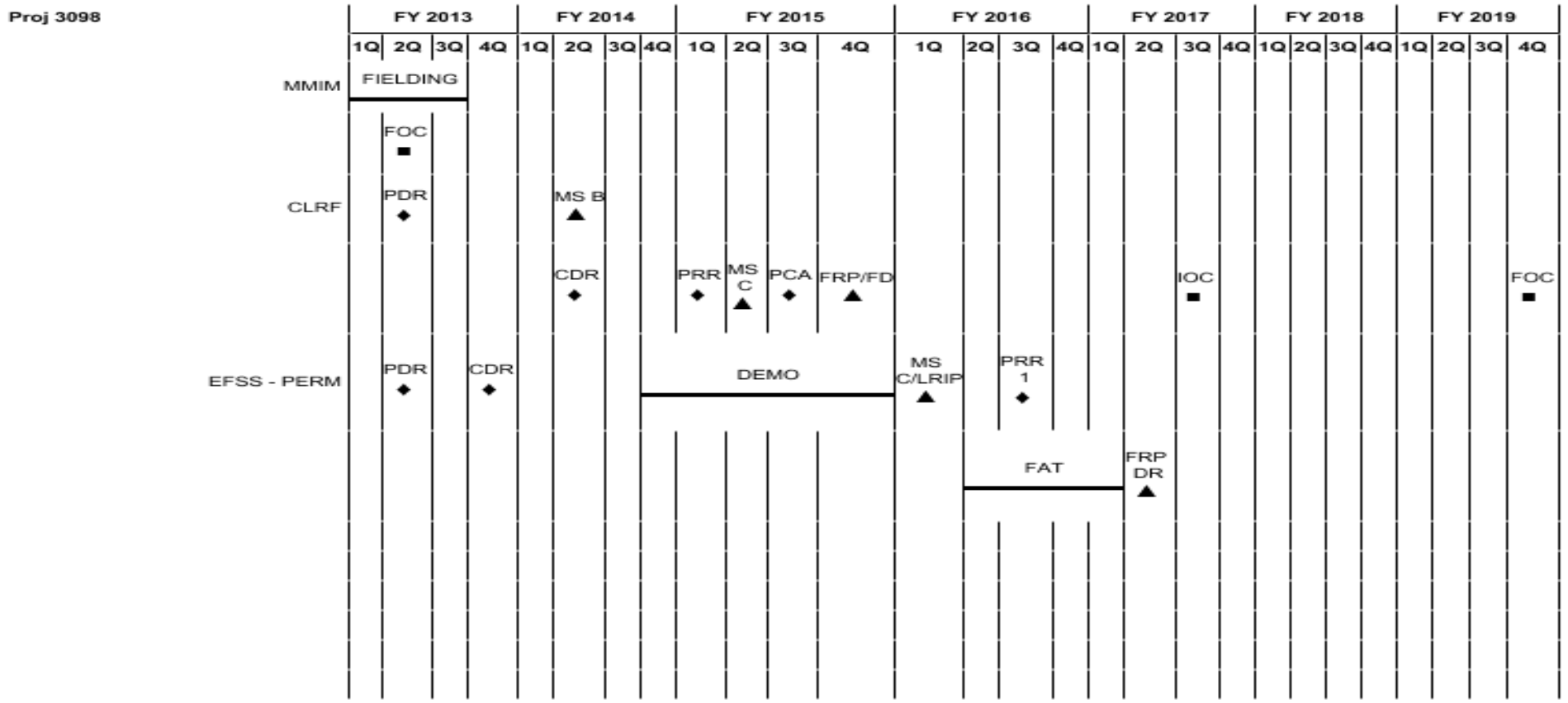


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	Project (Number/Name) 4002 / *Family of Raid Reconnaissance*	

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
4002: *Family of Raid Reconnaissance*	2.684	0.259	0.528	0.496	-	0.496	0.508	0.507	0.526	0.536	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 supports multiple airborne/parachuting and specialized reconnaissance related programs focusing on immediate capability enhancements to numerous insertion and personnel equipment shortfalls currently existing in reconnaissance units throughout the operating forces. This includes improving airborne capability equipment and items for direct action missions that use specialized raid equipment.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Family of Raid/Reconnaissance Equipment (FRRE)	0.036	0.425	0.390
Articles:	-	-	-
FY 2013 Accomplishments: Completed testing the Advanced Combat Helmet for use as a Military Free Fall Helmet.			
FY 2014 Plans: Perform technology upgrades and evaluation of emerging reliability challenges presented by fielded systems, to include Automatic Activation Device. Participate with U.S. Army on Parachutist Navigation development.			
FY 2015 Plans: Continue to perform technology upgrades and evaluation of emerging reliability challenges presented by fielded systems, to include Automatic Activation Device and participate with U.S. Army on Parachutist Navigation development.			
Title: Underwater Reconnaissance Capability (URC)	0.223	0.103	0.106
Articles:	-	-	-
FY 2013 Accomplishments: Completed Tactical Hydrographic Survey Equipment (THSE) testing and documentation.			
FY 2014 Plans: Initiate research and development on an improved diver propulsion device.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 4002 / *Family of Raid Reconnaissance*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue research and development on an improved diver propulsion device.			
Accomplishments/Planned Programs Subtotals	0.259	0.528	0.496

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/6518: *AMPHIB SPT EQUIP*	13.072	4.827	4.418	-	4.418	6.473	5.503	4.775	4.882	-	61.140

Remarks

D. Acquisition Strategy

(U) Family of Raid and Reconnaissance Equipment (FRRE) acquisition strategy is to fund engineering changes and product upgrade testing and development for various Reconnaissance Special Purpose Equipment for aerial delivery, parachuting, and close quarter combat, to include the Parachutist's High Altitude Oxygen System (PHAOS); Automatic Activation Device (AAD); Tandem Offset Resupply Delivery System (TORDS)/Military Tandem Tethered Bundle (MTTB) System; and the Marine Individual Assault Kit (MIAK).

(U) Underwater Reconnaissance Capability (URC) acquisition strategy for the Tactical Hydrographic Survey Equipment (THSE) consists of competing the performance specification for a COTS or NDI solution using the trade-off source selection process for an IDIQ FFP contract.

E. Performance Metrics

Milestone reviews.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	Project (Number/Name) 9C85 / *Marine Personnel Carrier (MPC)*	

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
9C85: *Marine Personnel Carrier (MPC)*	28.882	19.832	-	-	-	-	-	-	-	-	-	48.714
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 Marine Personnel Carrier (MPC) satisfies the medium lift capability of the Amphibious Combat Vehicle (ACV)/Joint Light Tactical Vehicle (JLTV)/MPC triad. The MPC supports expeditionary maneuver warfare of the Ground Combat Element (GCE) and enhances Marine Operating Forces tactical and operational mobility on a platform that is highly mobile on land while maneuvering with all USMC wheeled and tracked combat, and tactical vehicles. MPC provides armored protection and lethality to protect the vehicle and support dismounted infantry in the attack, while providing payload to carry the infantry's combat loads, mission-essential equipment, and up to two days of supplies.

This program's requirement was deferred and does not have funding beyond FY2013. ACV Increment 1.1 (PE 0603611M, Project 0025) leverages and continues the work that was previously accomplished under the MPC program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Product Development	7.349	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Completed studies and demonstration on COTS MPC vehicles to demonstrate capibilities such as, swim, survivability (blast), and human factors. Continued to maintain the MPC-TD which will inform the Capabilities Development Document (CDD).			
FY 2014 Plans: N/A			
FY 2015 Plans: N/A			
Title: Contract Advisory and Assistance Services	2.229	-	-
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206623M / *MC Ground Cmbt Spt Arms Sys*	**Project (Number/Name)** 9C85 / *Marine Personnel Carrier (MPC)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Provided contractor technical, engineering and management support for program planning, program documentation, analysis and execution. Supported government laboratory vehicle technology development and evaluation including common digital integration facilitation efforts. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: In-House Technical Support	10.254	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued in-house technical engineering and integrated logistics support for program planning, analysis and execution. Continued in-house digital architecture software design, development, and analysis efforts. Continued technology development and evaluations. Performed travel in support of the MPC program. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	19.832	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This requirement has been deferred and does not have funding beyond FY2013.

E. Performance Metrics

N/A

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0206624M *I Marine Corps Cmbt Services 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**
Total Program Element	148.321	56.390	35.647	20.999	-	20.999	23.666	19.021	18.405	14.940	Continuing	Continuing
0201: *Logistical Veh Sys Replacement (LVSR)*	35.537	0.509	2.392	0.385	-	0.385	0.328	0.311	0.237	0.211	Continuing	Continuing
2316: *Combat Service Support Eng Equip*	40.959	30.763	20.401	7.271	-	7.271	6.097	5.861	7.668	7.452	Continuing	Continuing
2509: *Motor Transport Mod*	27.959	9.107	2.538	6.978	-	6.978	3.320	1.471	0.951	1.027	Continuing	Continuing
2510: *MAGTF CSSE & SE*	0.000	12.648	4.518	4.930	-	4.930	9.306	7.933	4.468	4.487	Continuing	Continuing
2929: *Testing Measuring Diag Equip & SE*	4.789	1.577	2.571	0.248	-	0.248	0.518	0.546	0.582	0.624	Continuing	Continuing
9C90: *MTVR Mod*	39.077	1.786	3.227	1.187	-	1.187	4.097	2.899	4.499	1.139	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

This program element (PE) provides funding for Marine Air-Ground Task Force requirements for Combat Service Support equipment improvement. It will enhance combat breaching capabilities of the ground combat elements, logistics, maintenance and transportation. The PE also provides improvements in all areas of Combat Service Support Equipment Vehicles by determining the replacement for the heavy, medium and light fleet vehicles. This includes projects such as: Alternative Power Sources for Communications Equipment (APSCE) which is a suite of devices that provide the commander with the capability to use existing power to operate his communication equipment, computers and peripheral equipment instead of using batteries or fossil fuel generators; the Marine Corps Family of Automatic Test Systems (ATS), formerly TETS, which provides automatic testing capability for use by technicians both in garrison and forward edge of the battlefield; improvements in all areas of the M1A1 main battle tank; the High Performance Capabilities for Military Vehicles Project which is dedicated to applying the best practices of the motor sports industry to military vehicles including engineering expertise, equipment and technology.

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 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0206624M *I Marine Corps Cmbt Services Supt*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	65.155	42.647	46.984	-	46.984
Current President's Budget	56.390	35.647	20.999	-	20.999
Total Adjustments	-8.765	-7.000	-25.985	-	-25.985
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-7.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.217	-			
• SBIR/STTR Transfer	-1.477	-			
• Program Adjustments	-	-	-1.477	-	-1.477
• Rate/Misc Adjustments	-0.002	-	-24.508	-	-24.508
• Congressional General Reductions Adjustments	-5.503	-	-	-	-
• Congressional Directed Reductions Adjustments	-4.000	-	-	-	-

Change Summary Explanation

The FY14 to FY15 decrease reflects the adjustment of Marine Corps fiscal priorities which includes the termination of funding for the Route Reconnaissance and Clearance (R2C), Low Metallic Signature Mine Detector (LMSMD), and Engineer Squad Robot programs.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Services Supt*	Project (Number/Name) 0201 / *Logistical Veh Sys Replacement (LVSR)*	

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
0201: *Logistical Veh Sys Replacement (LVSR)*	35.537	0.509	2.392	0.385	-	0.385	0.328	0.311	0.237	0.211	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 Logistics Vehicle System Replacement (LVSR) program is the replacement for the Logistics Vehicle System (LVS) fleet. The LVSR Modification line funds numerous modifications and initiatives that are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, tool malfunctions, product quality deficiencies, and other issues that effect vehicle reliability, availability, maintainability and readiness. A proactive and focused approach ensures proper vehicle sustainment and life cycle management and it allows the flexibility to develop and implement improvements as needed to respond to the evolving needs of the Marine Corps. Reduction of funding from FY14 to FY15 is due to the decreased number of ECPs and safety mods required.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: LVSR: Engineering Change Proposal (ECP)	0.075	1.196	0.192
Articles:	-	-	-
FY 2013 Accomplishments: Completed Engineering Change Proposal (ECP) development and testing for Emergency Egress Lighting for all variants (cargo, tractor and wrecker) of the Logistics Vehicle System Replacement (LVSR) required to address concerns of decreased visibility issues by the Marines. Also completed Engineering Change Proposal (ECP) development and testing for UIK and 360 Degree Lighting for the LVSR Wrecker variant.			
FY 2014 Plans: Continue to support Engineering Change Proposal (ECP) development and testing for all variants (cargo, tractor and wrecker) of the Logistics Vehicle System Replacement (LVSR). Continual changes in the threat environment requires an on-going and proactive approach.			
FY 2015 Plans: Will support Engineering Change Proposal (ECP) development and testing for all variants (cargo, tractor and wrecker) of the Logistics Vehicle System Replacement (LVSR). Continual changes in threat environment requires an on-going and proactive approach.			
Title: LVSR: Safety	0.434	1.196	0.193
Articles:	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 0201 / *Logistical Veh Sys Replacement (LVSR)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Completed safety modification development and testing required to meet the diverse environments of current and future operations of MAGTF Expeditionary Maneuver Warfare. Specifically, funding supported the development and testing of the Wrecker Underbody Improvement Kits (UIK) and Automatic Fire Extinguishing System (AFES) for the unarmored vehicles. Incorporated new safety upgrades protecting the warfighter and LVSR vehicle from possible catastrophic events as warranted by continual changes in threat environment. ***FY 2014 Plans:*** Continue to support safety modification development and testing required to meet the diverse environments of current and future operations of MAGTF Expeditionary Maneuver Warfare. Incorporating new safety upgrades will protect the warfighter and LVSR vehicle from possible catastrophic events as warranted by continual changes in threat environment. ***FY 2015 Plans:*** Will continue to support safety modification development and testing required to meet the diverse environments of current and future operations of MAGTF Expeditionary Maneuver Warfare. Incorporating new safety upgrades will protect the warfighter and LVSR vehicle from possible catastrophic events as warranted by continual changes in threat environment.			
Accomplishments/Planned Programs Subtotals	0.509	2.392	0.385

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/5093: *LVSR*	36.713	-	-	-	-	-	-	-	-	-	1,118.167
• PMC/5050: *Motor Transport Mod: LVSR*	5.877	1.595	0.469	-	0.469	2.576	2.074	1.663	2.263	-	16.517

Remarks

D. Acquisition Strategy

The LVSR program uses a two-phase, single-step acquisition approach rather than an evolutionary acquisition approach. Phase I developed the Cargo variant and Phase II developed the Tractor and Wrecker variants. The program is currently in full rate production and sustainment utilizing RDT&E funding to address required ECPs to maintain relevancy on the battlefield and implement system requirements.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 0201 / *Logistical Veh Sys Replacement (LVSR)*

LVSR (430598) Program Schedule

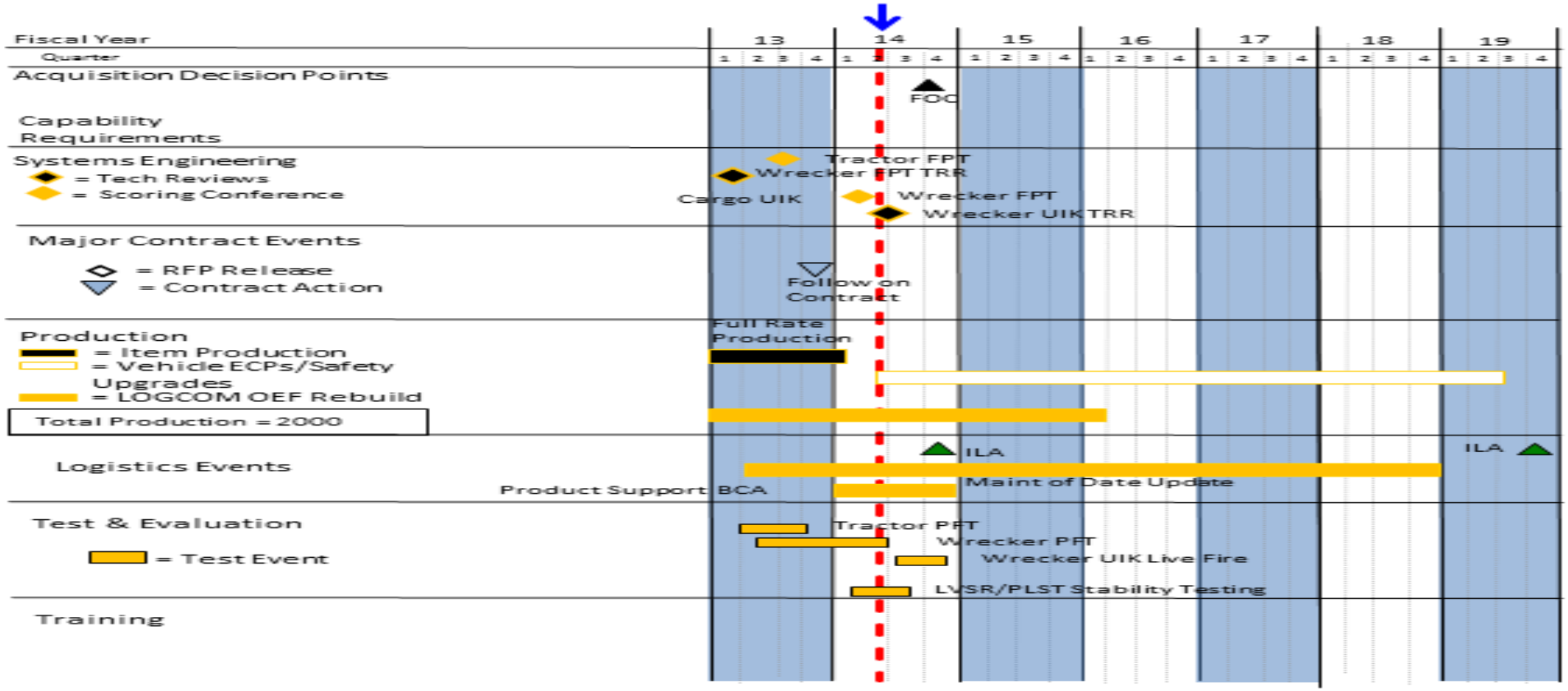


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Services Supt*				Project (Number/Name) 2316 / *Combat Service Support Eng Equip*			
COST ($ in Millions)	**Prior 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**
2316: *Combat Service Support Eng Equip*	40.959	30.763	20.401	7.271	-	7.271	6.097	5.861	7.668	7.452	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 M1A1 Mod Kit effort includes improvements in all areas of the M1A1 main battle tank and the Armored Vehicle Launched Bridge (AVLB). The M1A1 tank provides armor protected firepower to the USMC ground combat element. Efforts under the mod line pertaining to the M1A1 include improvements in lethality systems to increase armament accuracy, increase the crew's situational awareness through sensor enhancements and intra-vehicular data sharing, providing for off-board targeting improvement, and environmental testing of components. The AVLB provides the Marine Corps only armor-protected assault gap crossing capability. Continued funding is required to address obsolescence, address operational deficiencies to adapt the tank and AVLB to a changing operational environment and support user-defined product improvements. These improvements directly address Marine Corps Lessons Learned, after action reports, and will ensure maximum survivability, sustainability, and readiness.

Route Reconnaissance and Clearance (R2C) is an incremental development project to enhance the capabilities of the R2C systems, a family of systems fielded in support of Operation Iraqi Freedom (OIF) via the Urgent Needs Statement (UNS) process. This research and development effort will integrate future vehicles, robots, and associated equipment to provide standoff detection, marking, and neutralization of Explosive Hazards such as mines and Improvised Explosive Devices (IEDs). Enhancements for R2C will provide capabilities not found in the current inventory to defeat explosive hazards and will protect Marines and equipment while conducting route and area clearance operations. The integration of the next generation of armored security and support vehicles, Vehicle Mounted Mine Detectors (VMMDs), specialized robots, and a new suite of detection, marking, and neutralization systems will enable maneuver commanders to make timely and informed decisions in avoiding or neutralizing explosive hazards that impede their missions. Multiple detection and marking capabilities will detect a broader spectrum of explosive hazards and achieve higher overall effectiveness rates, while standoff and remote-controlled detection, marking, and neutralization capabilities will enhance force protection and system survivability. Operational speeds and rates will increase, which will better support the maneuver force operational tempo. This program does not have funding beyond FY2014.

The Engineer Mods and Tool Kits line funds modifications and initiatives which are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, product quality deficiencies and other issues that affect vehicle reliability, availability and readiness. This proactive and focused approach ensures proper vehicle sustainment and life cycle management in response to evolving needs of the Marine Corps fleet. Operational needs to provide personnel survivability on engineer equipment is essential to current and future operations. Research and development funding develops and integrates new lighter, compact armor technology and supports ballistic testing for applications to existing and future acquisitions.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

Corrosion Prevention and Control (CPAC): The useful life of Marine Corps assets will be extended through a comprehensive CPAC RDT&E program aimed at identifying and certifying new corrosion control products, materials, processes and procedures for legacy and new acquisition.

The Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV) provides tactical mobility for Warfighters with multi-mission vehicles designed to support urgent operational needs and protect personnel from the effects of improvised explosive devices (IEDs), underbody mines, and small arms fire threats. Five vehicle categories (CATs) have been tested, procured, fielded and sustained: Category I - Urban combat operations, ambulance. Category II - Multi-mission ops-convoy lead, troop transport, ambulance, utility vehicle. Category III - Mine/IED clearance ops, explosive ordnance disposal. MRAP All Terrain Vehicle (M-ATV) - Combat operations (ops) in rural, mountainous, urban terrain. Other Protected Vehicles- Specialty mission or unique configuration. Provides the same threshold ballistic, mine and IED protection as other MRAP vehicles. Includes the MRAP Recovery Vehicle (MRV) variant.

The Low Metallic Signature Mine Detector (LMS MD) will provide a light-weight, man portable, handheld detection capability that is capable of detecting traditional, low metallic, non-metallic mines, and explosive devices. The LMS MD capability enables mobility of dismounted forces by significantly increasing their ability to locate, mark, avoid, and/or reduce mine and IED threats. It will enable better categorization and identification of explosive hazards as it will be capable of detecting and discriminating between symmetric mines and asymmetric explosive devices, to include metallic, low metallic and zero metallic mines, IEDs, and Unexploded Ordinance (UXO) throughout a MAGTF Area of Operations (AO). The replacement detection capability to the interim VMR2 Minehound and AN/PSS-14 Mine Detector Program of Record, the LMS MD will be fielded throughout the Combat Engineer and EOD communities to provide dismounted maneuver and mobility support to a MAGTF in an expeditionary environment. This program does not have funding beyond FY2014.

Engineer Squad Robot (ESR) provides the Ground Combat Element with a lightweight back packable robot to support the maneuver commander with organic route and obstacle reconnaissance, urban scouting and breaching capabilities, explosive detection, interrogation and reduction in support of dismounted tactical maneuver across the spectrum of conflict. The Robot will be part of the T/E of Combat Engineer Squads in both active and reserve Combat Engineer Battalions (CEB), Marine Wing support Squadrons (MWSS) and additional systems are allocated for supporting establishments. This program does not have funding beyond FY2014.

The FY14 to FY15 decrease reflects the adjustment of Marine Corps fiscal priorities which includes the termination of funding for the Route Reconnaissance and Clearance (R2C), Low Metallic Signature Mine Detector (LMSMD), and Engineer Squad Robot programs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Engineer Mods and Tool Kits	1.085	0.372	0.254
Articles:	-	-	-
FY 2013 Accomplishments: Worked on solving the highest priority issues identified during testing and integration of modifications for the Engineer Family of Systems Ballistic and Add on Armor applications for the light capability rough terrain forklift.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Funds Ballistic and Add on Armor applications for Extended Boom Forklift in support of the Engineer Family of Systems. ***FY 2015 Plans:*** Funding will initiate support work for Matting applications in support of Engineer Family of Systems.			
Title: M1A1 Modifications	1.467	3.272	3.911
Articles:	-	-	-
FY 2013 Accomplishments: This project in conjunction with the Army, initiated qualification of tank turret systems as replacements to obsolescing units; addressed fire control system deficiencies; continued evaluation of attack-detection systems; developed plans for long-term modernization for the M1A1 in the Marine Corps inventory to include secondary armament targeting. ***FY 2014 Plans:*** FY14 funding continues to identify and develop upgrades to the M1A1 turret to include obsolescence mitigation, lethality, and survivability enhancement and evaluate broader platform modernization needs. ***FY 2015 Plans:*** FY15 funding will continue to identify and develop upgrades to the M1A1 turret to include obsolescence mitigation, lethality, and survivability enhancement and evaluate broader platform modernization needs.			
Title: Route Reconnaissance and Clearance (R2C):	3.182	2.751	-
Articles:	-	-	-
FY 2013 Accomplishments: FY13 funds continued development, integration and testing of events which began in FY12. FY13 also funded the preliminary efforts planned for Increment II of the Route Reconnaissance and Clearance (R2C) effort. ***FY 2014 Plans:*** FY14 funds initiate and complete development and testing of the Unmanned Launch Vehicle (ULV) and Electronically Triggered Explosive Obstacle Neutralization (ETEON) integrations. ***FY 2015 Plans:*** N/A			
Title: MRAP Vehicles	6.762	-	-
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Performed Ballistic Testing and Engineering Support on MRAP Family of Vehicles (FoV) in support of survivability and mobility upgrades. Performed Testing and Evaluation of capabilities requested in Urgent Universal Needs Statement/Joint Urgent Operational Needs Statement (UUNS/JUONS) and other planned survivabilty and mobility upgrades. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Corrosion Prevention and Control (CPAC) ***Articles:*** ***Description:*** Corrosion Prevention and Control (CPAC): The useful life of Marine Corps assets will be extended through a comprehensive CPAC RDT&E program aimed at identifying and certifying new corrosion control products, materials, processes and procedures for legacy and new acquisition. The CPAC RDT&E Program works to standardize and substantially improve strategies, objectives and processes to prevent, detect, and treat corrosion and its effects on Marine Corps ground vehicles and weapons systems. This mission responds to the Congressional directives and DoD and SECNAV instruction to reduce the negative operational effects and associated total ownership cost of Marine Corps ground vehicles and weapons systems ***FY 2013 Accomplishments:*** The CPAC program continued to provide support to all major PEO / PMs concerning corrosion control. Key efforts include review and modification of program CPAC Planning documents, support of Design Review meetings, and evaluation of corrosion testing on prototype assets. Additionally the USMC CPAC program has completed significant engineering efforts including revision to the USMC painting technical manual TM 4750-OD/1: Painting, Coating, Underbody, and Registration Marking for Marine Corps Combat and Tactical Equipment that included specified surface preparation methods based on substrate type and thickness, modified Chemical Agent Resistant Coating (CARC) specifications, coating quality assurance requirements, undercoating specifications, and the addition of a procedure for bedliner applications. Throughout this document, technical modifications were made on the basis of USMC and OSD-funded corrosion control engineering projects which yielded positive changes in corrosion control processes. ***FY 2014 Plans:*** The CPAC RDT&E program continues to identify new corrosion control products, materials, processes and procedures and continues to impact Marine Corps corrosion control processes through Science and Technology initiatives in some of the following areas: Thermally Sprayed Metal Coatings (TSMC) for Corrosion Protection of Areas Subject to Wear, Compatibility of Chemical Agent Resistant Coating (CARC) Systems During Re-Paint, Chip Resistant, Flexible Nonslip Coatings and Corrosion Resistant	1.900 -	2.122 -	3.106 -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Insulating Foams. Along with stewardship of the Corrosion Products, Processes and Materials project for vendor submissions to the Marine Corps and product qualification for chip and abrasion resistant coatings. ***FY 2015 Plans:*** The CPAC RDT&E program will increase the identification of new corrosion control products, materials, processes and procedures and continues to impact Marine Corps corrosion control processes through Science and Technology initiatives in some of the following areas: Thermally Sprayed Metal Coatings (TSMC) for Corrosion Protection of Areas Subject to Wear, Compatibility of Chemical Agent Resistant Coating (CARC) Systems During Re-Paint, Chip Resistant, Flexible Nonslip Coatings and Corrosion Resistant Insulating Foams. Along with stewardship of the Corrosion Products, Processes and Materials project for vendor submissions to the Marine Corps and product qualification for chip and abrasion resistant coatings.			
Title: Engineer Squad Robot	5.205	4.289	-
Articles:	-	-	-
FY 2013 Accomplishments: (U) Engineer Squad Robot (ESR) FY13 funding supports an Analysis of Alternatives (AoA) and Whole Systems Trades Analysis (WSTA) to assist in identifying the best alternative, acquisition approach, and technology development strategy for the Joint ESR and Army Common Robotic System (Individual)(CRS-I). The Army and USMC have jointly developed the ESR/CRS-I Capability Development Document (CDD) which will be updated based on the outcome of the AoA. ***FY 2014 Plans:*** The ESR/CRS-I program is scheduled to complete the AoA study and enter into AoA Approval (PoPS Gate 4) in 4th Qtr FY14. During 3rd Qtr FY14, the CRS-I CDD will be submitted into formal staffing concurently with Army Requirements Oversight Committee (ROC), the Marine Corps ROC, and then through Joint ROC. Using Dynamic Object Oriented Requirements System (DOORS), the Requirements Traceability Matrix (RTM) will be initiated in FY14 along with the System Performance Specification (SPS), System Evaluation Plan, and System Engineering Plan. ***FY 2015 Plans:*** N/A			
Title: Low Metallic Signature Metal Detector (LMSMD)	11.162	7.595	-
Articles:	-	-	-
FY 2013 Accomplishments: FY13 funded support for the development, integration, test, evaluation of a new dual sensor handheld detector system that incorporates advanced metal detection and ground penetrating radar (GPR) to provide improved performance, miniaturization,			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
longer operating time, and optimized human systems integration. The new hand-held mine detector system replaces the interim VMR2 Minehound detector and AN/PSS-14 Mine Detector Program of Record. ***FY 2014 Plans:*** FY14 funds complete the development and testing of a new hand held detector system that will provide greater efficiency, improved target discrimination, miniaturization and longer operating time. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	30.763	20.401	7.271

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/6520: *EOD Systems - R2C*	34.409	44.256	-	-	-	-	-	-	-	-	301.311
• PMC/6670: *Items Less than $5M - CPAC*	0.484	0.848	0.837	-	0.837	0.857	0.872	0.874	0.891	Continuing	Continuing
• PMC/2061: *Modification Kits - M1A1 Mod Kits*	20.676	29.819	19.316	-	19.316	14.947	14.839	15.143	15.484	Continuing	Continuing

Remarks

D. Acquisition Strategy

(U) The M1A1 modification kits program will leverage Army initiatives to the maximum extent and incorporate modifications to adapt Army solutions to the USMC environment. The USMC will research, develop, and evaluate programs to improve the survivability and lethality of the USMC tank. These efforts include the Abrams integrated Display and Targeting System, threat detection and warning, situational awareness, survivability, and ownership cost reduction work. M1A1 Mods will exercise options on existing contracts of varying types to conduct research and analysis associated with the development of modifications and corrosion prevention to the M1A1 Tank and supporting platforms.

(U) Route Reconnaissance and Clearance (R2C): Starting in FY10, the Marine Corps began to procure a fleet of standardized Route Reconnaissance and Clearance systems based upon the successful route clearance teams operating in Iraq using Capabilities Production Documents for current systems and leveraging contracts already in place. Concurrently, supports a research and development effort to integrate future vehicles with enhanced mobility and survivability, a suite of improved detection and marking capabilities, and robots with greater detection, marking, and neutralization capabilities. As a result of adjustments to Marine Corps fiscal priorities the R2C program has been terminated. This program does not have funding beyond FY14.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2316 / *Combat Service Support Eng Equip*

(U) Engineer Mods and Tool Kits: This is a roll-up line of various engineering efforts, modifications and other related items less than $5 Million each. This program provides for significant improvements to a various pieces of engineering equipment by enhancing their capabilities and improving readiness.

(U) Corrosion Prevention and Control (CPAC) Program: The Program will execute the RDT&E Program through direct allocation of funding to the Naval Surface Warfare Center - Carderock Division Corrosion Research and Engineering Branch for comprehensive program aimed at identifying and certifying new corrosion control products, materials, processes and procedures for legacy and new acquisition.

(U) Mine Resistant Ambush Protected (MRAP): The Program will execute RDT&E funds in support of Cougar Egress and Seat Survivability testing. Funds will also support research and development efforts associated with Engineering Change Proposals (ECP) for survivability and mobility upgrades.

(U) The Low Metallic Signature Mine Detector will develop, integrate, test, evaluate and procure a new hand-held mine detector system to replace the current AN/PSS-14 Mine Detector Program of Record. Ground Penetrating Radar (GPR) technology has improved significantly since the development of the AN/PSS-14, allowing greater efficiency, target discrimination, miniaturization, longer operating time and command & control. The Low Metallic Signature Mine Detector will be effective against low and non metallic devices, capable of identifying man-made objects, weigh less than 7 lbs, capable of start-up and calibration in less than 60 seconds, and be integrated with existing C2 systems. As a result of adjustments to Marine Corps fiscal priorities the LMS-MD program has been terminated for FY15 thru FYDP.

(U) The Engineer Squad Robot(ESR)/CRS-I provides Marines and Soldiers a dismounted standoff capability for scouting and explosive hazard detection. USMC ESR will formally merge with the Joint USMC/Army Common Robotic System (Individual) (CRS-I) starting in FY16. By combining efforts, there will be an improvement in meeting "Better Buying" initiatives as the Approved Acquisition Objective (AAO) will increase from a USMC AAO of 274 to a Joint AAO of 3,734. Prior to FY16, the ESR will conduct a Joint AoA for the multi-mission Unmanned Ground System (UGS) and a WSTA to assist in determining the best alternative for the ESR/CRS-I program. After completion of the WSTA and AoA, the acquisition approach for the Joint ESR/CRS-I will be determined. AoA approval is scheduled for 4th Qtr FY14. As a result of adjustments to Marine Corps fiscal priorities the ESR program has been terminated for FY15 thru FYDP.

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Services Supt*				Project (Number/Name) 2509 / *Motor Transport 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**
2509: *Motor Transport Mod*	27.959	9.107	2.538	6.978	-	6.978	3.320	1.471	0.951	1.027	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 Marine Corps Tactical Motor Transport Modification project manages procurement and life cycle sustainment for more than 40,000 principle end items divided among four fleets: Light Fleet, Medium Fleet, Heavy Fleet, and Special Fleet. A sustained effort is maintained in the Marine Corps for development and testing in support of fleet Service Life Extension Program (SLEP) initiatives, vehicle quality deficiency resolutions, safety initiatives, environmental/state transportation mandated vehicle changes, and system component refresh modifications efforts. Since transportation asset operational availability declines at a steady rate over time, SLEP, fleet overhauls, and enhanced depot level modifications are essential in maintaining a viable transportation capability in the Marine Corps Operating Forces.

The Improved Recovery Vehicle (IRV) project includes improvements in all areas of the M88A2 Improved Recovery Vehicle. Continued funding is required to address obsolescence and support pre-planned product improvements. In addition, will implement lessons learned and develop safety related Engineering Change Proposals (ECPs) to correct hazards noted during the standard day to day operation of the M88A2 Improved Recovery Vehicle.

The HMMWV Sustainment Modification Initiative (SMI) program will restore selected variants of the remaining armored HMMWV fleet to 2004 Operational Requirements Document (ORD) performance parameters. This will be accomplished via a modification through kitting approach. The improvements will focus on restoring the vehicles to safe operating parameters over the expeditionary mission profile, restoring reliability, payload, and mobility to ORD thresholds. The FY15 funding increase reflects the commencement of vendor drive-off testing operational assessment.

The Material Handling Equipment (MHE) line is a roll-up line that provides for the replacement and Service Life Extension Program (SLEP) of Marine Corps MHE including forklifts, cranes, and container handlers. Funds will be used to explore techniques and technology to help survivability of the various platforms while also working to help sustain reliability and performance of the equipment.

The Family of Construction Equipment (FCE) line is a roll-up line that provides for the replacement and Service Life Extension Program (SLEP) of Marine Corps construction equipment. Funds will be used for Ballistic and Add on Armor (AoA) application tests and integration into the Engineer Family of Systems construction equipment.

P-19 Replacement (P-19R) will replace the aging A/S32P-19A Crash Fire Rescue fleet in support of expeditionary airfield operations and the supporting establishment. The vehicle will be outfitted with advanced fire suppression equipment and provide rescue and aircraft fire fighting capabilities to permanent and expeditionary airfields throughout the Marine Corps. The P-19 Replacement may also be employed to fight structure fires in support of base camps and as firefighting support to other

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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elements of the MAGTF, such as ammunition supply points, Petroleum, Oil, and Lubricant (POL) distribution points, or hazardous material storage facilities. The increase in funding from FY14 to FY15 is due to an additional testing requirement to support Full Rate Production (FRP) of the P-19R.

MTVR Trailer and Family of Tactical Trailers programs will explore options for "lightening the Marine Air Ground Task Force (MAGTF)" weight and cube attributes of our light and medium trailer fleet. Seeking technologies and other current and emerging options that can be employed to achieve optimum lift capability while constrained to the desired weight and cube. Transportation and expeditionary goals will be considered in the research and development phase for the trailer fleet. The MTVR Trailer program is a USMC initiative to replace the current M105/MK149/M353 Trailers with a trailer capable of augmenting the MTVR's increased mobility without degrading its operational capabilities. This program will develop and field a trailer which will have greater mobility characteristics while increasing the payload up to 12,000 lbs. The FY14 to FY15 decrease is due to completion of developmental testing and movement of program to Full Rate Production (FRP).

Family of Material Handling Equipment will explore ways to armor or design survivability for various pieces of equipment in the Material Handling Family.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Improved Recovery Vehicle (IRV)	0.274	0.266	0.208
Articles:	-	-	-
FY 2013 Accomplishments: Developed long-term modernization plans for the M88A2 within the Marine Corps and continued efforts to mitigate emergent operational deficiencies such as analysis on the exhaust components for the M88A2 to reduce the possibility of engine fires. ***FY 2014 Plans:*** Develop long-term modernization plans for the M88A2 within the Marine Corps to address safety, obsolescence mitigation and mobility improvement; to include Situational Awareness, exhaust system redesign, Improved Track and Electronic Fuel Injection. ***FY 2015 Plans:*** Develop long-term modernization plans for the M88A2 within the Marine Corps to address operating safety enhancements, maintainability enhancements, and crew ergonomic improvements.			
Title: High Mobility Multipurpose Wheeled Vehicle ECV (HMMWV-ECV)	0.458	0.358	5.355
Articles:	-	-	-
FY 2013 Accomplishments: Completed Concept A, B, C and D design and build. Initiated test analysis support and acquired Modeling and Simulation (M&S) tools and M&S training. New designs will improve vehicle performance, safety and reliability. ***FY 2014 Plans:*** Continue program management support, MS B documentation, review final test reports and activities in support of RFP release for competitive prototypes. New designs will improve vehicle performance, safety and reliability. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Initiate Drive-off testing, operational assessment and ballistic compliance testing. Contracts will be awarded to two vendors for drive-off testing. Vehicle performance, safety and reliability will be improved.			
Title: P-19 Replacement	6.383	0.922	1.008
Articles:	-	-	-
FY 2013 Accomplishments: Achieved Milestone B and awarded prime contract. Funded prototype development, performance & reliability testing, developed engineering data packages, and program management activities in support of the P-19R award. P-19R provides rescue and firefighting capabilities to permanent and expeditionary airfields throughout the Marine Corps and allows the MAGTF the capability to defend itself against aircraft fires caused by crashes or other causes.			
FY 2014 Plans: Continue system support testing and procure engineering data packages.			
FY 2015 Plans: Continue testing of the P-19R in support of Full Rate Production (FRP).			
Title: Motor Transport Modification (MTM)	0.291	0.473	0.108
Articles:	-	-	-
FY 2013 Accomplishments: Completed the modification to improve the M870 Heavy Trailer in support of the Logistics Vehicle Systems Replacement (LVSR) program. Funding also supported the evaluation, testing, and integration of system modifications identified for application on Motor Transportation light, medium, and heavy tactical assets.			
FY 2014 Plans: Continue to evaluate, test, and integrate system modifications identified for application on Motor Transportation light, medium, and heavy tactical assets as well as enhancements to improve vehicle performance including testing in support of the Internally Transportable Vehicle (ITV).			
FY 2015 Plans: Continue to evaluate, test, and integrate system modifications to improve vehicle performance and correct deficiencies identified for application on Motor Transportation light, medium, and heavy tactical assets including testing in support of the Internally Transportable Vehicle (ITV).			
Title: MTVR Trailers	1.241	0.175	-
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Initiated design and testing of a modular trailer to replace the M105 Trailer. ***FY 2014 Plans:*** Finalize testing of the modular trailer to provide increased capacity with lower weight and achieving the goal of lightening the MAGTF. ***FY 2015 Plans:*** N/A			
Title: Family of Tactical Trailers	-	0.174	0.099
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Initiate safety testing to maintain reliability and effectiveness of Light Tactical Trailers (LTT) with the improved High Mobility Multipurpose Wheeled Vehicle (HMMWV) fleet and Heavy Tactical Trailers (HTT) designed for the Logistics Vehicle System (LVS)/Logistical Vehicle System Replacement (LVSR). ***FY 2015 Plans:*** Continue testing to ensure effectiveness of Light Tactical Trailers (LTT) with the improved High Mobility Multipurpose Wheeled Vehicle (HMMWV) fleet and also provides for the Heavy Tactical Trailers (HTT) designed for the Logistics Vehicle System (LVS)/ Logistical Vehicle System Replacement (LVSR), enabling the fleet to maintain mobility requirements.			
Title: Family of Material Handling Equipment	0.460	0.170	-
Articles:	-	-	-
FY 2013 Accomplishments: Explored techniques and technology for crew survivability on various platforms while also working to help sustain reliability and performance of the equipment. ***FY 2014 Plans:*** Continue exploring techniques and technology for survivability on various platforms while also working to help sustain reliability and performance of the equipment. ***FY 2015 Plans:*** N/A			
Title: Family of Construction Equipment	-	-	0.200

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2509 / *Motor Transport Mod*

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: Initiate exploration of techniques and technology for crew survivability on various platforms while also working to help sustain reliability and performance of the equipment.			
Accomplishments/Planned Programs Subtotals	9.107	2.538	6.978

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/5230: *Motor T Mod*	2.784	2.885	2.964	-	2.964	3.018	3.198	3.259	3.325	Continuing	Continuing
• PMC/5045: *HMMWV*	5.925	1.224	57.255	-	57.255	82.462	55.331	56.295	57.402	Continuing	Continuing
• PMC/5097-01: *Family of Tactical Trailers*	4.904	4.002	0.175	-	0.175	3.185	3.096	2.208	3.450	Continuing	Continuing
• PMC/2061: *IRV*	3.636	3.427	2.593	-	2.593	2.640	2.700	2.749	2.801	Continuing	Continuing
• PMC/4630: *IRV*	0.152	0.134	0.158	-	0.158	0.162	0.165	0.168	0.171	Continuing	Continuing
• PMC/5097-02: *Flatrack Refueler Capability (FRC)*	14.436	18.791	-	-	-	-	-	-	-	-	60.527
• PMC/5097-03: *MTVR Trailers*	8.504	-	10.004	-	10.004	13.853	15.771	1.034	1.064	Continuing	Continuing
• PMC/5006: *P19R*	-	16.940	11.035	-	11.035	30.937	33.132	16.002	16.335	Continuing	Continuing
• PMC/6462: *Family of Material Handling Equipment*	35.932	36.593	8.807	-	8.807	10.087	14.100	9.997	11.175	Continuing	Continuing
• PMC/6544: *Family of Construction Equipment*	43.460	36.583	3.669	-	3.669	6.603	11.380	14.646	16.836	Continuing	Continuing
• PMC/7000: *Family of Material Handling Equipment*	0.036	0.050	0.070	-	0.070	0.050	0.051	0.052	0.053	Continuing	Continuing

Remarks

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

The Improved Recovery Vehicle (IRV) program leverages Army developmental projects to create a system that more readily meets Marine Corps Heavy Recovery Vehicle requirements. Improvements include Engineering Change Proposals addressing safety, reliability, and technology upgrades.

The HMMWV Sustainment Modification Initiative (SMI) program will take a five-phased approach. The first phase will include trade studies and preliminary design; the second phase will focus on final design and the building of component upgrade kits; the third phase will include performance and RAM testing of production representative kitted vehicles against the requirements in the 2004 HMMWV ORD; the fourth phase will complete development of the technical specification; and the fifth phase will award the production contract. The vehicle improvements will be accomplished by enhancing the HMMWVs at industry facilities, government depots, or a partnering combination of the two, via a modification through kitting approach. Open competition for providing the kits and installing/integrating them into existing platforms is a key goal.

The P-19 Replacement will leverage COTS and/or NDI components in an effort to minimize costs, test requirements, and reduce development time. P-19R will supplant the aging A/S32P-19A fleet in support of expeditionary airfield operations and the supporting establishment. The vehicle will be outfitted with advanced fire suppression equipment and provide rescue and aircraft fire fighting capabilities to permanent and expeditionary airfields throughout the Marine Corps. The P-19 Replacement may also be employed to fight structure fires in support of base camps and as firefighting support to other elements of the MAGTF, such as ammunition supply points, Petroleum, Oil, and Lubricants (POL) distribution points, or hazardous material storage facilities.

Motor Transport Modification funding will focus on streamlined acquisitions of Commercial-Off-The-Shelf/Non-Developmental Items (COTS/NDI) that can be identified, integrated, and tested in a short amount of time. Successful modifications and tests are intended for follow-on procurement and incorporation into existing system component upgrades, SLEPs, or rapid COTS/NDI fielding for the Fleet Marine Forces (FMF).

The Family of Material Handling Equipment acquisition strategy will use RDT&E funding to explore current and new armor options that can be used to achieve optimum crew survivability performance.

The Medium Tactical Vehicle Replacement (MTVR) Trailer program's original acquisition strategy consisted of procuring three variants of trailers that would have greater mobility characteristics, while maximizing the commonality of parts, across the three trailer platform. FY05 RDTE funds were used to procure six prototypes trailers (two of each variants) developed by Choctaw Manufacturing Developing Contractors (CMDC). Prior to a fielding decision, the original MTVR Trailer program was halted due to concerns the trailers did not meet the CMC goal to lighten the MAGTF. As a result, the MTVR Trailer program was restructured for re-design of the cargo trailer and to delay procurement of the Water and General Purpose trailers. On 29 November 2012, a CD&I letter directed that the trailer requirement would now be constructed as a modular trailer capable of hauling the water SIXCON and all expeditionary power units, to include the 100Kw generator. The new modular design would replace the MK149, M353, and M105 trailer and would be designated as the MTVR Modular Trailer, MK593.

The Family of Construction Equipment acquisition strategy will use RDT&E funding to explore current and new armor options that can be used to achieve optimum crew survivability performance.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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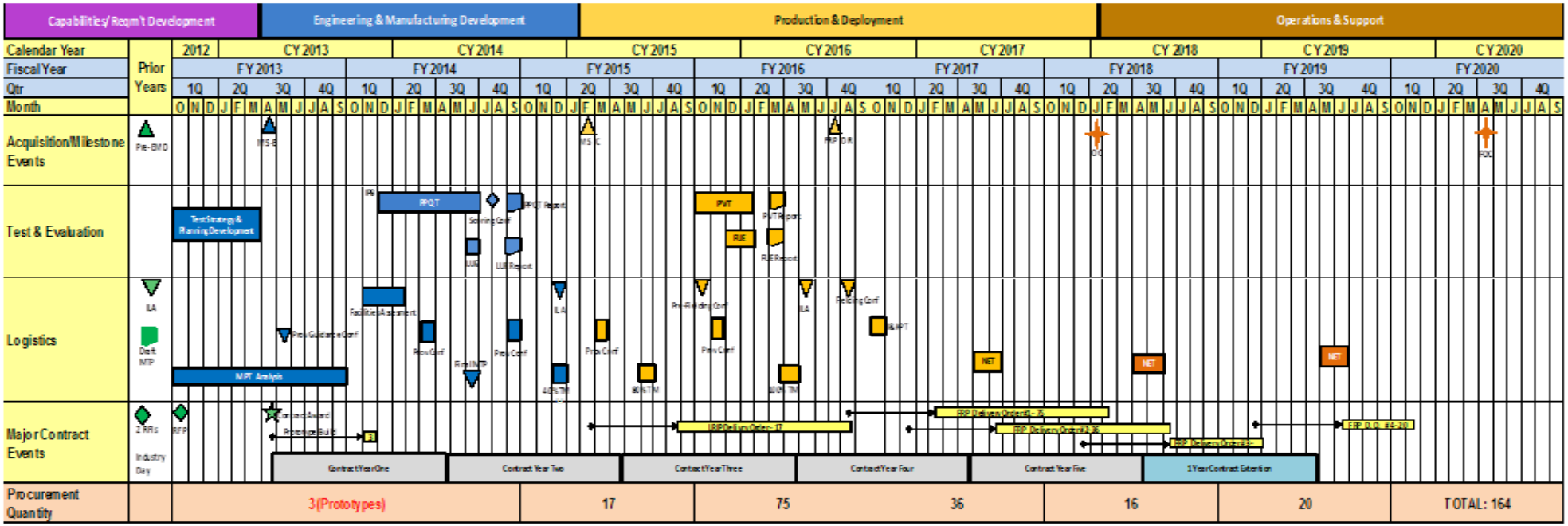
The Family of Tactical Trailer (FTT) acquisition strategy will use RDT&E funding to explore current and new technological options that can be used to achieve optimum lift within the desired weight and cube constraints in support of the "Lightening the MAGTF" initiative. Transportation and expeditionary goals will be considered in the research and development phase for the light and medium/heavy trailer fleet.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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P-19R, 430308 Program Schedule



1

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

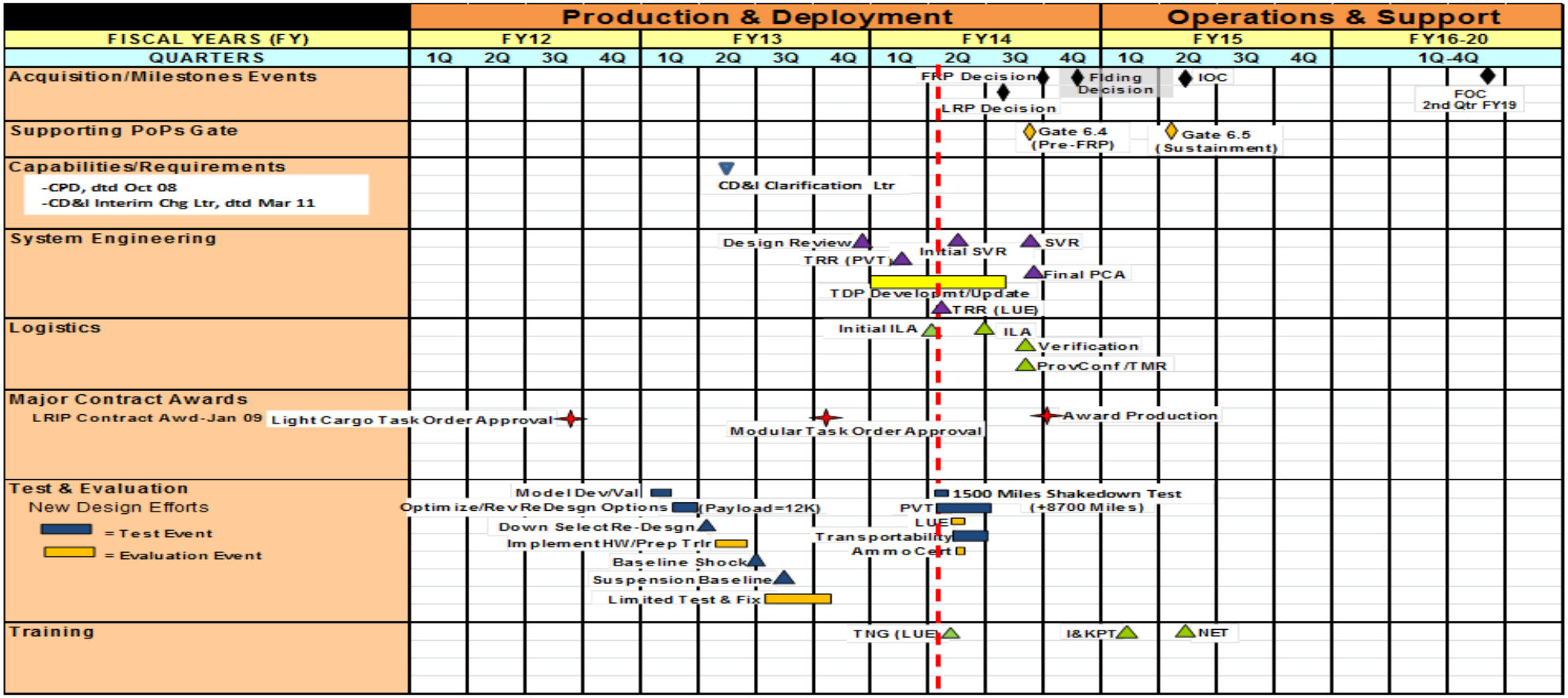


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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HMMWV, 430498 Program Schedule

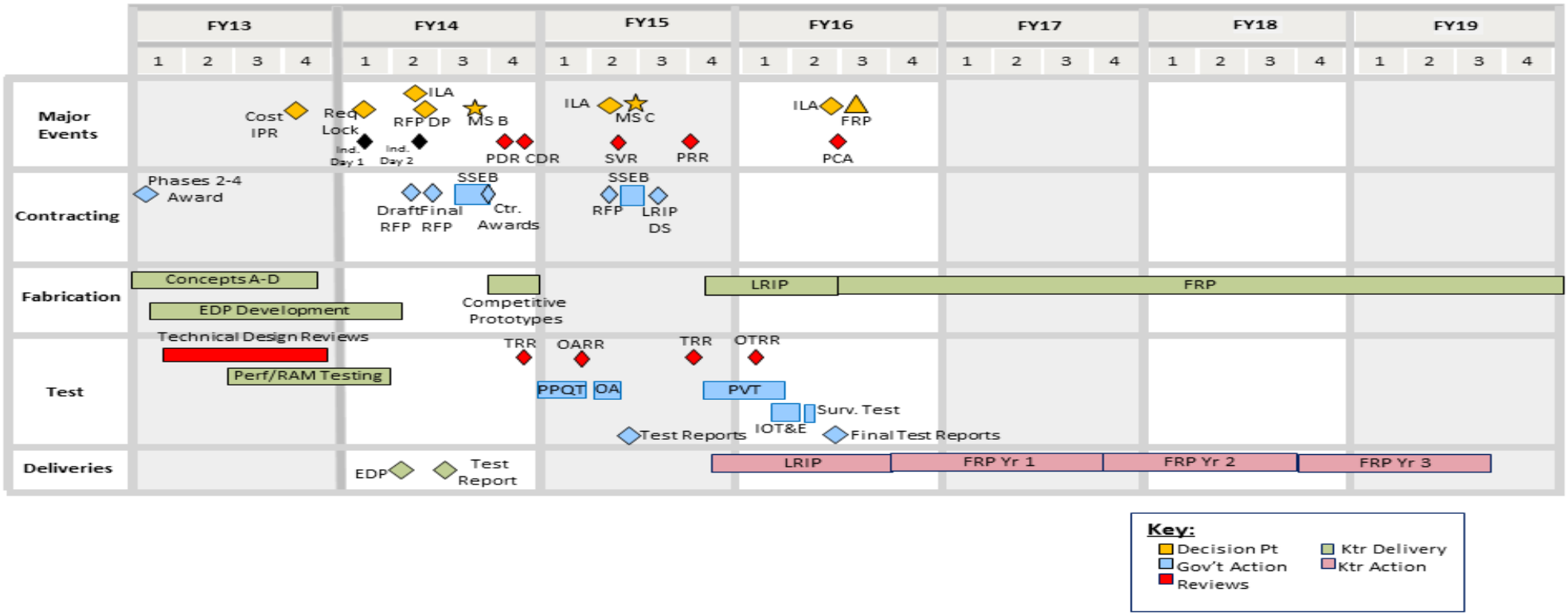
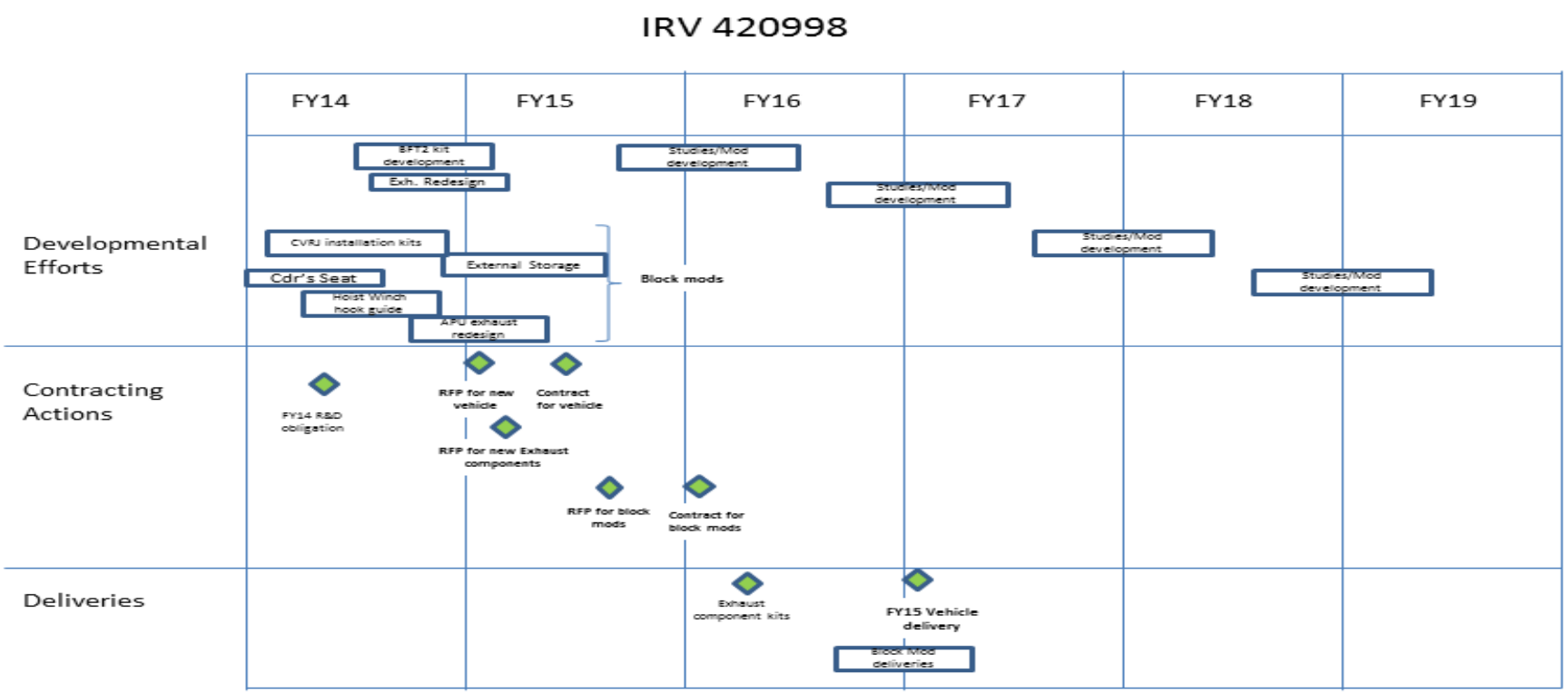


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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Remarks: Testing is subsumed within developmental efforts
Modification development is an ongoing life cycle effort

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Services Supt*				Project (Number/Name) 2510 / *MAGTF CSSE & SE*			
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**
2510: *MAGTF CSSE & SE*	-	12.648	4.518	4.930	-	4.930	9.306	7.933	4.468	4.487	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

Environmental Control Equipment :
The Enhanced Environmental Control Unit (E2CU) program is the second generation of a family of environmental control units from 9000 BTU to 60,000 BTU/Hr cooling output. The E2CU program will provide tactical Heating, Ventilation and Air Conditioning (HVAC) and superior reliability for all MAGTF units in all operational concepts. E2CU will replace all legacy ECUs starting in 2015 in the following sizes: 9000 BTU/Hr; 18,000 BTU/Hr; 36,000 BTU/Hr; and 60,000 BTU/Hr. These higher reliability and higher efficiency sets will use EPA-approved refrigerants, will be more energy efficient, be more mobile, easier to repair, and quieter than their predecessors. A significant average fuel efficiency improvement over the current ECU family has been demonstrated. With environmental control systems consuming 50-70% of tactical electric power in theater, this savings will be a significant contribution to reducing the USMC fuel demand, and lightening the MAGTF. The Warfighter benefit includes a decreased logistics footprint, less reliance on petroleum-derived fuels, increased local energy security, and reduced tanker losses (fewer on the road). The operational imperative to reduce fuel usage will consequently reduce refueling operations and exposing Marines to hazardous fuel convoy operations. The funding decrease from FY14 and FY15 reflects the requirements and resource realignment of all commodity areas and budget adjustments made by the Marine Corps Combat Development Command.

Mobile Power Equipment:
The Family of Mobile Electric Power Equipment consists of skid and trailer mounted tactical generators ranging from 1 to 200 kilowatts, Mobile Electric Power Distribution Systems, Load Banks, and Electrician's Tool Kits. This equipment is procured and fielded to provide electricity on the battlefield. Combat, combat support, and combat service support units all require tactical power to operate weapons systems, Command, Control, Communications, Computers and Intelligence (C4I) systems, medical and messing facilities, environmental control equipment, and water purification systems. With over 10,000 generators and using diesel engines in the Operating Forces, improving their fuel efficiency and reliability will be a significant contribution to reducing the USMC fuel demand, and lightening the MAGTF. The Warfighter benefit includes a decreased logistics footprint, less reliance on petroleum-derived fuels, increased local energy security, and reduced tanker losses (fewer on the road). The operational imperative to reduce fuel usage will consequently reduce refueling operations and exposing Marines to hazardous fuel convoy operations.

Four discrete efforts will be pursued as follows:
(1) Hybrid Generator: Funding to integrate new AMMPS 10kW Generator and energy storage devices onto a Light Tactical Trailer. Will provide capability to deliver 10kW steady state, supply up to 13kW peak demand for several hours using stored energy, provide 3kW silent operations for several hours (battery only). Will transition into production of a unit that can be integrated with the AMMPS generator.

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(2) Next Generation Power Distribution: Intelligent power management devices that can integrate with existing MEPDIS-R Power Distribution Boxes and AMMPS generators. Provides capability for safe, efficient centralized power distribution from a single source to multiple loads, Automatic phase balancing of loads, power monitoring and data collection/dissemination for remote system monitoring.
(3) Next-Generation Floodlight System (FLS): Funding to integrate new 10kW AMMPS Generator and a new light tower (floodlight system) onto a Light Tactical Trailer. Provides tactical lighting and exportable 3-phase electrical power. Will transition into production of a unit that can be integrated with the AMMPS generator.
(4) 1kW Diesel Generator: Integration and product qualification testing of new 1kW diesel generator for USMC-unique applications. Generator procurement will be by customers on a DoD contract.
The increase in funding from FY14 and FY15 reflects the requirements and resource realignment of all commodity areas and budget adjustments made by the Marine Corps Combat Development Command. In addition, funding supports the current program strategy for Mobile Hybrid Electric Power System (MEHPS)developmental efforts in concert with SECDEF/CMC energy initiatives.

Advanced Power Sources
These R&D efforts will focus on achieving the Marine Corps goal of lightening the MAGTF and the individual Marine combat load though reduced battery weight and logistical fuel resupply needs. The Mobile Electric Hybrid Power System - Lightweight (MEHPS-L) and Medium Hybrid Expeditionary Energy Systems (MHEES) will focus on hybrid power systems capable of improved fuel efficiency and silent operations in the 0.5-5kW power range. These systems will be smaller, lighter and more efficient systems. The conformal/CFX battery effort will focus on testing and integrating next generation batteries. The Shipboard Battery Management System will focus on developing, testing, and integrating a shipboard battery maintenance structure which will allow the Marine Corps to transport and maintain lithium batteries throughout the fleet in a safe and expeditionary manner. The Squad Electric Power Program will focus on further weight reduction of the Squad Electric Power System and increasing survivability and durability of the system. The On Board Vehicle Power (OBVP) will focus on flexibility and efficiency of research and development to save fuel at idle conditions and improve vehicle energy efficiency on MTVR platforms. The Advanced Battery Charger will allow complete charging of different types of military and commercial batteries used for communications, electronics, and weapon systems. The funding decrease from FY14 and FY15 reflects the requirements and resource realignment of all commodity areas and budget adjustments made by the Marine Corps Combat Development Command.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Enhanced Environmental Control Unit	3.002	0.991	0.435
Articles:	12.000	-	-
FY 2013 Accomplishments: Developed (12) prototype 36,000 BTU/Hr and 60,000 BTU/Hr Environmental Control Units (ECUs).			
FY 2014 Plans: Conduct prototype testing of the Enhanced ECUs developed during FY13.			
FY 2015 Plans: Continue prototype testing and integration of ECP (Engineering Change Proposals) for the Enhanced Environmental Control Units (E2CUs).			
Title: Mobile Power Equip/Hybrid Generator/Next Gen Power Distribution System	1.939	1.779	3.660

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	12.000	-	-
Description: Four discrete efforts will be pursued as follows: (1) Hybrid Generator: Funding to integrate new AMMPS 10kW Generator and energy storage devices onto a Light Tactical Trailer. Will provide capability to deliver 10kW steady state, supply up to 13kW peak demand for several hours using stored energy, provide 3kW silent operations for several hours (battery only). Will transition into production of a unit that can be integrated with the AMMPS generator. (2) Next Generation Power Distribution: Intelligent power management devices that can integrate with existing MEPDIS-R Power Distribution Boxes and AMMPS generators. Provides capability for safe, efficient centralized power distibution from a single source to multiple loads, automatic phase balancing of loads, power monitoring and data collection/dissemination for remote system monitoring. (3) Next-Generation Floodlight System (FLS): Funding to integrate new 10kW AMMPS Generator and a new light tower onto a Light Tactical Trailer. Provides tactical lighting and exportable 3-phase electrical power. Will transition into production unit that can be integrated with the AMMPS generator. (4) 1kW Diesel Generator: Integration and product qualification testing of new 1kW Diesel Generator for USMC-unique applications. Generator procurement will be by customers on a DoD contract. ***FY 2013 Accomplishments:*** Hybrid Generator Development: Awarded three one-year RDTE contracts to develop and integrate new AMMPS 10kW Generator and energy storage devices onto a Light Tactical Trailer. Articles: Each contractor will produce two (2) for total of six(6) test articles. Next Generation Power Distribution System: Awarded three (3) one-year RDTE contracts to develop Next Generation Power Distribution System. Articles: Each contractor to produce two (2) for total of six (6) test articles. ***FY 2014 Plans:*** Begin testing and integration of the Hybrid Generator and Next Generation Power Distribution systems. ***FY 2015 Plans:*** Testing of the Next Generation Power Distribution system and integration of AMMPS Generators with new COTS Floodlight System and testing. Integration of 1KW Generator with Ground Renewable Expeditionary Energy Systems (GREENS) and testing.			
Title: Advanced Power Sources	7.707	1.748	0.835
Articles:	28.000	-	4.000
FY 2013 Accomplishments: RENEWABLE ENERGY Developed new Solar Portable Alternative Communications Energy System (SPACES): Awarded three one-year RDTE contracts to develop more efficient SPACES. Each contractor to produce 2 of each size for total of 6 test articles. Plan for government testing in late FY13.			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Developed new Medium Hybrid Expeditionary Energy Systems (MHEES) (next gen GREENS): Awarded three one-year RDTE contracts to develop more efficient GREENS. Each contractor to produce 2 of each size for total of 6 test articles. Plan for government testing in FY13. BATTERY MANAGEMENT AND SUSTAINMENT SYSTEM (BMASS) Developed new Suitcase Portable Charger (Advanced Battery Charger) - Awarded three one-year RDTE contracts to develop more efficient Charger. Each contractor to produce 3 of each size for total of 6 test articles. Plan for government testing in late FY13. Naval Surface Warfare Center Carderock Division, Carderock, MD procured batteries and conducted the study. SQUAD ELECTRIC POWER PROGRAM Developed Squad Electric Power - Awarded three one-year RDT&E contracts to develop Squad Electric Power. Each contractor to produce 2 of each size for total of 6 test articles. Government testing will be in late FY13 on the HMMWV platforms. ON BOARD VEHICLE POWER (OBVP) MTVR/HMMWV On Board Vehicle Power, fuel efficiency study - Awarded two one-year RDT&E contracts to develop more fuel efficient OBVP kits. Each contractor to produce 2 each for total of 4 test articles. Plan for government testing in late FY13 on the HMMWV platforms. ***FY 2014 Plans:*** Continue 2nd year of development of (MHEES)(next gen GREENS) and commence testing of developmental articles. Testing will be completed FY14. Continue testing of HMMWV On-Board Vehicle Power developed in 2013. ***FY 2015 Plans:*** CONFORMAL/CFX BATTERY Initiate test, integrate, and qualify Conformal/CFX batteries for Marine Corps use - Naval Surface Warfare Center Carderock Division, Carderock, MD will procure batteries and test. Plan for government testing in mid FY15. ON BOARD VEHICLE POWER (OBVP) Continue deveopment of NEXGEN On Board Vehicle Power, fuel efficiency study - Award two one-year RDT&E contracts to develop more fuel efficient OBVP kits. Each contractor to produce 2 each for total of 4 test articles. Plan for government testing in FY15 on MTVR platforms.			
Accomplishments/Planned Programs Subtotals	12.648	4.518	4.930

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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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
• PMC/6054: *Environmental Control Equipment*	13.558	14.491	0.994	-	0.994	0.998	1.770	2.081	5.326	-	145.868
• PMC/6366-1: *Mobile Power Equipment*	42.750	37.139	4.890	-	4.890	2.672	6.679	11.349	13.196	-	268.559
• PMC/6366-2: *Advanced Power Sources*	26.575	26.218	4.095	-	4.095	14.555	14.998	15.227	15.556	-	163.176

Remarks

D. Acquisition Strategy

Initial focus on development of more efficient 30,000 BTU/Hr and 60,000 BTU/Hr size model Environmental Control Units (ECUs), since they make up the greatest percentage of the inventory and are used extensively for shelter heating and cooling. Full and open competition. Three contractors to develop and deliver prototypes in two size models. Government testing to validate performance. Single contractor to produce both models using multi-year ID/IQ production contract. Low Rate Initial Production (LRIP), followed by LRIP testing, then Full Rate Production (FRP) to procure using PMC funds on annual Delivery Orders. ECUs are organically supported by Marines.

Initial focus on development of Hybrid Generator Systems using AMMPS generators beginning in FY13, and Power Distribution, followed by New Floodlight Set development in FY14. For each effort, strategies are very similar: Full and open competition. Three contractors to develop and deliver prototypes in two size models. Government testing to validate performance. Single contractor to produce both models using multi-year ID/IQ production contract. LRIP, followed by LRIP testing, then Full Rate Production to procure using PMC funds on annual Delivery Orders . All equipment is organically supported by Marines. The 1kW Generator effort will be to integrate and test these generators in USMC unique applications. Generators will be procured by others on a DoD contract.

The acquisition strategy for the Renewable Energy Program is to focus on improvements for the next generation Solar Portable Alternative Communications Energy System (SPACES), Ground Renewable Expeditionary Energy System (GREENS)/Medium Hybrid Expeditionary Energy Systems (MHEES), and Mobile Electric Hybrid Power System Lightweight (MEHPS- L). These R&D efforts will focus on achieving the Marine Corps goal of lighting the MAGTF and the individual Marine combat load through reduced battery weight and logistical fuel resupply needs. In particular the development will focus on making these systems smaller, lighter and more efficient. In addition this development effort will also focus on development needed to transition the Office of Naval Research (ONR), Reliable S (SAP - Service Accessible Point) Update Protocol (RSUP), Future Naval Capability (FNC) effort.

The acquisition strategy for the Battery Management and Sustainment System (BMASS) is to focus on the development of the next generation portable Marine Corps charger and a Portable Lithium Battery Maintainer. These R&D efforts will focus on developing a capability which allow the Marine Corps the ability to support battery needs in all locations and environments of operation (land, sea and air). In particular the development will focus on making the next generation of the Suitcase Portable

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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Charger (called the Advanced Battery Charger) smaller, lighter, more efficient and high power. It will also focus on development of a capability which allows the Marine Corps to transport and maintain lithium batteries throughout the fleet in a safe and expeditionary manor.

The acquisition strategy for the Squad Electric Power Program is to focus on the transition of the ONR Squad Electric Power FNC effort. This R&D effort will focus on achieving the Marine Corps goal of lighting the individual Marines combat load though reduced battery weight and increase interoperability of Marine Corps gear. In particular the effort will focus on further weight reduction of the Squad Electric Power System and increasing survivability and durability of the system.

The acquisition strategy for the On Board Vehicle Power Program is to focus on the continued adaptation and development of technologies transitioned from the Office of Naval Research Future Naval Capability. Primary focus will be on adaptation for different vehicle platform models (M1151, M1165) as well as updates to system configuration due to Armor requirement changes. Further, changes in deployment methodology with command guidance to focus on flexibility and efficiency will drive research and development to save fuel at idle conditions and improve energy export efficiency.

E. Performance Metrics

E2CU: Energy efficiency; size; weight; EPA-approved refrigerant; affordability; organically supportable.
MOBILE POWER: Energy efficiency; size; weight; affordability; organically supportable.
SPACES: 50% size reduction of controller, 50% reduction in panel surface area, 50% increase in panel efficiency
GREENS/MHEES/MEHPS-L): 20% reduction in weight, 50% increase in power capability, 20% reduction in volume
BMASS: ABC - Energy efficiency; size; weight; ability to charge specified batteries
SQUAD ELECTRIC POWER PROGRAM: N/A
OBVP: N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

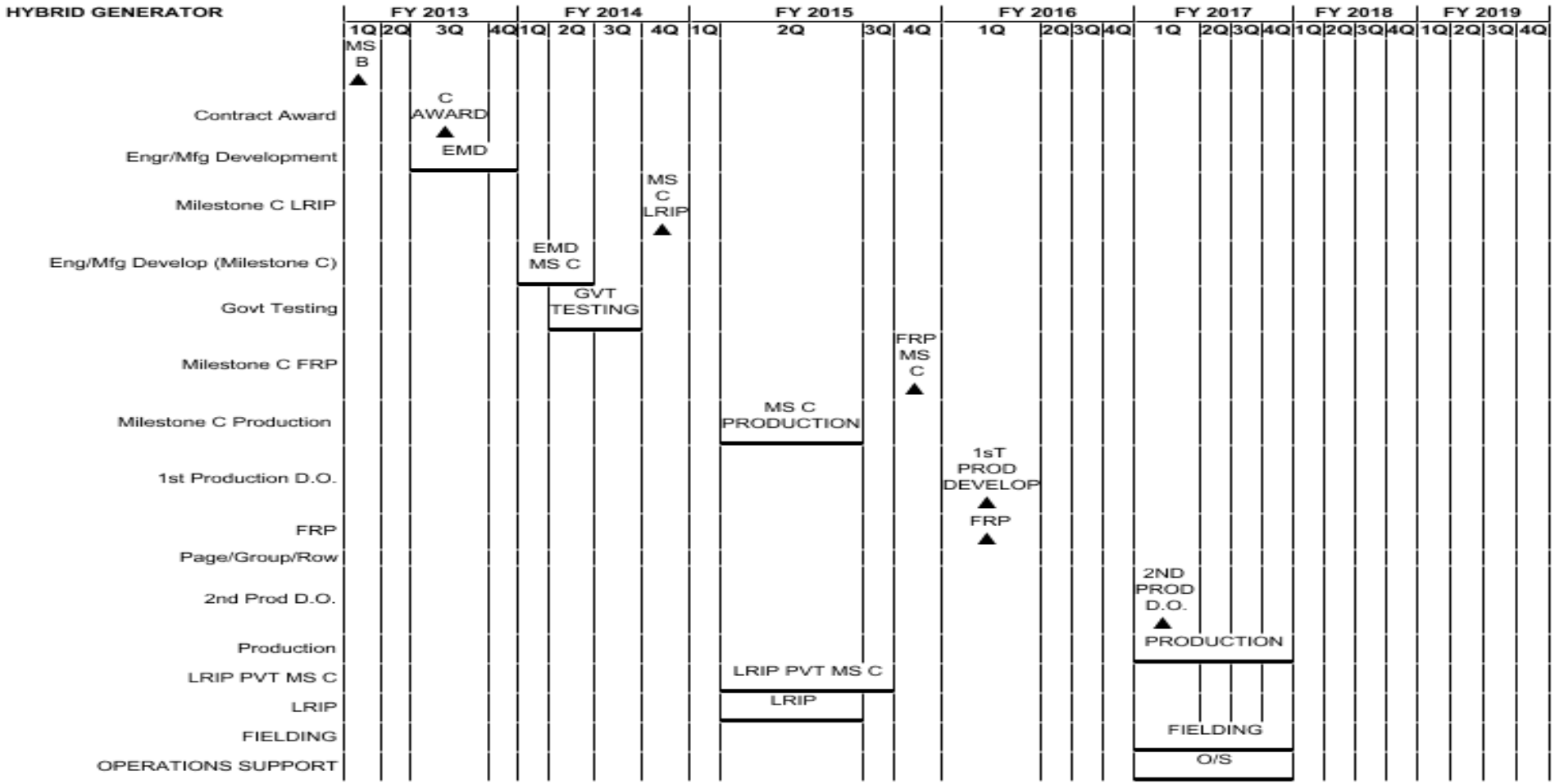


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

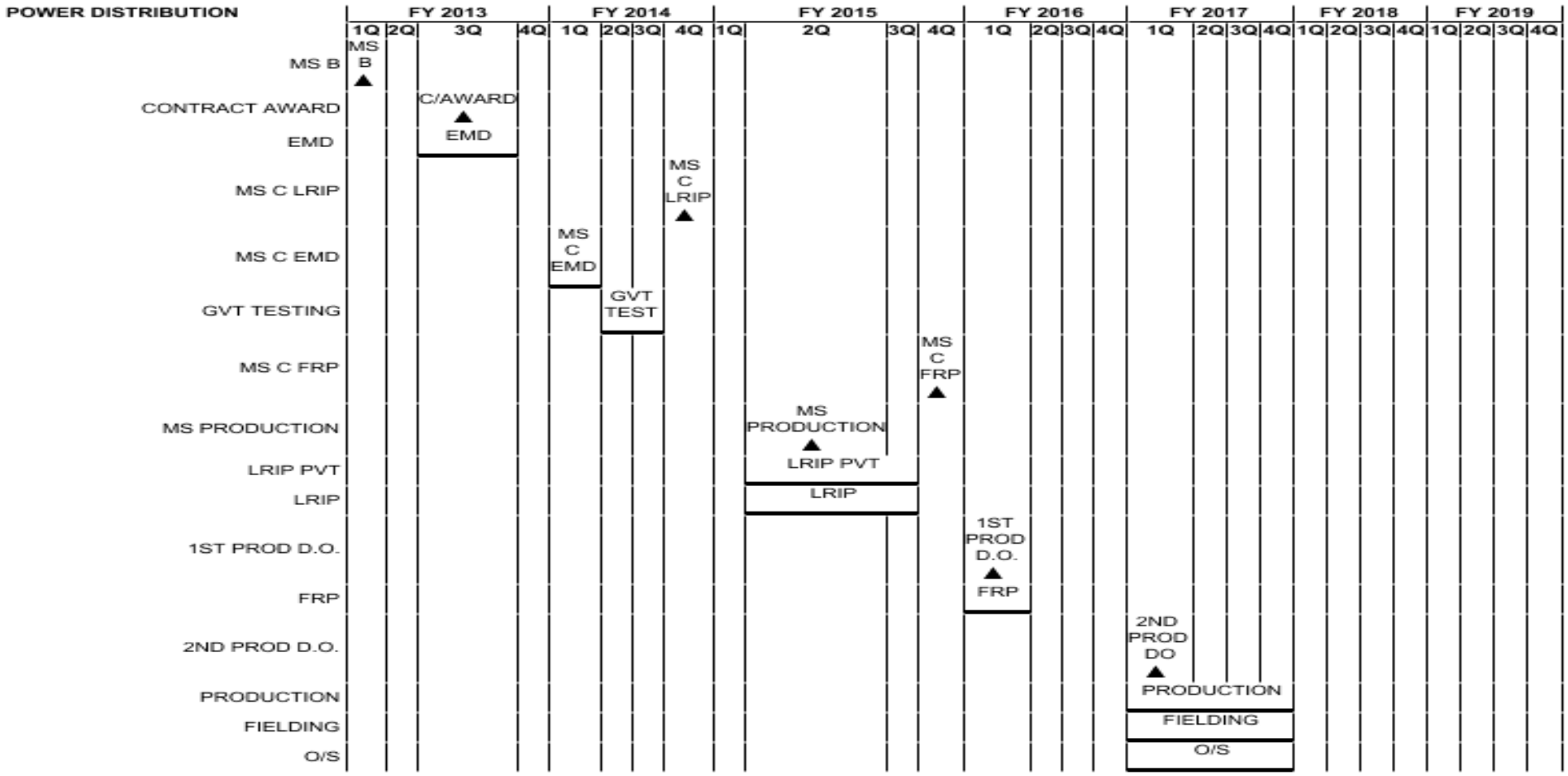
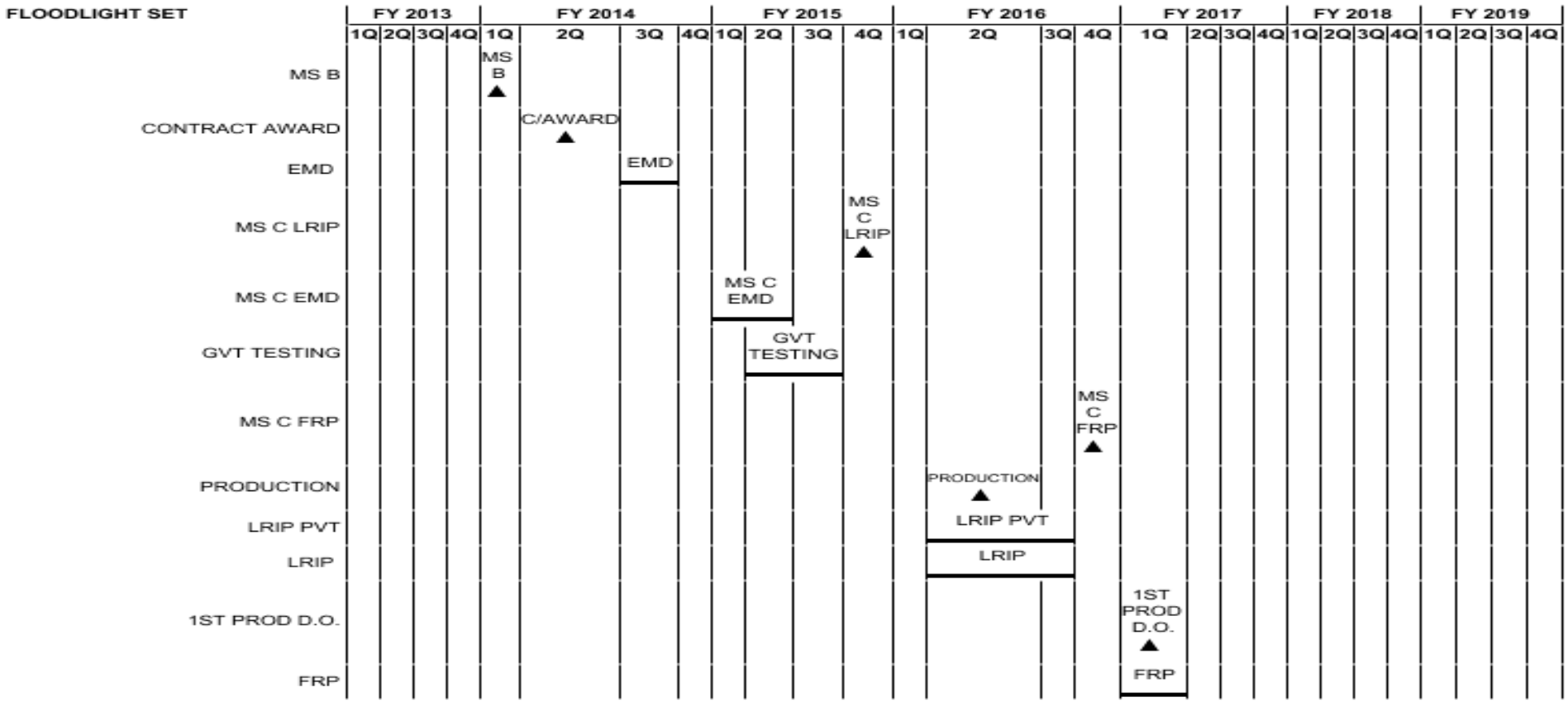


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*



2015PB - 0206624M - 2510

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

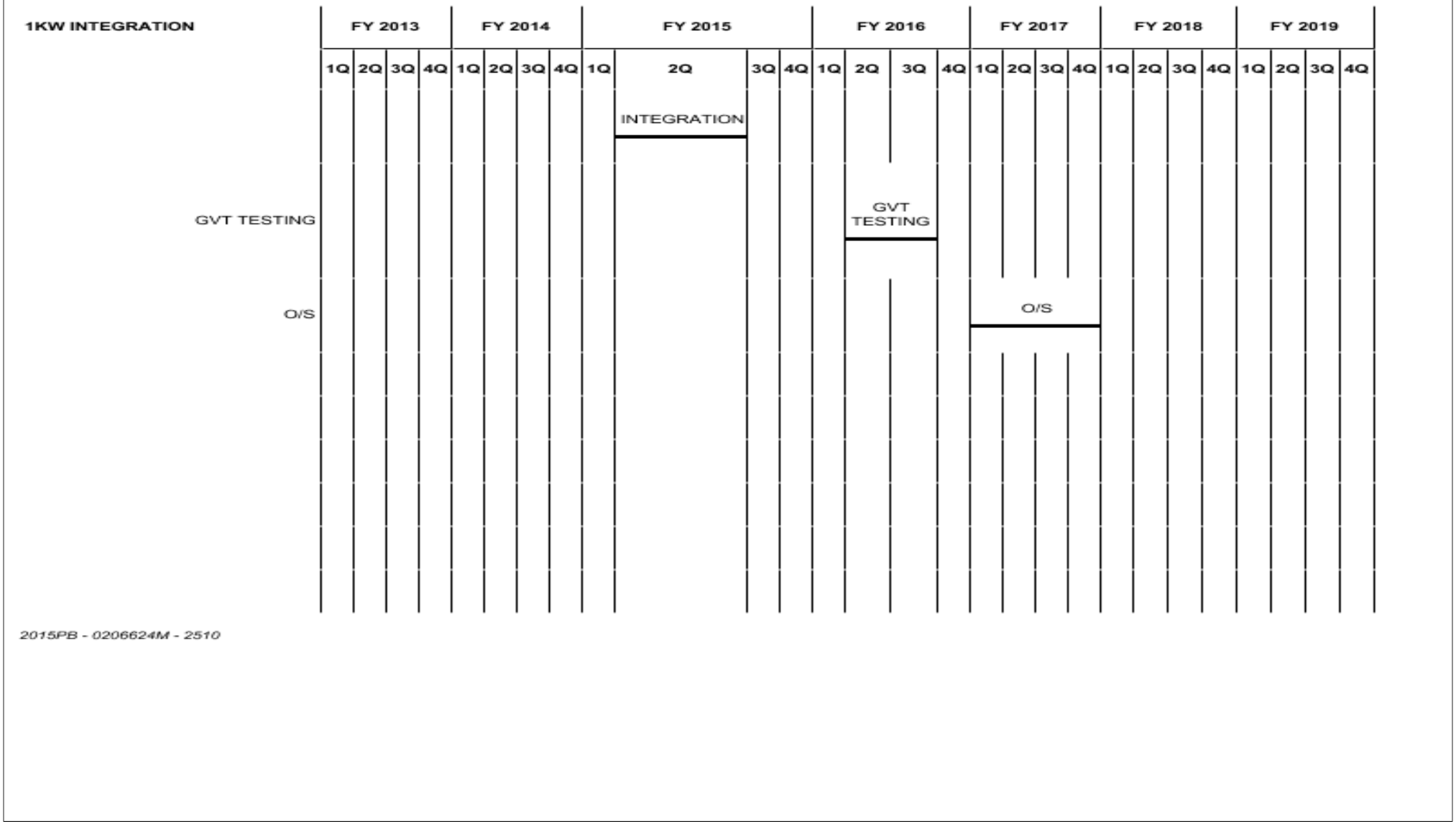
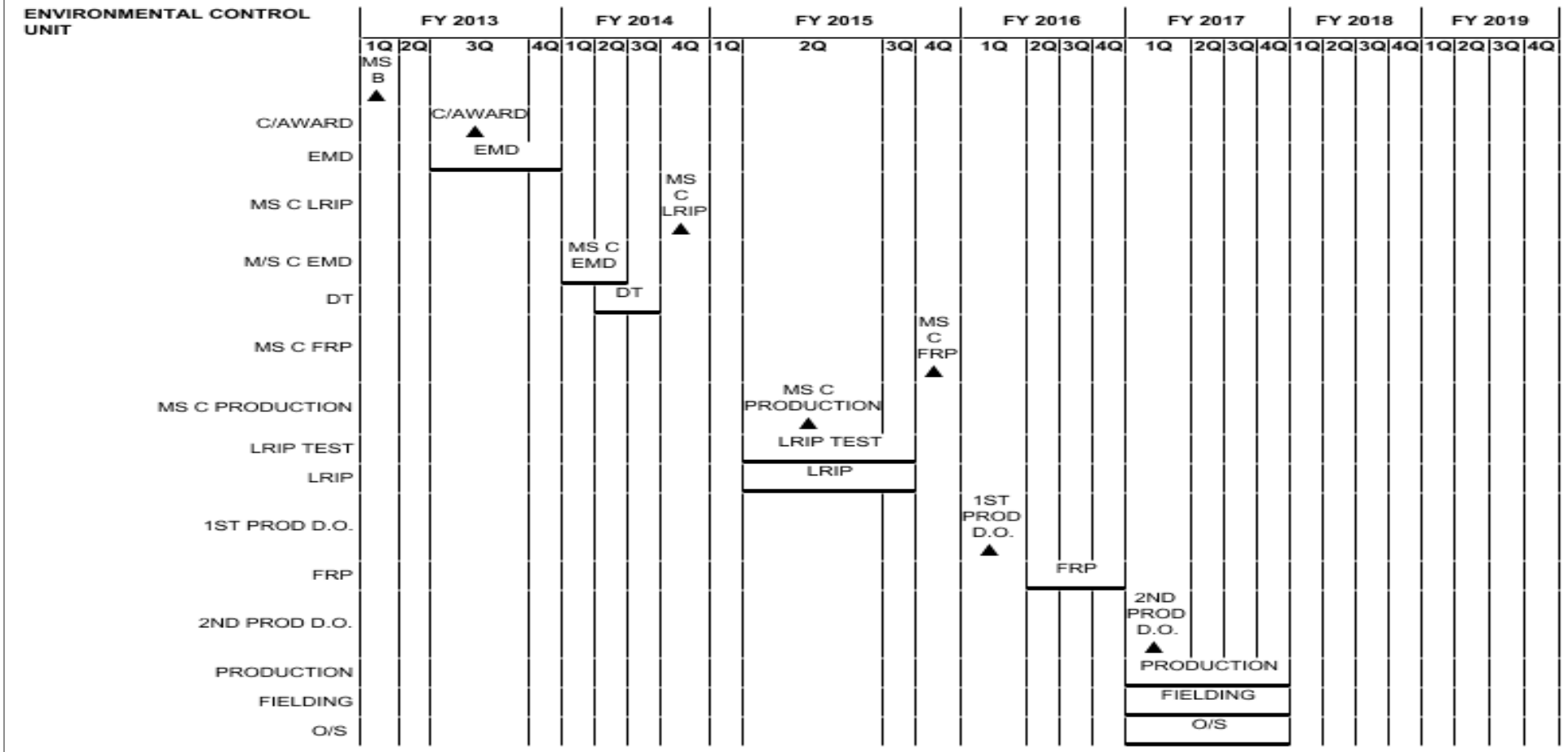


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*



2015PB - 0206624M - 2510

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

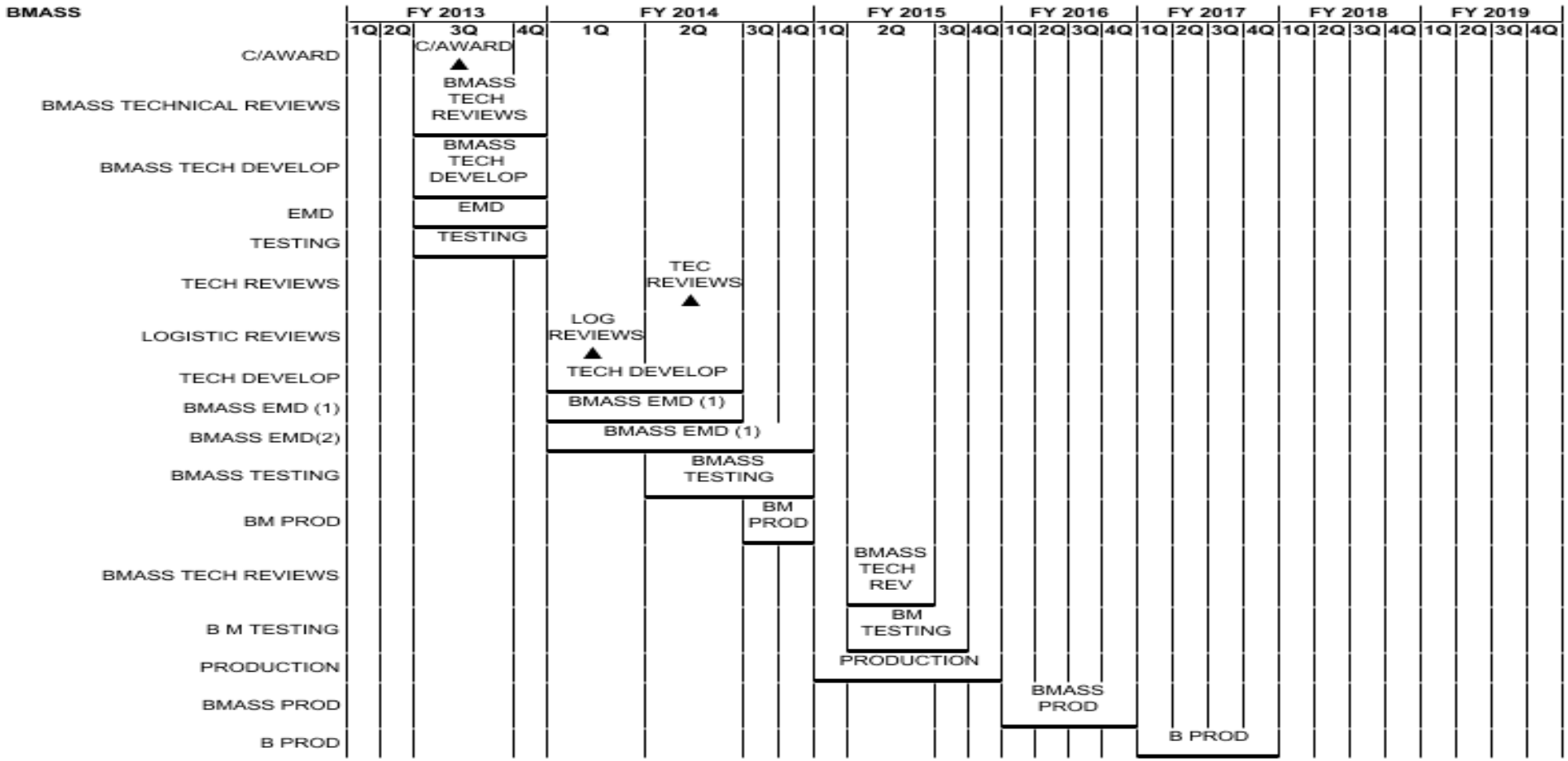
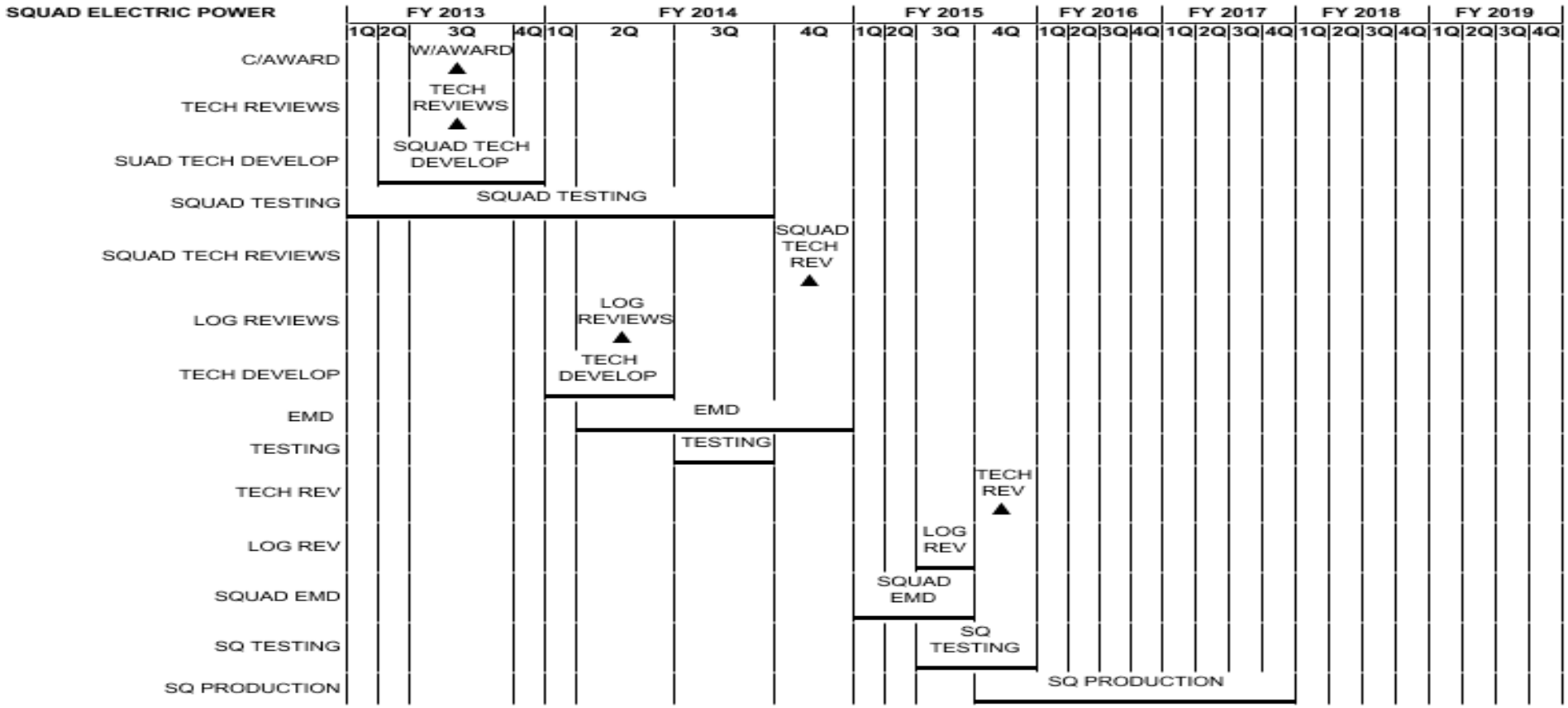
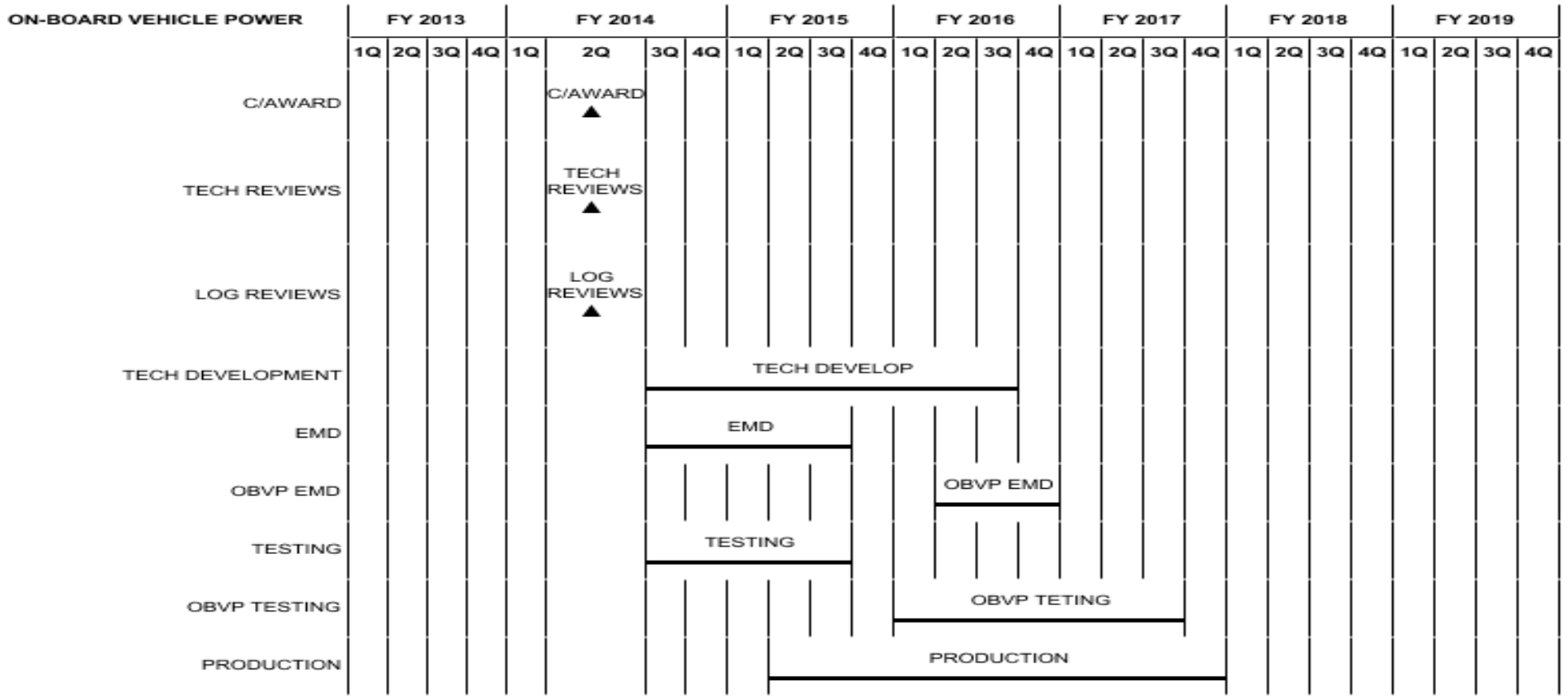


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*



2015PB - 0206624M - 2510

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*



2015PB - 0206624M - 2510

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

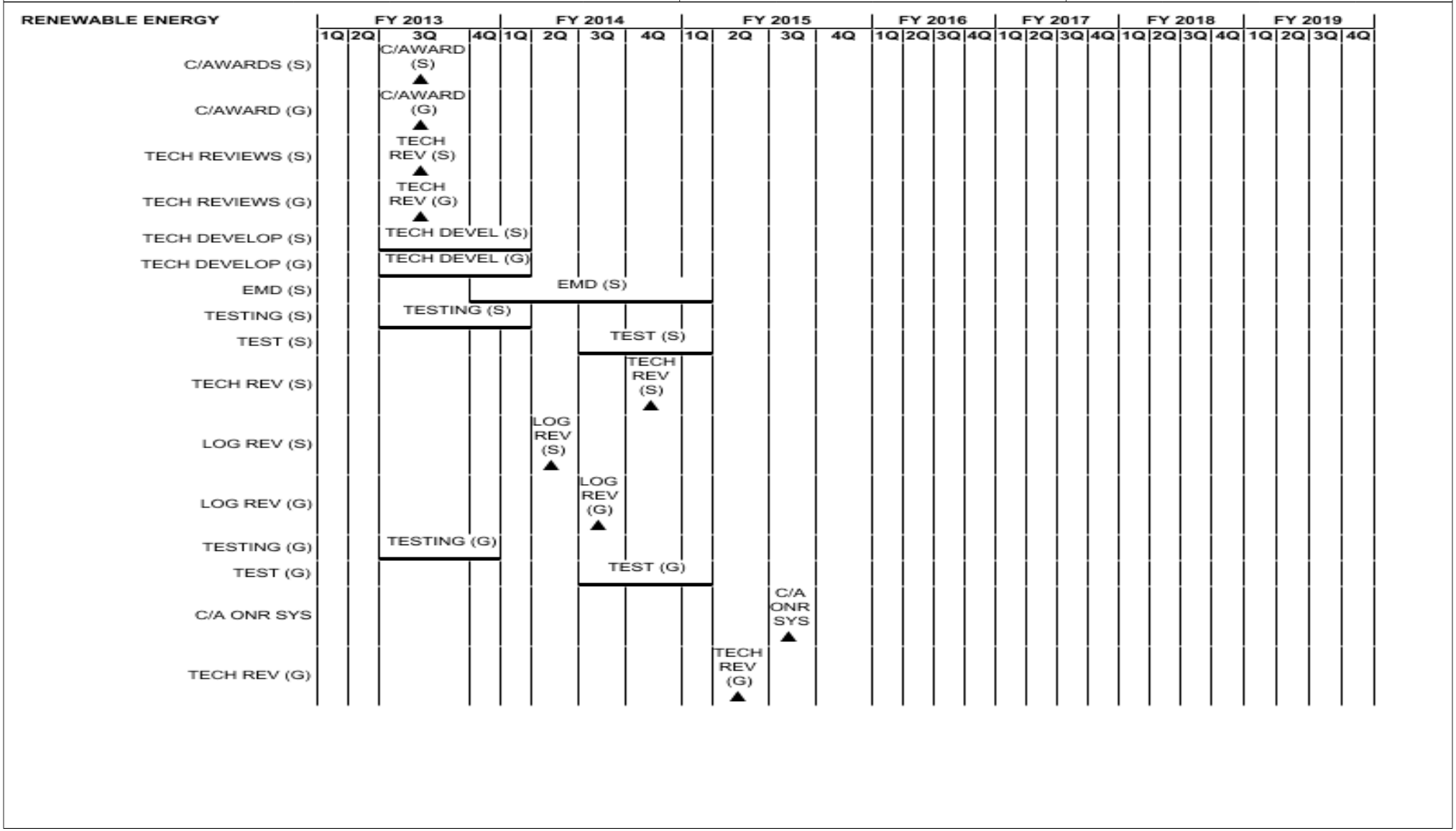
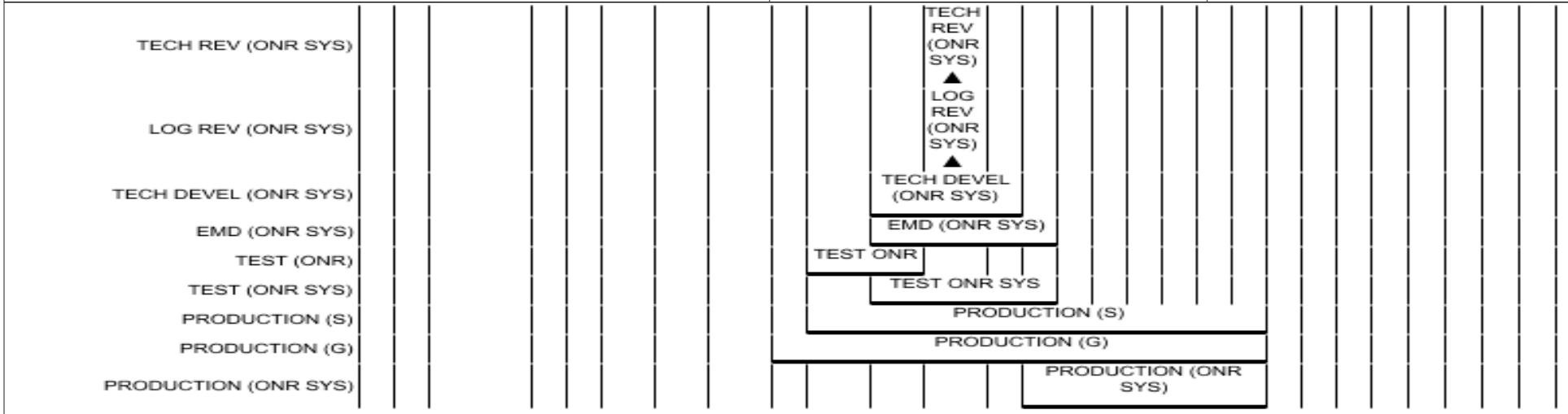


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*



2015PB - 0206624M - 2510

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2510 / *MAGTF CSSE & SE*

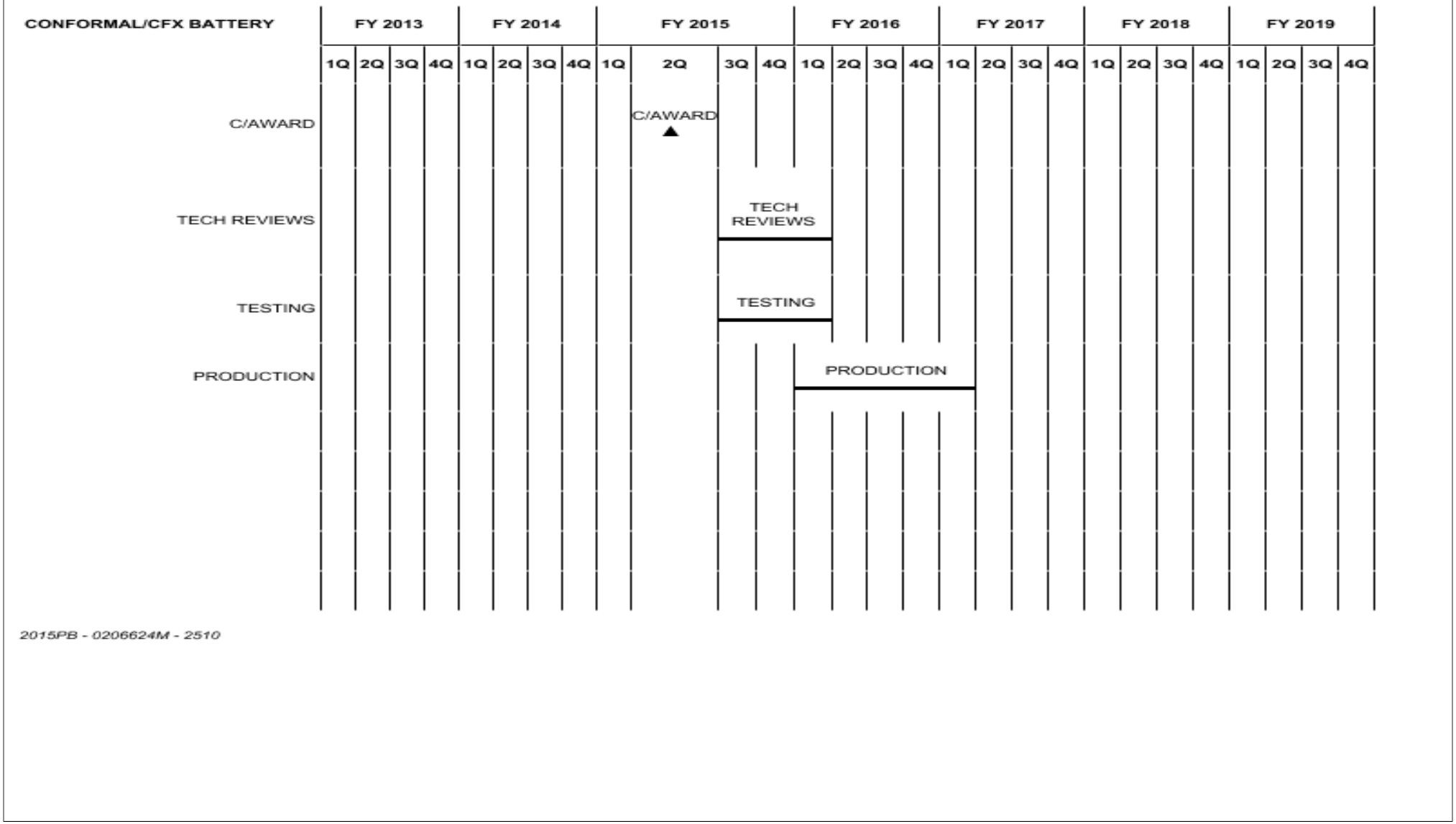


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Services Supt*	Project (Number/Name) 2929 / *Testing Measuring Diag Equip & SE*	

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
2929: *Testing Measuring Diag Equip & SE*	4.789	1.577	2.571	0.248	-	0.248	0.518	0.546	0.582	0.624	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

The Marine Corps Automatic Test Equipment Systems (MCATES) program provides development of sustainment technology for automatic test equipment used in organizational/intermediate maintenance facilities.

The Marine Corps Family of Automatic Test Systems (ATS), formerly called Third Echelon Test Sets (TETS), provides automatic test program capability for use by technicians both in garrison and the forward edge of the battlefield; specifically in the areas of interactive electronic technical manuals, condition/predictive based maintenance, and embedded sensors and prognostics.

Automatic Identification Technology (AIT) devices encompass a variety of read and write data storage technologies that are used to improve accuracy, timeliness, and handling. These technologies provide near-real time Total Asset Visibility data used to influence critical decisions by Operational Commanders. AIT enhances our force in readiness by coordinating, synchronizing and automatically transferring data by means of barcodes, magnetic stripes, integrated circuit cards, optical memory cards, active Radio Frequency Identification (aRFID), and passive RFID (pRFID) tags, as well as the software required to create and manage the devices, read the information stored on them, and integrate that information with other logistics data. The information on each device can range from a single part number to a self-contained database. These devices can be interrogated using a variety of means, including fixed infrastructures and portable systems. The information obtained from those interrogations is provided electronically to various Automated Information Systems (AIS).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Marine Corps Automated Test Equipment (MCATE)	1.577	-	-
Articles:	-	-	-
Description: Allows for the development of advanced technology concepts for automatic test and the integration of these subsystems and components into system prototypes for field experiments and/or tests in a simulated environment. The focus is on demonstrating the military utility for these technologies and applying them to our Automatic Test Systems (ATS) acquisition programs. Additionally, to prevent obsolescence in our current automatic test systems by identifying new technologies that can be implemented immediately.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2929 / *Testing Measuring Diag Equip & SE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Completed research of new testing techniques to prevent obsolescence of legacy systems. Developed integration techniques to address new testing solutions into fielded automatic test systems. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Automatic Identification Technology (AIT) ***Articles:*** ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Supports procurement of demo equipment from the DoD contract to perform integration and accreditation testing with the USMC Automatic Identification Technology (AIT) infrastructures. This funding will also allow for limited enhancements to the consolidated AIT infrastructure to expand the AIT devices included. ***FY 2015 Plans:*** N/A	- -	0.500 -	- -
Title: Automatic Test Systems (ATS) ***Articles:*** ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Continue research of new testing techniques to prevent obsolescence of legacy systems. Develop integration techniques to address new testing solutions into fielded automatic test systems. ***FY 2015 Plans:*** Continue to develop advanced technology concepts for automatic test and integrate the subsystems and components into fielded automatic test solutions to support weapon systems.	- -	2.071 -	0.248 -
Accomplishments/Planned Programs Subtotals	1.577	2.571	0.248

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2929 / *Testing Measuring Diag Equip & SE*

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/4181-01: *TETS*	7.008	0.752	-	-	-	-	-	-	-	-	126.932
• PMC/4181-02: *Automatic Test Systems*	-	12.992	13.806	-	13.806	13.377	13.592	6.233	6.622	Continuing	Continuing
• PMC/4181-03: *MCATES*	5.712	-	-	-	-	-	-	-	-	-	15.004
• PMC/4617: *Automatic Identification Technology*	0.155	0.163	0.250	-	0.250	-	0.247	0.255	0.261	Continuing	Continuing

Remarks

D. Acquisition Strategy

Automatic Test Systems (ATS) and Marine Corps Automatic Test Equipment Systems (MCATES) acquisition is being done through Marine Corps Systems Command (MCSC) contracts and in-house at Marine Corps Logistics Command (MCLC), Albany, GA, and Naval Air Systems Command (NAVAIR), Patuxent River, MD.

Automatic Identification Technology (AIT) funding supports procurement of demonstration equipment from the DoD contract to perform integration and accreditation testing with the USMC AIT infrastructures. This funding will also allow for limited enhancements to the consolidated AIT infrastructure to expand the AIT devices.

E. Performance Metrics

N/A
N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 2929 / *Testing Measuring Diag Equip & SE*

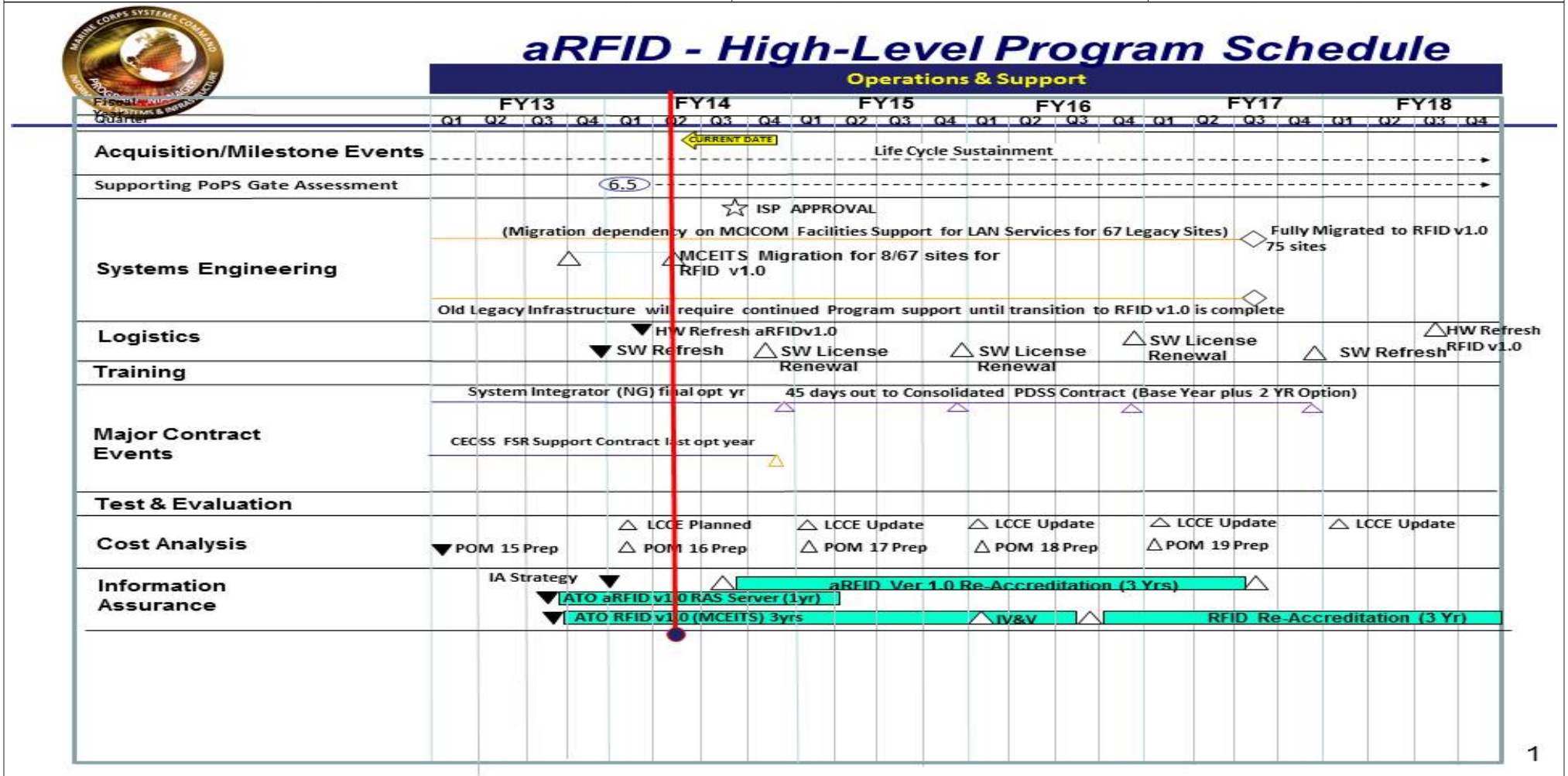


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0206624M / *Marine Corps Cmbt Services Supt*	Project (Number/Name) 9C90 / *MTVR Mod*	

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
9C90: *MTVR Mod*	39.077	1.786	3.227	1.187	-	1.187	4.097	2.899	4.499	1.139	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 MTVR Modification program line funds numerous modifications and initiatives that are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, tool malfunctions, product quality deficiencies, and other issues that affect vehicle reliability, availability, maintainability and readiness. A proactive and focused approach ensures proper vehicle sustainment and life-cycle management, and it allows the program office the flexibility to develop and implement improvements as needed to respond to the evolving needs of the Marine Corps.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Medium Tactical Vehicle Replacement (MTVR): Fuel Economy/Energy Efficiency	-	1.925	0.600
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Initiating PMO participation in the Office of Naval Research (ONR) Future Naval Capability (FNC) initiative for fuel economy improvements for the MTVR vehicles, which supports the Commandant of the Marine Corps (CMC) priorities for reducing costs, logistics footprint and an improved environment.			
FY 2015 Plans: Will continue to support testing of the Office of Naval Research (ONR) Future Naval Capability (FNC) initiative for fuel economy components on different variants of the MTVR vehicles in preparation of its transition to the program office.			
Title: Medium Tactical Vehicle Replacement (MTVR): Engineering Change Proposals (ECP)	0.749	0.675	0.262
Articles:	-	-	-
FY 2013 Accomplishments: Completed Engineering Change Proposal (ECP) development and live fire and prototype testing for transportability of the MTVR fleet of vehicles, Transparant Armor, and Lift and Tie Down Provisions. Continual changes in the threat environment requires on-going vehicle modifications which must be developed and tested.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 9C90 / *MTVR Mod*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue Engineering Change Proposal (ECP) development and live fire and prototype testing for the MTVR program. Continual changes in threat environment requires on-going vehicle modifications, which must be developed and tested. ***FY 2015 Plans:*** Will continue Engineering Change Proposal (ECP) development and prototype testing for the MTVR program. Continual changes in threat environment requires on-going vehicle modifications, which must be developed and tested.			
Title: Medium Tactical Vehicle Replacement (MTVR): Safety ***Articles:*** ***FY 2013 Accomplishments:*** Completed development, testing and modifications for Emergency Egress Windows, Blast seats and floor mats, and brake based stability testing. These were in response to safety concerns to protect the warfighter and the MTVR from possible catastrophic events as a result of continual changes in threat environment. ***FY 2014 Plans:*** Continue safety modifications, upgrade development, and testing required in response to continual changes in the threat environment to protect the warfighter and MTVR from possible catastrophic events in order to meet the current and future operations of MAGTF Expeditionary Maneuver Warfare for the MTVR program. ***FY 2015 Plans:*** Will continue safety modifications, upgrade development, and testing required in response to continual changes in the threat environment to protect the warfighter and MTVR from possible catastrophic events in order to meet the current and future operations of MAGTF Expeditionary Maneuver Warfare for the MTVR program.	0.500 -	0.327 -	0.275 -
Title: Medium Tactical Vehicle Replacement (MTVR): Integration ***Articles:*** ***FY 2013 Accomplishments:*** Completed development and testing of brackets and cables to accomodate the integration of add-on components and equipment (such as Blue Force Tracker (BFT), radio jammers, Intercoms, Drivers Vision Enhancer (DVE), etc) for all variants (cargo, wrecker, and tractor) of unarmored MTVR vehicles. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.212 -	- -	- -
Title: Medium Tactical Vehicle Replacement (MTVR): Modeling & Simulation (M&S)	0.325	0.300	0.050

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 9C90 / *MTVR Mod*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 Accomplishments: Continued support to address operational effectiveness and improved efficiencies of the MTVR vehicles with the use of the Analytic Dynamics and Structures (ADAMS) software model. ***FY 2014 Plans:*** Continue support to address operational effectiveness and improved efficiencies of the MTVR vehicles with the use of the ADAMS software model. ***FY 2015 Plans:*** Will continue support for this effort at a minimal level to refine the existing ADAMS software model to ensure accuracy of model validations and test data in support of the MTVR vehicles.			
Accomplishments/Planned Programs Subtotals	1.786	3.227	1.187

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
• PMC/5050: *MTVR Motor Transport Mods*	41.956	1.542	0.469	-	0.469	5.494	6.066	6.722	8.428	Continuing	Continuing
• PMC/5088: *MTVR*	8.375	-	-	-	-	-	-	-	-	-	3,184.620

Remarks

D. Acquisition Strategy

The strategy for the MTVR Modification initiative is to aid in the prevention of parts obsolescence, address safety concerns, and respond to emergent threats. A proactive and focused approach ensures proper vehicle sustainment and life-cycle management, and it allows the program office the flexibility to develop and implement improvements as required to respond to evolving needs.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206624M / *Marine Corps Cmbt Services Supt*	**Project (Number/Name)** 9C90 / *MTVR Mod*

MTVR Program Schedule

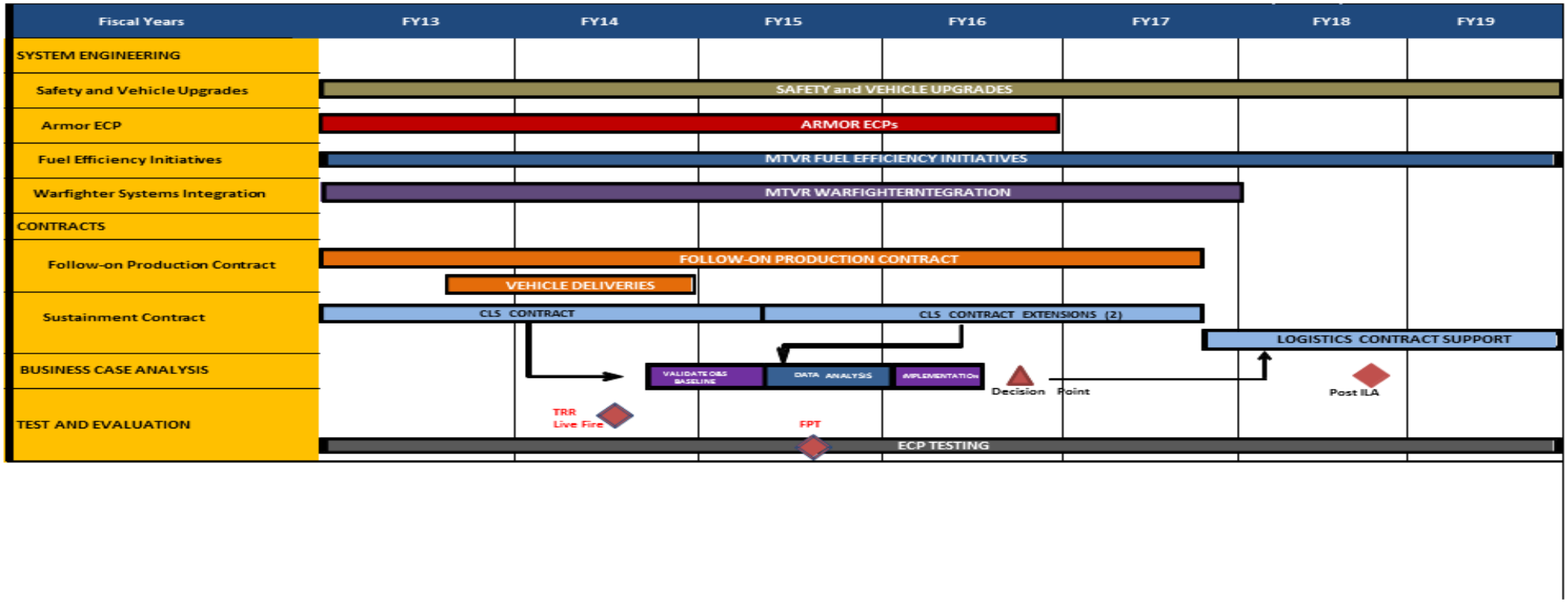


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy	Date: March 2014
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0206625M *I USMC Intelligence/Electronics Warfare Sys*

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
Total Program Element	88.930	21.369	33.394	14.179	-	14.179	13.735	16.697	20.302	17.862	Continuing	Continuing
2272: *Intel Command and Control (C2) Sys*	88.930	21.369	33.394	14.179	-	14.179	13.735	16.697	20.302	17.862	Continuing	Continuing

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

Note

Joint Surveillance Target Attack Radar System (JSTARS) capability is subsumed by Distributed Common Ground/Surface System - Marine Corps (DCGS-MC) PE 0305208M in FY 2015.

A. Mission Description and Budget Item Justification

This Program Element (PE) includes funds for Intelligence Command and Control (C2) which supports the employment of reconnaissance, surveillance, and target acquisition resources and the timely planning and processing of all-source intelligence. It ensures that all-source tactical intelligence is tailored to meet specific mission requirements. The systems collect and convert raw intelligence data on the battlefield into processed information and deliver the processed products to the Intelligence Analysis Systems (IAS) for analysis and dissemination.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	22.966	34.394	30.954	-	30.954
Current President's Budget	21.369	33.394	14.179	-	14.179
Total Adjustments	-1.597	-1.000	-16.775	-	-16.775
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.317	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-5.006	-	-5.006
• Rate/Misc Adjustments	-	-	-11.769	-	-11.769
• Congressional General Reductions Adjustments	-1.914	-	-	-	-

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0206625M *I USMC Intelligence/Electronics Warfare Sys*

Change Summary Explanation

The decrease of $16.775M in FY15 aligns funding to program schedules and reduces development for technical refresh and technical insertions in the Tactical Signal Intelligence (SIGINT) Collection System (TSCS), Tactical Remote Sensor Systems(TRSS), Intelligence Equipment Readiness (IER) and Intelligence Broadcast Reciever (IBR) programs. It also reduces development of Advanced Analytics tools in IAS and Cross Domain Solution in Technical Control Analysis Center (TCAC). The decrease in funding from FY14 to FY15 is the result of JSTARS being subsumed by DCGS-MC (PE 0305208M) and Communication Emitter Sensing and Attacking System (CESAS II) completion of most Engineering and Manufacturing Development (EMD) work in FY14, as well as completion of development for the Common Sensor Radio in the TRSS program and reduced development of Advanced Analytics tools for IAS.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0206625M / *USMC Intelligence/ Electronics Warfare Sys*				Project (Number/Name) 2272 / *Intel Command and Control (C2) 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**
2272: *Intel Command and Control (C2) Sys*	88.930	21.369	33.394	14.179	-	14.179	13.735	16.697	20.302	17.862	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

Intelligence Command and Control (C2) supports the employment of reconnaissance, surveillance, and target acquisition resources and the timely planning and processing of all-source intelligence. It ensures that all-source tactical intelligence is tailored to meet specific mission requirements. The systems below collect and convert raw intelligence data on the battlefield into processed information and deliver the processed products to the Intelligence Analysis Systems (IAS) for analysis and dissemination.

Sensitive Compartmented Information Communications (SCI COMMS) - is a Super-High Frequency (SHF) multi-band satellite communications terminal, available in a transit case configuration, that provides dedicated tactical communications capability at the Top Secret/Sensitive Compartmented Information (TS/SCI) and Secret Collateral levels to USMC intelligence units. TROJAN SPIRIT terminals provide connectivity into Joint Worldwide Intelligence Communications System (JWICS), National Security Agency Network (NSANET) and Secret Internet Protocol Router Network (SIPRNET) via the TROJAN Network Control Center. Funding supports research, development and testing of incremental product improvements, product interoperability and accreditation for Top Secret/Sensitive Compartmented Information (TS/SCI) connectivity.

Technical Control Analysis Center (TCAC), consisting of the AN/UYQ-83 TCAC Remote Analysis Workstation (RAWS), AN/MYQ-9 TCAC Transportable Workstation, Multi-Level Security (MLS) and the One Roof system, is the focal point of Radio Battalions (RADBN), Marine Corps Forces Special Operations Command (MARFORSOC), and Fixed Wing Marine Electronic Attack Squadron (VMAQ) Signals Intelligence (SIGINT) operations. TCAC automatically collects, stores, retrieves and plays back digital voice signals; fuses and analyzes SIGINT data from tactical, theater and national collectors and databases for dissemination to tactical commanders. TCAC provides SIGINT analysis applications to deployable Marine Air-Ground Task Force (MAGTF) units capable of directing and managing the technical and operational functions of other RADBN SIGINT/Electronic Warfare (EW) assets. TCAC provides termination of national, theater and tactical data networks for data exchange with the tactical SIGINT/EW assets, the Intelligence Analysis System (IAS), national databases, and provides USMC tactical SIGINT collection and analytical data into the Real-Time Regional Gateway (RTRG) and Distributed Common Ground System - Marine Corps (DCGS-MC).

Joint Surveillance Target Attack Radar (JSTARS) receives near-real-time Moving Target Indicator and Synthetic Aperture Radar (SAR) data from the JSTARS E-8C aircraft. JSTARS Common Ground Stations (CGS) and Joint Service Workstations (JSWS) process, display, exploit and support evaluation of information received. In FY15 JSTARS will be subsumed into DCGS-MC (PE 0305208M).

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Tactical Remote Sensor Systems (TRSS) provides all weather direction, location determination, targeting, and tactical indications and warning of enemy activity in the Marine Air-Ground Task Force (MAGTF) Commander's Area of Interest. TRSS is an equipment suite consisting of three primary sub-systems: Unattended Ground Sensors (UGS); Relay Systems; and monitoring systems. The sensor systems include seismic/acoustic sensors, electro-magnetic sensors, and infrared (passive) sensors. The relay systems include SATCOM retransmission systems. The monitoring system includes the Sensor Monitoring imaging sensors group and Hand-Held Monitors (HHM). The composition of the three sub-systems are comprised of several individual components. Upgrading of individual components will occur on an as needed basis. TRSS 6.0 development improves the TRSS sensor management software in order to integrate TRSS sensor systems with theater-provided-equipment sensor systems in OEF and improve system interoperability.

Team Portable Collection System (TPCS) - is a semi-automated, man/team portable system providing intercept, collection, Direction-Finding (DF), reporting and collection management to MAGTF Commander. It provides special signals intercept, and DF capability and is modular, lightweight and team transportable. It provides the MAGTF Commander with a modular and scalable carry on/carry off suite of equipment which allows the system to exploit information from more technically advanced target sets. TPCS is required to incorporate advanced SIGINT technology in order to allow the MAGTF Commander to maintain technological parity with the adversary. TPCS is subsumed by the Tactical Signal Intelligence (SIGINT) Collection System in FY14.

Wide Field of View Persistent Surveillance (WFVPS) is a Marine Corps UUNS (10-335UA) in response to a CENTCOM JUONS (CC-0424) call for a Wide Area Staring Sensor on-board an organic USMC small UAV supporting operations in Afghanistan. There is no additional funding for the WFVPS program beyond FY14.

MAGTF Secondary Imagery Dissemination System (MSIDS) Family of Systems (FoS) provides organic tactical digital imagery collection, transmission and receiving capability to the MAGTF Commander. MSIDS is comprised of components necessary to enable Marines to capture, manipulate, annotate, transmit and receive images in Near Real Time (NRT), internally with subordinate commands that are widely separated throughout the areas of operation and externally with higher and adjacent commands. MSIDS capability resides with the MAGTF G/S-2 sections and Ground Reconnaissance Battalions, Light Armored Reconnaissance Battalions, Infantry Battalion Scout Sniper Platoons and Marine Corps Forces Special Operations Command. The MSIDS FoS extends the digital imaging capability to all echelons within the Marine Expeditionary Force (MEF), down to and including battalions and squadrons. Captured images are capable of being forwarded throughout the MAGTF through the use of Base Station Workstation/Communication Interface (BW/CI), Out Station Workstation/Communication Interface (OW/CI) or existing C4ISR architecture. Images can also be transmitted to the Tactical Exploitation Group (TEG) for more detailed processing and analysis. The Video Exploitation Workstation (VEW) is used to import, manipulate, annotate still and video imager, create intelligence products, lift still frames from video, view multi-format TV signals and provide a field briefing capability.

Intelligence Equipment Readiness (IER) supports rapid prototyping and integration of emerging technologies involving national systems data. IER provides a responsive capability to alleviate Marine Corps intelligence systems shortfalls created by rapidly evolving technology, missions and threats. The program provides for rapid technology insertion, training and logistics, and the time sensitive intelligence infrastructure requirements of Marine Corps Operating Forces and the theater and service intelligence organizations supporting those forces. IER addresses requirements that span the entire Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISR-E).

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Intelligence Analysis System, Family of Systems (IAS FoS) provides timely planning and all source fusion, analysis, and dissemination of intelligence across the Intelligence Community of the Marine Air-Ground Task Force (MAGTF). IAS FoS is a scalable system that supports all missions, and provides a tactical intelligence capability tailored to meet specific mission requirements. Advanced analytics provides improved linking of structured and unstructured data sources, data and information discovery, and improved interoperability of data and exchange amongst the existing toolset applications. Funding allows the IAS FoS to stay up-to-date with current technology (COTS/GOTS) that allows an increase in response time of intelligence analysis process, better quality intelligence products, and timely dissemination for units in all deployed environments. The FY14 funding increase supports development of initial advanced analytics capability. The FY15 funding decrease is due to completion of initial advanced analytics development.

Radio Reconnaissance Equipment Program (RREP) provides the Radio Battalions (RADBNS), Radio Reconnaissance Platoons (RRP), and the Marine Corps Forces Special Operations Command (MARFORSOC) Direct Support Teams (DSTs) with mission unique Signals Intelligence/Ground Electronic Warfare (SIGINT/EW) Equipment suites. The SIGINT Suite 3 (SS-3) is comprised of technology and equipment necessary to prosecute advanced signals. RREP will insert a new Electronic Attack (EA) system into the RREP Family of Systems (FoS). The RRP and DST Marines are trained and equipped to support the full spectrum of Marine Expeditionary Unit Special Operations Capable (MEU SOC) mission profiles as well as provide real time, imbedded support to any special operations scenario. This provides the supported Commander greater flexibility in employing his SIGINT assets when the use of conventional RADBN assets are not feasible. RREP is upgrading the SS-3 using an evolutionary development approach that inserts the latest technology into the suite as it becomes mature. This enables the SS-3 to remain a current platform against emerging threats. RREP is subsumed by the Tactical Signal Intelligence (SIGINT) Collection System (TSCS) in FY14.

Counterintelligence (CI) and Human Intelligence (HUMINT) Equipment Program (CIHEP) provides the MAGTF with integrated, standardized, and interoperable information (automated data processing), communication, and specialized equipment to conduct the full spectrum of tactical CI/Force Protection to include Irregular Warfare, HUMINT, and technical collection operations. CIHEP provides each CI/HUMINT Company (CIHCo) with a suite of equipment comprised of commercial-off-the-shelf, government-off-the-shelf, and non-developmental items (COTS/GOTS/NDI). It integrates audio, video, imagery, communications, technical surveillance and computer equipment into lightweight, modular, scalable, deployable packages. CIHEP enhances the capability to collect, receive, process, and disseminate CI/HUMINT information from overt, sensitive, technical, tactical, and Force Protection, in the service, joint, and combined forces area of operations.

Intelligence Broadcast Receiver (IBR) family conforms to the DoD Integrated Broadcast Service (IBS) objectives of interoperability and commonality across the Services to receive and process near real-time intelligence data. The Universal Serial Bus (USB) Embedded National Tactical Receiver (ENTR) system, the newest component of the IBR family, is an integral portion of 7 Programs of Record, providing a significant reduction in size and weight. The USB ENTR provides access to IBS data via Ultra High Frequency (UHF) Satellite Communications (SATCOM) broadcast channels delivering near real-time intelligence information within Combatant Commanders theater of operation allowing intelligence analysis to respond to accelerated operations cycles.

Communication Emitter Sensing and Attacking System (CESAS) has the mission to disrupt, degrade or deny detected adversarial communication emitters. CESAS covers the High Frequency (HF), Very High Frequency (VHF) and Ultra High Frequency (UHF) frequency ranges against enemy emitters using modern modulation schemes. CESAS allows flexible employment to conduct Electronic Attack (EA) while on the move or in a stationary position, thus optimizing the Commanders' ability to employ this asset for the greatest success of the mission. Decrease of $5.923M from FY14 to FY15 due to completion of most Engineering and Manufacturing Development activities associated with the CESAS II development.

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Tactical Exploitation of National Capabilities (TENCAP) exploits current national reconnaissance systems and programs by examining both technical and operational capabilities, implementing training, and sponsoring concept demonstrations to directly support Marine Corps operating forces. The goal is to pursue technologies which exploit data from national systems to enhance intelligence support to the Marine Air-Ground Task Force (MAGTF) and/or the supported Joint Task Force commander.

Tactical Signal Intelligence (SIGINT) Collection System (TSCS): TSCS incorporates Team Portable Collection System (TPCS) and Radio Reconnaissance Equipment Program (RREP) into a single effort beginning in FY14. It provides modular, lightweight and team/man transportable/portable systems and components which provide signal intercept, collection, Direction-Finding (DF), reporting and collection management capability to MAGTF Commander. It provides the MAGTF Commander with a modular and scalable carry on/carry off suite of equipment which exploits information from more technically advanced target sets. TSCS uses rapid technology insertion processes and procedures to incorporate advanced SIGINT technology to allow the MAGTF Commander to maintain technological superiority.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: *Technical Control and Analysis Center (TCAC): Support	1.004	0.611	1.727
Articles:	-	-	-
FY 2013 Accomplishments: Continued program management support for the integration of Cyber Analysis Tools into the TCAC FoS.			
FY 2014 Plans: Continue program management support for the Integration of Cyber Analysis Tools into the TCAC FoS.			
FY 2015 Plans: Continue program management support for next generation TCAC analysis tools, Cross Domain Solution and Real-Time Regional Gateway (RTRG) expeditionary node into the TCAC Family of Systems (FoS).			
Title: *Technical Control and Analysis Center (TCAC): Product Development	1.854	4.249	1.760
Articles:	-	-	-
FY 2013 Accomplishments: Initiated integration of Cyber Analysis Tools in the TCAC Family of Systems (FoS) and data exchange enhancements.			
FY 2014 Plans: Continue integration of TCAC Cyber Analysis tools and Cross Domain Solution into the TCAC Family of Systems (FoS).			
FY 2015 Plans: Continue integration of next generation TCAC analysis tools, Cross Domain Solution and Real-Time Regional Gateway (RTRG) expeditionary node into the TCAC Family of Systems (FoS).			
Title: *SCI COMMS: Support - Engineering and Technical Support	0.877	1.056	0.670
Articles:	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Funding supported an Analysis of Alternatives (AoA) for the Palletized variant. RDT&E utilized for Bandwidth in order to test for interoperability and accreditation for Top Secret/Sensitive Compartmented Information (TS/SCI) connectivity with the TROJAN Network Center. ***FY 2014 Plans:*** Funding will support the test and evaluation of all SCI COMMS platforms (Team and Palletized) to include Bandwidth in order to test for interoperability and accreditation for Top Secret/Sensitive Compartmented Information (TS/SCI) connectivity with the TROJAN Network Center. ***FY 2015 Plans:*** Funding will provide engineering analysis and technical support that will identify and provide recommendations for resolution of critical technical, test and evaluation, and technology issues.			
Title: *Joint Surveillance Target Attack Radar System (JSTARS): Test and Evaluation	0.270	1.154	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued engineering, technical and management support and MTI integration. ***FY 2014 Plans:*** Continue Test and evaluation support for the next generation GMTI exploitation system. ***FY 2015 Plans:*** JSTARS will be subsumed into DCGS-MC (PE 0305208M).			
Title: *Joint Surveillance Target Attack Radar System (JSTARS): Product Development	-	2.499	-
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Initiate integration of next generation Ground Moving Target Indicator (GMTI) exploitation system. ***FY 2015 Plans:*** JSTARS will be subsumed into DCGS-MC (PE 0305208M).			
Title: *Tactical Remote Sensor System (TRSS): Test and Evaluation - IOT&E	0.150	0.417	-
Articles:	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Continued planned test and evaluation events for the TRSS 6.0 baseline. ***FY 2014 Plans:*** Continue test and evaluation events/IOT&E for the TRSS Common Sensor Radio (CSR) baseline. ***FY 2015 Plans:*** N/A			
Title: *Tactical Remote Sensor System (TRSS): Product Development - RSMS VER 4.2.2. ***Articles:*** ***FY 2013 Accomplishments:*** Continued TRSS evolutionary software upgrade to Sentinel VER 2.0. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.288 -	- -	- -
Title: *Team Portable Collection System (TPCS): Support ***Articles:*** ***FY 2013 Accomplishments:*** Continued program support and management. ***FY 2014 Plans:*** TPCS is subsumed into the Tactical SIGINT Collection System (TSCS). ***FY 2015 Plans:*** N/A	0.388 -	- -	- -
Title: *Team Portable Collection System (TPCS): Test and Evaluation ***Articles:*** ***FY 2013 Accomplishments:*** Completed post production testing for Block 0 Modifications and Advanced Network Survey/Precision Geolocation capability insertions and initiated performance testing for Digital Network Intelligence technology insertion. ***FY 2014 Plans:***	0.870 -	- -	- -

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
TPCS is subsumed into the Tactical SIGINT Collection System (TSCS). ***FY 2015 Plans:*** N/A			
Title: *Team Portable Collection System (TPCS): Product Development	2.923	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued integration of Special Intelligence technologies, Digital Network Intelligence (DNI). Adapted technical documentation structure to support rapid technology insertion. ***FY 2014 Plans:*** TPCS is subsumed into the Tactical SIGINT Collection System (TSCS). ***FY 2015 Plans:*** N/A			
Title: *Tactical Remote Sensor System (TRSS): Product Development - CSR Integration	-	1.762	-
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Continue TRSS Common Sensor Radio (CSR) modernization initiative to standardize communication. This modernization effort is required to develop critical upgrades to TRSS systems to improve the sensor systems. ***FY 2015 Plans:*** N/A			
Title: *Tactical Remote Sensor System (TRSS): Support - Engineering and Technical	0.625	0.996	0.100
Articles:	-	-	-
FY 2013 Accomplishments: Continued engineering and technical management support for testing and integrating detector upgrades. ***FY 2014 Plans:***			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue engineering and technical management support required for developing critical upgrades to TRSS systems. TRSS Common Sensor Radio (CSR) modernization initiative will standardize communication and interoperability with other military equipment/sensor systems currently in use and being developed. ***FY 2015 Plans:*** Continue engineering and technical management support required for developing critical upgrades to TRSS systems.			
Title: *Wide Field of View Persistent Surveillance (WFVPS): Product Development	0.024	0.027	-
Articles:	-	-	-
FY 2013 Accomplishments: Completed development of the autotracker. ***FY 2014 Plans:*** Complete program close-out. ***FY 2015 Plans:*** N/A			
Title: *MAGTF Secondary Imagery Dissemination System (MSIDS): Support - Engineering and Technical	0.371	0.388	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued technical and engineering support for product development of hardware and software refresh. ***FY 2014 Plans:*** Continue technical and engineering support for product development of hardware and software refresh. ***FY 2015 Plans:*** N/A			
Title: *Intelligence Equipment Readiness (IER): Product Development	2.195	0.560	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued autotracker integration into DCGS-MC software baseline. ***FY 2014 Plans:*** Complete integration of autotracker capability and functionality into DCGS-MC software baseline. ***FY 2015 Plans:***			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A			
Title: *Intelligence Analysis System (IAS): Support	1.010	3.096	0.900
Articles:	-	-	-
FY 2013 Accomplishments: Continued program management support of Tier III software and hardware efforts. ***FY 2014 Plans:*** Continue program management support for integration of advanced analytics tools into the IAS FoS software baseline. ***FY 2015 Plans:*** Continue program management support for integration of advanced analytics tools into the IAS FoS software baseline.			
Title: *Intelligence Analysis System (IAS): Product Development	1.079	1.571	1.340
Articles:	-	-	-
FY 2013 Accomplishments: Completed prototyping, integration and testing Tier III technology refresh. Supported software development and integration of all IAS FoS related software. ***FY 2014 Plans:*** Initiate integration, system testing and evaluation of advanced analytic technologies into the Intelligence Analysis System (IAS) Family of Systems (FoS). ***FY 2015 Plans:*** Continue integration, system testing, and evaluation of advanced analytic technologies into the Intelligence Analysis System (IAS) Family of Systems (FoS). Initiate market research, evaluation and development of advanced analytics for transition into the IAS FoS.			
Title: *Radio Recon Equipment Program (RREP): Support - Program and Technical	0.964	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued program support for technology refresh of basic collection receivers and basic direction finding capability. ***FY 2014 Plans:*** RREP is subsumed into Tactical SIGINT Collection System (TSCS). ***FY 2015 Plans:***			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A			
Title: *Counterintel and Human Intel Equip (CIHEP): Support - Engineering and Technical	0.181	0.191	-
Articles:	-	-	-
FY 2013 Accomplishments: Continued materiel solution analysis, engineering, integration, and technical support for refresh of CIHEP hardware and software.			
FY 2014 Plans: Continue engineering, integration and technical support for refresh of CIHEP hardware and software.			
FY 2015 Plans: N/A			
Title: *Communication Emitter Sensing and Attacking System (CESAS): Product Development	3.337	4.585	0.400
Articles:	-	-	-
FY 2013 Accomplishments: Completed Analysis of Alternatives, identified a preferred Materiel solution and initiated the CESAS II acquisition program. Successfully completed Systems Requirement Review and initial development including procurement of three Engineering Development Models. Initiated Life Cycle Cost Estimate.			
FY 2014 Plans: Continue development of CESAS II. Accept, integrate and build three Engineering Development Models. Will conduct Non Developmental Item Integration Review in lieu of CDR and Test Readiness Review. After successful testing, plan to conduct Systems Verification Review in preparation for Milestone C.			
FY 2015 Plans: Complete development of CESAS II.			
Title: *Communication Emitter Sensing and Attacking System (CESAS): Test and Evaluation	-	1.638	0.100
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Conduct CESAS II development test and evaluation. Test planning, conduct Test Readiness Review (TRR), conduct two phase Development and Environmental Tests.			
FY 2015 Plans:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Complete CESAS II development test and evaluation.			
Title: *Tactical Signal Intelligence (SIGINT) Collection System (TSCS): Support	-	2.588	0.609
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Provide program support and management for TPCS Modular Case technology refresh, technology insertions to support additional signals of interest, RREP technology refresh of advanced collection kit and workstation. TPCS and RREP are subsumed into the TSCS line in FY14. ***FY 2015 Plans:*** Provide program support and management for TPCS and RREP technology refresh and technology insertions to support additional signals of interest.			
Title: *Tactical Signal Intelligence (SIGINT) Collection System (TSCS): Test and Evaluation	-	0.837	0.609
Articles:	-	-	-
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Initiate test and evaluation efforts for TPCS Modular Case technology refresh, technology insertions to support additional signals of interest, RREP technology refresh of advanced collection kit and workstation. TPCS and RREP are subsumed into the TSCS line in FY14. ***FY 2015 Plans:*** Continue test and evaluation efforts for TPCS and RREP technology refresh and technology insertions to support additional signals of interest.			
Title: *Tactical Signal Intelligence (SIGINT) Collection System (TSCS): Product Development	-	1.853	1.739
Articles:	-	-	-
FY 2013 Accomplishments:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A ***FY 2014 Plans:*** Initiate development of TPCS Modular Case technology refresh, technology insertions to support additional signals of interest, RREP technology refresh of advanced collection kit and workstation. TPCS and RREP are subsumed into the TSCS line in FY14. ***FY 2015 Plans:*** Continue development of TPCS and RREP technology refresh and technology insertions to support additional signals of interest.			
Title: *Communication Emitter Sensing and Attacking System (CESAS): Support	0.834	0.200	-
Articles:	-	-	-
FY 2013 Accomplishments: Conducted Program initiation activities, including development of Materiel Development Decision Review and PEO Brief, Probability of Program success, Cost Analysis Requirements Document, Acquisition Strategy, and Integrated Master Schedule. ***FY 2014 Plans:*** Continue Program support through Milestone C including all acquisition documentation requirements such as Clinger Cohen Act, Acquisition Strategy and IMS, Production and sustainment planning. ***FY 2015 Plans:*** N/A			
Title: *Intelligence Broadcast Receiver (IBR): Support	0.167	0.987	0.100
Articles:	-	-	-
FY 2013 Accomplishments: Completed Tactical Receive Segment (TRS) software beta testing and program support. ***FY 2014 Plans:*** Initiate interoperability software certification for Tactical Receive Segment (TRS). ***FY 2015 Plans:*** Continue interoperability software certification for Tactical Receive Segment (TRS).			
Title: *Tactical Exploitation of National Capabilities (TENCAP): Product Development	0.458	0.629	1.225
Articles:	-	-	-
FY 2013 Accomplishments:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Provided program management and support for the evaluation of emerging national and Intelligence Community technologies applicability to the operating forces. Conducted technical assessments through field user evaluations of innovative technological capabilities for assessment of insertion into the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE). Continued to support operational planning and enhanced Operating Force capabilities to utilize technology innovation within the MAGTF ISR architecture. Continued training and education efforts by providing the operating forces with simulation, visualization, and improved mission planning capabilities. ***FY 2014 Plans:*** Provide program management and support for the evaluation of innovative Intelligence Community and national intelligence systems applicability to the Operating Forces. Conduct technical assessments and field utility evaluations for the integration of current and emerging intelligence capabilities into the tactical decision making process. Continue to support operational planning and enhance Operating Force capabilities through development of advanced technologies for the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) architecture. Continue training and education efforts by providing the Operating Forces with supported simulation, visualization, and improved mission planning capabilities. Supports the Congressionally mandated TENCAP office and ongoing activities. ***FY 2015 Plans:*** Support to program management of the Marine Corps TENCAP program for the evaluation of innovative Intelligence Community and national intelligence systems applicability to the Operating Forces. Provide Subject Matter Experts and project management support for the execution of technical assessments and field utility evaluations for the integration of current and emerging intelligence capabilities into the tactical decision making process. Continue to support operational planning and enhance Operating Force capabilities through the identification and development of advanced technologies for the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE) architecture. Continue training and education efforts by providing the Operating Forces with supported simulation, visualization, and improved mission planning capabilities. Supports the Congressionally mandated TENCAP office and all associated ongoing activities, to include the interactions with national agencies, the Intelligence Community, research laboratories, private industry, and academia.			
Title: *Tactical Exploitation of National Capabilities (TENCAP): Technical Assessments	1.500	1.500	2.900
Articles:	-	-	-
FY 2013 Accomplishments: Conducted research and development, advanced technology demonstrations, and integration of emerging technologies into the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISR-E). Conducted technical assessments of innovative national data receipt and dissemination capabilities for insertion into the MCISR-E. Coordinated with national agencies			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
and laboratories, such as the Office of Naval Research, for exploration of collaborative S&T/R&D efforts to bring evolutionary intelligence capabilities to the Operating Forces.			
FY 2014 Plans: Conduct research and development, advanced technology demonstrations, and integration of emerging technologies into Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE). Conduct technical assessments and field utility evaluations of innovative capabilities for evaluating insertion into the MCISRE. Coordinate with Services, national agencies, laboratories, industry, and academia for exploration of collaborative S&T/R&D efforts to integrate intelligence capabilities into existing and future Operating Force systems and architectures.			
FY 2015 Plans: Evaluate and assesses emerging intelligence technologies for applicability to USMC needs and requirements. Conduct technical assessments and field utility evaluations of innovative capabilities for evaluating insertion into the MCISRE. Conduct research and development, advanced technology demonstrations, and integration of emerging technologies into the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISRE). Coordinate with Services, national agencies, laboratories, industry, and academia for exploration of collaborative S&T/R&D efforts to integrate intelligence capabilities into existing and future Operating Force systems and architectures.			
Accomplishments/Planned Programs Subtotals	21.369	33.394	14.179

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/474711: *TPCS*	4.502	-	-	-	-	-	-	-	-	-	4.502
• PMC/700002: *IER SPARES*	0.001	0.138	-	-	-	-	-	-	-	-	0.139
• PMC/474732: *IER*	-	0.171	-	-	-	-	-	-	0.041	Continuing	Continuing
• PMC/474752: *IBR*	1.707	1.134	0.100	-	0.100	0.053	0.024	0.028	0.026	Continuing	Continuing
• PMC/474705: *TRSS*	-	7.749	-	-	-	-	0.036	0.035	0.034	Continuing	Continuing
• PMC/700003: *TRSS SPARES*	0.140	0.144	0.100	-	0.100	0.100	0.064	0.065	0.066	Continuing	Continuing
• PMC/700005: *MSIDS SPARES*	0.427	0.185	0.100	-	0.100	0.100	0.100	0.100	0.100	Continuing	Continuing
• PMC/474703: *TCAC*	2.371	0.202	12.226	-	12.226	11.229	4.939	2.521	6.402	Continuing	Continuing
• PMC/474707: *SCI COMMS*	-	11.660	3.210	-	3.210	0.200	0.200	0.235	0.239	Continuing	Continuing
• PMC/474713: *RREP*	5.871	-	-	-	-	-	-	-	-	-	5.871
• PMC/474717: *MSIDS*	6.380	4.820	-	-	-	-	-	-	-	Continuing	Continuing
• PMC/474719: *JSTARS*	4.057	3.109	-	-	-	-	-	-	-	-	7.166

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206625M / *USMC Intelligence/ Electronics Warfare Sys*	**Project (Number/Name)** 2272 / *Intel Command and Control (C2) Sys*

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/474721: *TSCS*	-	13.849	4.468	-	4.468	1.463	6.096	6.232	5.666	Continuing	Continuing
• PMC/474714: *CESAS*	-	2.272	4.250	-	4.250	0.701	2.253	-	-	Continuing	Continuing
• PMC/474761: *IAS*	9.909	8.632	10.122	-	10.122	6.615	21.970	9.990	10.212	Continuing	Continuing
• PMC/700000: *IAS SPARES*	0.099	0.100	0.101	-	0.101	0.104	0.157	0.160	0.163	Continuing	Continuing
• PMC/700004: *SCI COMMS SPARES*	-	0.100	0.700	-	0.700	-	-	-	-	-	0.800
• PMC/474709: *CIHEP*	1.520	9.494	5.582	-	5.582	5.211	5.247	5.352	1.031	Continuing	Continuing

Remarks

Tactical Signal Intelligence (SIGINT) Collection System (TSCS)(MCPC 120514) incorporates Team Portable Collection System (TPCS)(MCPC 121498) and Radio Reconnaissance Equipment Program (RREP)(MCPC 122498) into a single program beginning in FY 2014.

D. Acquisition Strategy

(U) ACQUISITION STRATEGY SCI COMMS: Procure and continuously improve USMC TROJAN SPIRIT systems to meet evolving Marine Corps operational needs while maintaining interoperability with the Army TROJAN Network and maintaining, as closely as practical, configuration common to the Army TROJAN SPIRIT systems.

(U) ACQUISITION STRATEGY TCAC: The acquisition of components for the TCAC will maximize the use of existing equipment, NDI/COTS/GFE equipment/software.

(U) ACQUISITION STRATEGY JSTARS: JSTARS will use ongoing Distributed Common Ground System - Marine Corps (DCGS-MC) contracts for continued development of a future Ground Moving Target Indicator (GMTI) capability.

(U) ACQUISITION STRATEGY TRSS: TRSS makes maximum use of COTS, GOTS and NDI with Firm Fixed Price Production.

(U) ACQUISITION STRATEGY TPCS: TPCS will make incremental improvements through maximum use of COTS, GOTS and NDI with Firm Fixed Price production.

(U) ACQUISITION STRATEGY WFVPS: FY14 program close-out.

(U) ACQUISITION STRATEGY MSIDS: MSIDS makes maximum use of COTS, GOTS and NDI with Firm Fixed Price Production.

(U) ACQUISITION STRATEGY IER: IER makes maximum use of COTS, GOTS and NDI with Firm Fixed Price Production.

(U) ACQUISITION STRATEGY IAS: IAS makes maximum use of COTS, GOTS and NDI with Firm Fixed Price Production.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206625M / *USMC Intelligence/ Electronics Warfare Sys*	**Project (Number/Name)** 2272 / *Intel Command and Control (C2) Sys*

(U) ACQUISITION STRATEGY RREP: RREP makes maximum use of COTS, GOTS and NDI with Firm Fixed Price Production.

(U) ACQUISITION STRATEGY CIHEP: CIHEP makes maximum use of COTS, GOTS and NDI with Firm Fixed Price Production.

(U) ACQUISITION STRATEGY IBR: IBR software upgrades are developed at Naval laboratories and integrated into the system.

(U) ACQUISITION STRATEGY TENCAP: All work will be led in-house and necessary contractor support will be acquired using existing contracts. Research, test and integrate new technology and conduct advanced technology demonstrations to identify the most appropriate programs which are mature for integration of emerging technologies into the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISR-E).

(U) ACQUISITION STRATEGY CESAS: CESAS II development will consist of COTS and NDI integration into an existing GOTS architecture. Integration efforts will be conducted at Naval laboratories.

(U) ACQUISITION STRATEGY Tactical Signal Intelligence (SIGINT) Collection System (TSCS): TSCS makes maximum use of COTS, GOTS and NDI with Firm Fixed Price Production.

E. Performance Metrics

N/A

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206625M / *USMC Intelligence/ Electronics Warfare Sys*	**Project (Number/Name)** 2272 / *Intel Command and Control (C2) Sys*

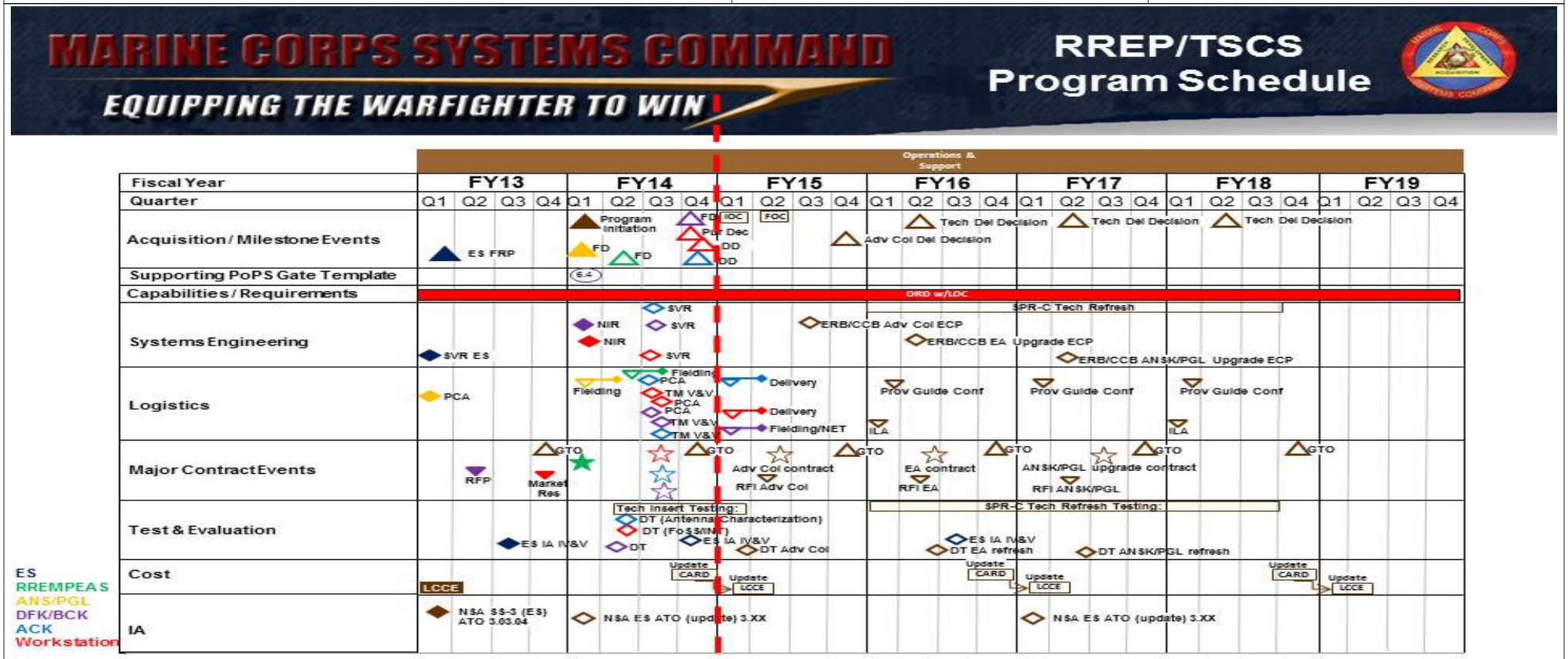


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206625M / *USMC Intelligence/ Electronics Warfare Sys*	**Project (Number/Name)** 2272 / *Intel Command and Control (C2) Sys*

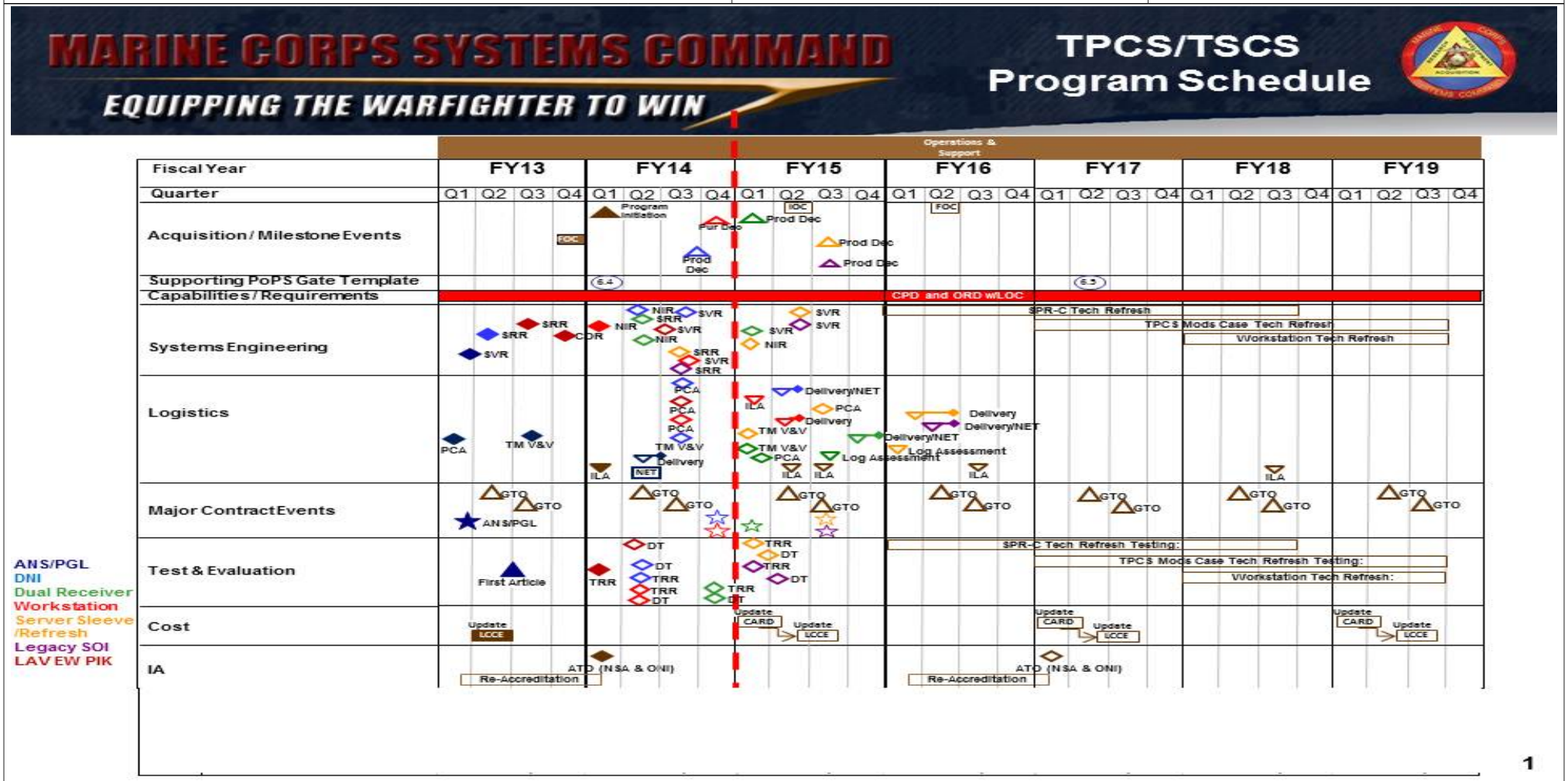
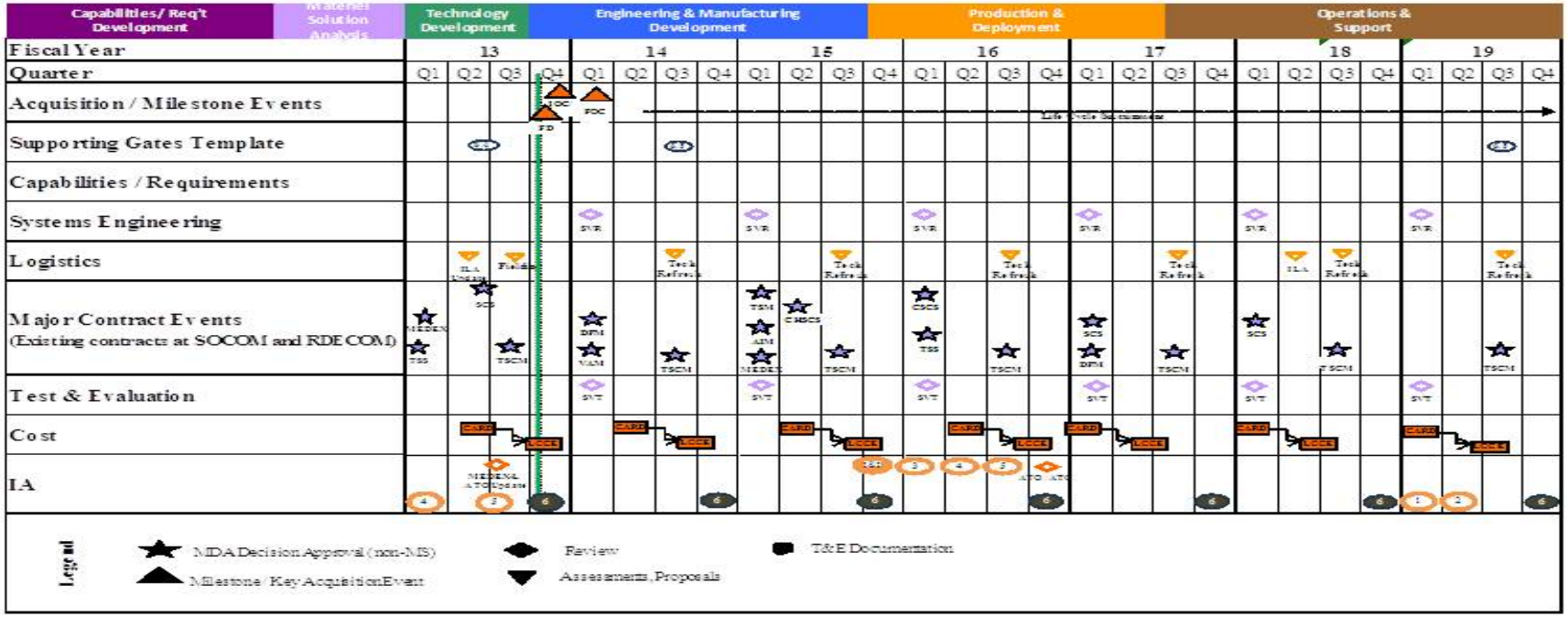


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206625M / *USMC Intelligence/ Electronics Warfare Sys*	**Project (Number/Name)** 2272 / *Intel Command and Control (C2) Sys*

MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

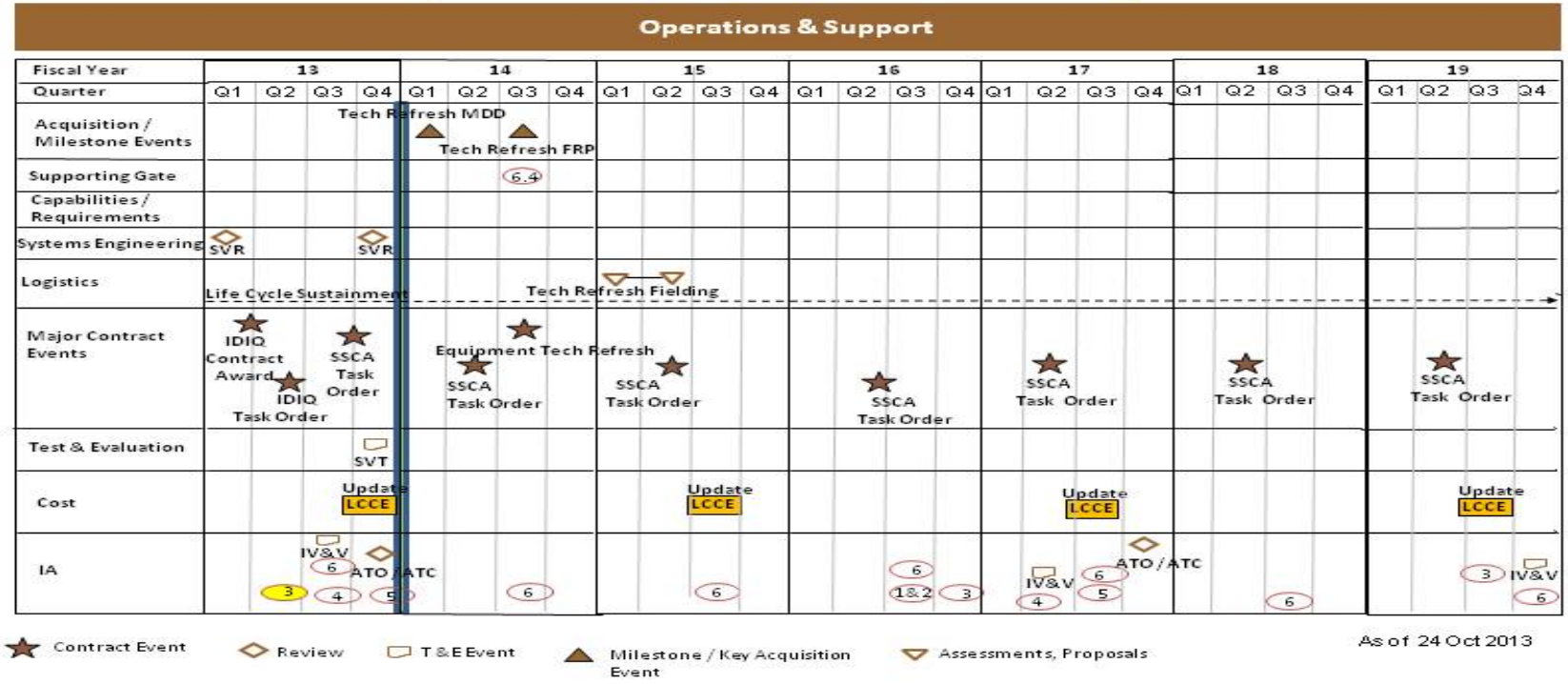
Program Schedule
CIHEP



1

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206625M / *USMC Intelligence/ Electronics Warfare Sys*	**Project (Number/Name)** 2272 / *Intel Command and Control (C2) Sys*

MSIDS



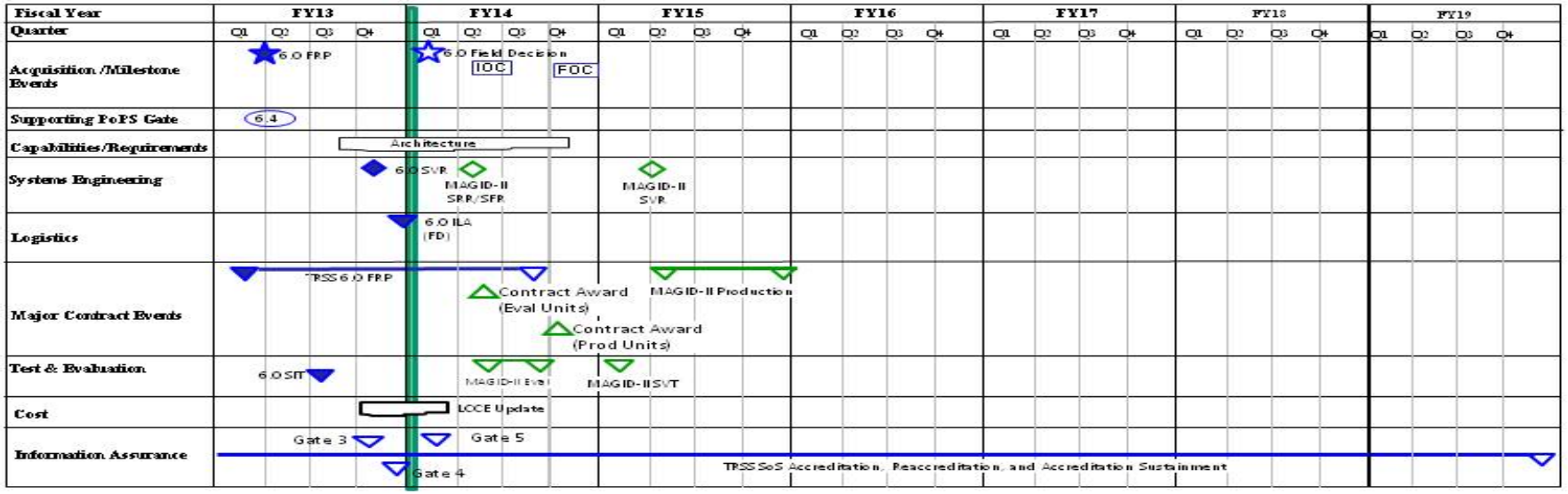
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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206625M / *USMC Intelligence/ Electronics Warfare Sys*	**Project (Number/Name)** 2272 / *Intel Command and Control (C2) Sys*

MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

TRSS SoS Program Schedule



1

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206625M / *USMC Intelligence/ Electronics Warfare Sys*	**Project (Number/Name)** 2272 / *Intel Command and Control (C2) Sys*

SCI COMMS HBSI-PT Schedule

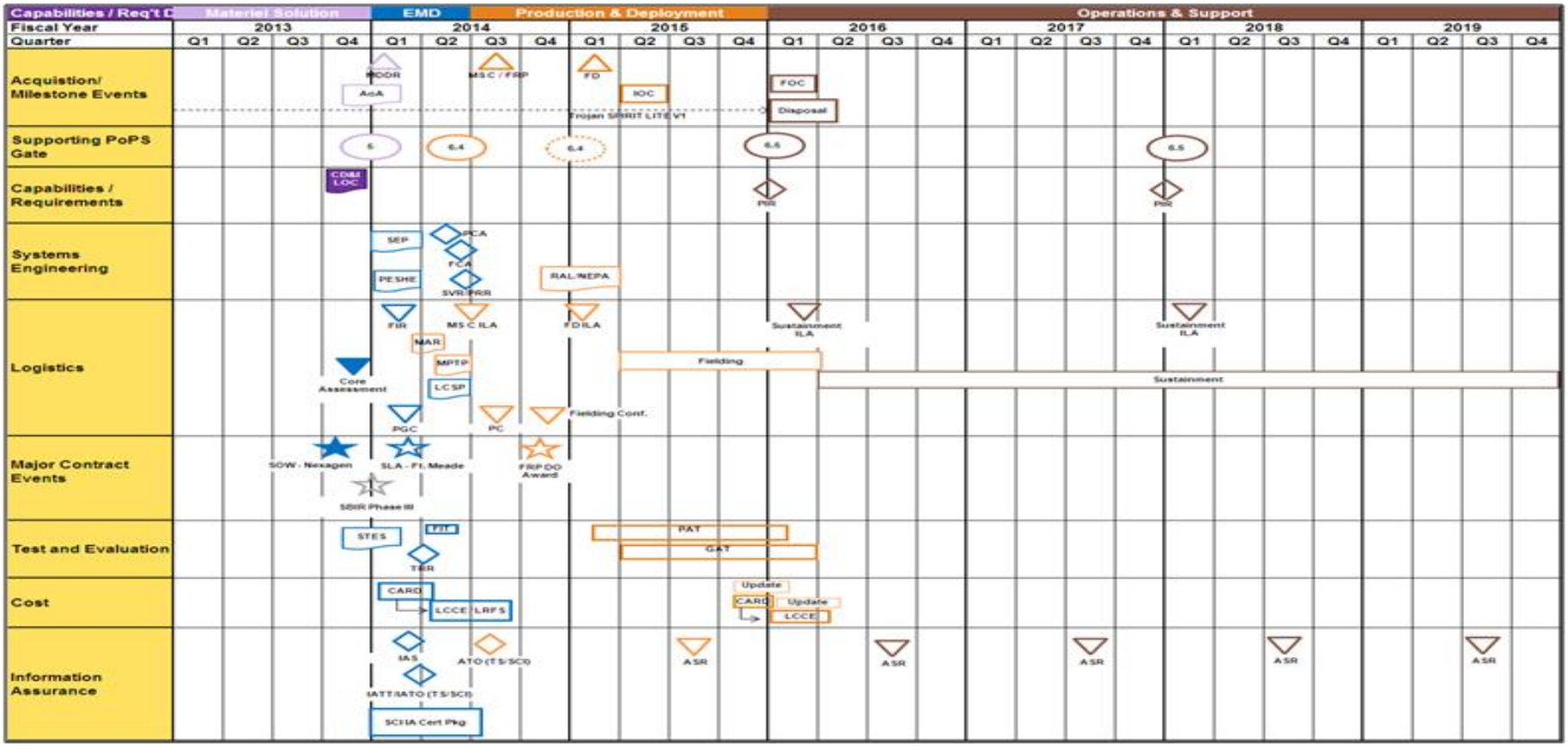


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206625M / *USMC Intelligence/ Electronics Warfare Sys*	**Project (Number/Name)** 2272 / *Intel Command and Control (C2) Sys*

MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

CESAS II Schedule

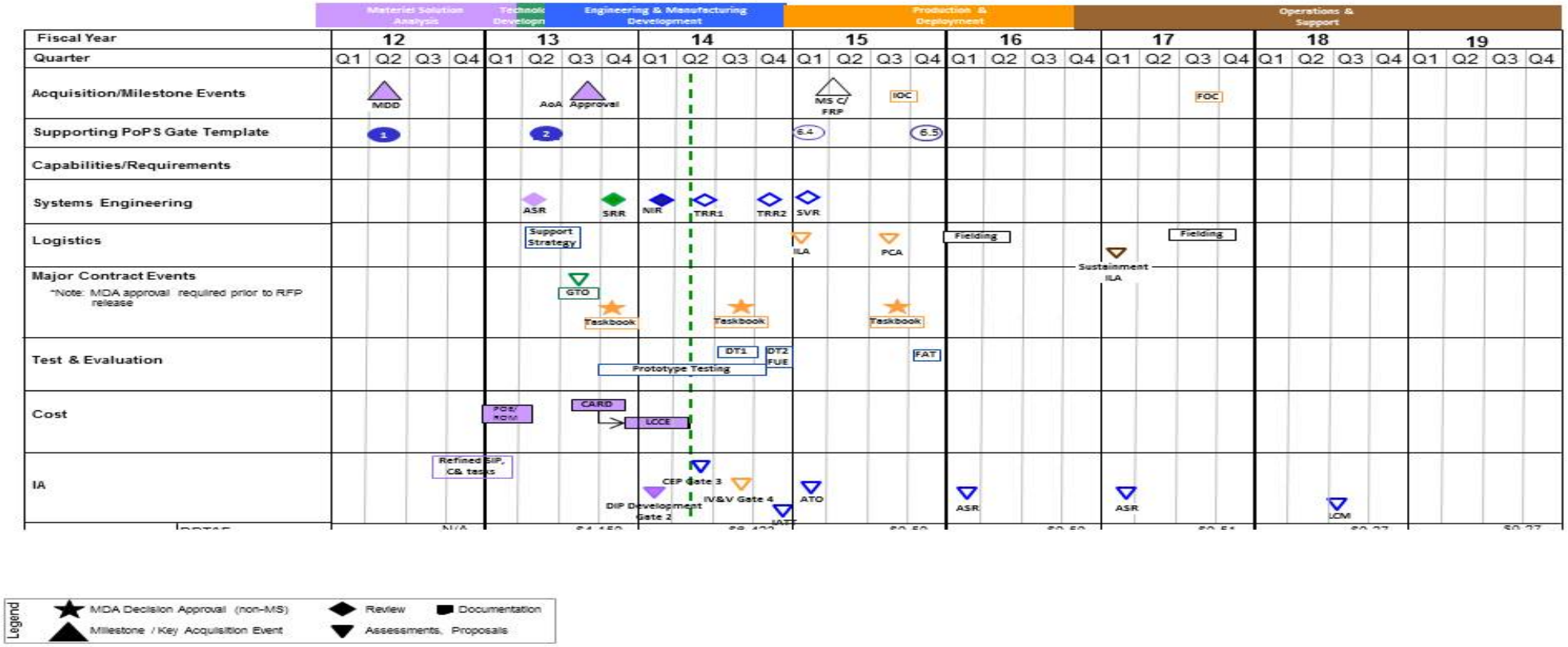


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206625M / *USMC Intelligence/ Electronics Warfare Sys*	**Project (Number/Name)** 2272 / *Intel Command and Control (C2) Sys*

MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

IAS FoS Schedule

Intelligence Analysis System

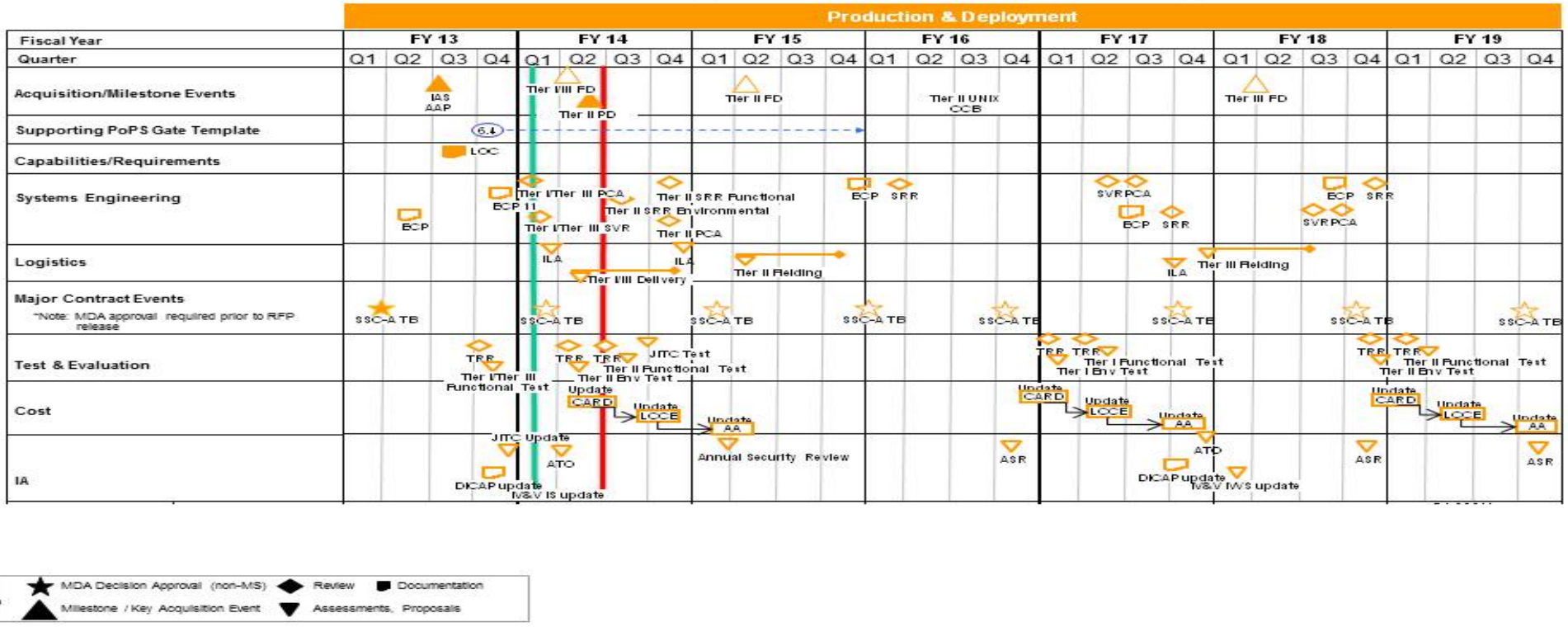
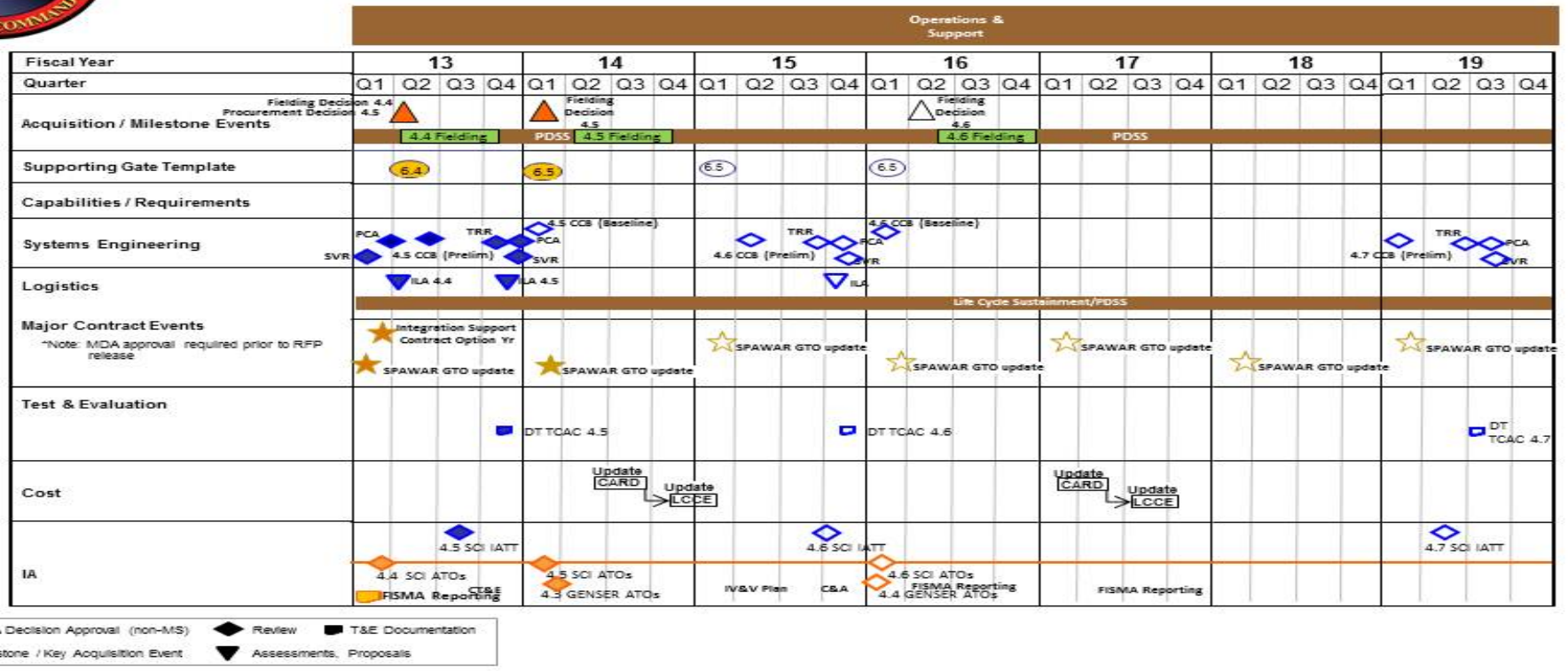


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0206625M / *USMC Intelligence/ Electronics Warfare Sys*	**Project (Number/Name)** 2272 / *Intel Command and Control (C2) Sys*

TCAC 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 I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0207161N *I Tactical Aim Missiles*							
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	316.255	18.889	15.453	47.258	-	47.258	85.567	112.077	88.564	100.801	Continuing	Continuing
0457: *AIM-9X*	316.255	17.916	6.634	40.050	-	40.050	30.989	15.011	0.260	0.308	4.419	431.842
0458: *AIM-9X Block III*	0.000	0.973	8.819	7.208	-	7.208	54.578	97.066	88.304	100.493	Continuing	Continuing
MDAP/MAIS Code: **Other MDAP/MAIS Code(s):** 442, P911												

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

Note

Note: The 0457 Cost to Complete on Exhibits R-2 and R-2a should be $4.494M. Exhibit R-3 reflects the correct Cost to Complete and Total Cost.

A. Mission Description and Budget Item Justification

The AIM-9X (Sidewinder) short-range air-to-air missile is a long term evolution of the AIM-9 series of fielded missiles. The AIM-9X missile program provides a launch and leave, air combat munition that uses passive infrared (IR) energy for acquisition and tracking of enemy aircraft and complements the Advanced Medium Range Air-to-Air Missile (AMRAAM). Air superiority in the short-range air-to-air missile arena is essential and includes first shot, first kill opportunity against an enemy employing IR countermeasures. The AIM-9X employs several components common with the AIM-9M (fuze, rocket motor and warhead). Anti-Tamper features have been incorporated to protect improvements inherent in this design. AIM-9X is a Post Milestone III, Acquisition Category IC joint service program with Navy lead.

The Block II program has entered into Low Rate Initial Production (LRIP) and the LRIP-3 contract was awarded in August 2013. This budget line continues the development, test and integration of software updates to the missile and aircraft platform integration to ensure these capabilities perform in accordance with established requirements as documented in the Capabilities Production Document (CPD).

The AIM-9X Block III builds upon the incremental acquisition strategy used to develop AIM-9X Block I and Block II to provide increased kinematics, lethality, enhanced IR Counter-Measure performance against emerging advanced threats, and improved Insensitive Munitions (IM) performance and will employ several components common with the AIM-9X Block II (advanced seeker, Advanced Optical Target Detector / datalink).

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

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 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0207161N *I Tactical Aim Missiles*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	21.107	39.159	96.557	-	96.557
Current President's Budget	18.889	15.453	47.258	-	47.258
Total Adjustments	-2.218	-23.706	-49.299	-	-49.299
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-23.706			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.436	-			
• Program Adjustments	-	-	-0.657	-	-0.657
• Rate/Misc Adjustments	-	-	-48.642	-	-48.642
• Congressional General Reductions Adjustments	-1.782	-	-	-	-

Change Summary Explanation

Schedule:

Project Unit 0457: Lot awards have been revised as follows: From FRP-1 to LRIP-4 (Lot 14), FRP-2 to FRP-1 (Lot 15), FRP-3 to FRP-2 (Lot 16). OT-C1 completion extended from 1st Qtr FY 2014 to 1st Qtr 2015. Change is a result of extended period required to complete Operational Test (OT) and receive final Initial Operational Test & Evaluation (IOT&E) and Beyond LRIP (BLRIP) reports from Director, Operational Test & Evaluation (D,OT&E).

Project Unit 0458: AIM-9X Block III schedule has been updated to reflect a 2-year program delay.

Cost: FY15-FY17 funding realigned from PU 0458 to 0457 to support design, development and qualification of hardware improvements to the AIM-9X Block II missile system.

Technical: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0207161N / *Tactical Aim Missiles*	Project (Number/Name) 0457 / *AIM-9X*	

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
0457: *AIM-9X*	316.255	17.916	6.634	40.050	-	40.050	30.989	15.011	0.260	0.308	4.419	431.842
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 442

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

A. Mission Description and Budget Item Justification

AIM-9X is a long-term evolution of the AIM-9, a fielded system, qualifying this as a research category operational systems development. The AIM-9X short range Air-to-Air missile modification program provides a launch and leave, air combat munition that uses passive Infra-Red energy for acquisition and tracking of enemy aircraft and complements the Advanced Medium Range Air to Air Missile. Air superiority in the short range Air-to-Air Missile arena is essential and includes first shot, first kill opportunity against an enemy employing IR countermeasures. The AIM-9X employs several components common with the AIM-9M (fuze, rocket motor and warhead).

The program will enter the final planned LRIP (LRIP-4) in FY 2014, followed by Block II Full Rate Production (FRP) in FY 2015 and beyond.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Test and Evaluation of System	2.282	0.850	1.000
Articles:	-	-	-
Description: Funding required for Test & Evaluation (T&E) and associated governmental support required to ensure the AIM-9X missile integration with threshold US Navy aircraft platforms. ***FY 2013 Accomplishments:*** Continue Operational Testing (OT). ***FY 2014 Plans:*** Continue OT and await final report in support of Full Rate Production and fielding of missile. Develop T&E requirements for Block II program CPD. ***FY 2015 Plans:*** Complete OT and await final IOT&E and BLRIP reports. Continue to develop and finalize T&E requirements for Block II program Capabilities Production Document.			
Title: Product Development	14.804	5.118	38.941
Articles:	-	-	-
Description: Continuation of Primary Hardware Development/Pre-Planned Product Improvement efforts for the AIM-9X weapon system. This includes Systems Engineering / Program management, as well as support required, to ensure AIM-9X missile			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207161N / *Tactical Aim Missiles*	**Project (Number/Name)** 0457 / *AIM-9X*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
integration with threshold US Navy aircraft platforms. This also includes efforts to redesign missile components in order to resolve Block II / Block III common component obsolescence, implement cost reduction initiatives, and to comply with the Insensitive Munitions (IM) requirements as established by Joint Requirements Oversight Council memo dated 11 February 2009. ***FY 2013 Accomplishments:*** Continued support of AIM-9X Block II integration and Operational Testing. Study IM alternatives and risk reduction methods. Continue support of OT anomaly resolution. In addition, during FY13 the funding to study the redesign of common Block II / Block III components was moved from the Block III project unit, into this project unit. ***FY 2014 Plans:*** Continue support of AIM-9X Block II integration. Continue support of OT anomaly resolution. Identify missile component obsolescence redesign critical to maintaining production for the Block II missile system in accordance with the program Capabilities Production Document objectives. ***FY 2015 Plans:*** Implement Engineering Manufacturing Development required to redesign, integrate, test and qualify components due to obsolescence and implement cost reduction initiatives. Specific component improvements include the dome, the guidance unit, the processors, the control actuation system and battery, and associated operational flight software updates. In addition this line funds improvements to enhance IM compliance. Specific components include the warhead and missile container.			
Title: Transportation & Travel for Program Management ***Articles:*** ***Description:*** Transportation / Travel for AIM-9X effort. ***FY 2013 Accomplishments:*** Continued funding transportation and travel costs associated with supporting the AIM-9X missile program. ***FY 2014 Plans:*** Continue funding transportation and travel costs associated with supporting the AIM-9X missile program. ***FY 2015 Plans:*** Continue funding transportation and travel costs associated with supporting the AIM-9X missile program.	0.178 -	0.088 -	0.109 -
Title: Support ***Articles:*** ***Description:*** Studies and Analysis ***FY 2013 Accomplishments:***	0.652 -	0.578 -	- -

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207161N / *Tactical Aim Missiles*	**Project (Number/Name)** 0457 / *AIM-9X*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continued studies and analysis in support of advanced development of AIM-9X Sidewinder. ***FY 2014 Plans:*** Continue studies and analysis in support of advanced development of AIM-9X Sidewinder. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	17.916	6.634	40.050

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 2209: *Sidewinder*	69.032	101.689	73.928	-	73.928	97.245	105.109	106.805	109.109	786.351	1,922.177
• MPAF 3479: *Sidewinder*	72.242	100.590	132.995	-	132.995	156.234	181.949	114.384	116.498	969.566	2,481.674
• RDTE, AF 41: *Sidewinder*	5.972	12.760	29.739	-	29.739	46.133	51.765	13.106	13.356	5.033	460.389

Remarks

D. Acquisition Strategy

Milestone C decision for LRIP was held June 24, 2011, and the program has entered into LRIP contracts for Block II in FY 2011 and FY 2012. The LRIP-3 contract was awarded in August 2013. The program will enter the final planned LRIP (LRIP-4) in FY 2014, followed by Block II FRP in FY 2015 and beyond.

E. Performance Metrics

Complete IOT&E and BLRIP reports.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0207161N / *Tactical Aim Missiles*	Project (Number/Name) 0457 / *AIM-9X*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	SS/CPFF	Raytheon Missile Systems : Tucson, AZ	0.000	11.261	Jun 2013	-		33.170	Jun 2015	-		33.170	44.737	89.168	104.641
Munition Improvement Study	SS/CPFF	Raytheon Missile Systems : Tucson, AZ	0.000	-		1.781	Dec 2013	-		-		-	-	1.781	1.781
Aircraft Integration	C/CPFF	The Boeing Company : St. Louis, MO	7.169	0.216	Dec 2012	1.721	Dec 2013	2.882	Dec 2014	-		2.882	-	11.988	14.870
Aircraft Integration	WR	NAWCWD : China Lake, CA	4.181	1.642	Nov 2012	1.616	Nov 2013	2.889	Nov 2014	-		2.889	-	10.328	-
Systems Engineering	WR	NAWCWD : China Lake, CA	38.931	1.685	Nov 2012	-		-		-		-	-	40.616	-
Prior Year Prod Dev cost no longer funded in the FYDP	Various	Various : Various	210.294	-		-		-		-		-	-	210.294	-
		Subtotal	260.575	14.804		5.118		38.941		-		38.941	44.737	364.175	-

Remarks

Total prior years - FY95 and prior under PE 0603715D. FY12 and FY13 funds warhead improvements to comply with insensitive munitions requirements.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support Services	C/CPFF	Mantech Systems : Fairfax, VA	0.000	0.642	Sep 2013	0.578	Aug 2014	-		-		-	-	1.220	1.220
Studies & Analyses	C/CPFF	NSMA : Arlington, VA	0.181	0.010	Feb 2013	-		-		-		-	-	0.191	0.191
		Subtotal	0.181	0.652		0.578		-		-		-	-	1.411	1.411

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0207161N / *Tactical Aim Missiles*	Project (Number/Name) 0457 / *AIM-9X*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Navy Test & Eval (Govt Op Test - WD)	WR	NAWC WD : China Lake, CA	0.814	-		-		-		-		-	-	0.814	-
Oper Test & Eval (OPTEVFOR)	WR	OPTEVFOR : Norfolk, VA	4.830	2.282	Oct 2012	0.850	Oct 2013	1.000	Nov 2014	-		1.000	6.201	15.163	-
System Improvement Process	SS/CPFF	Raytheon Missile Systems : Tucson, AZ	4.087	-		-		-		-		-	-	4.087	4.087
Prior year T&E cost no longer funded in the FYDP	Various	Various : Various	35.051	-		-		-		-		-	-	35.051	-
		Subtotal	44.782	2.282		0.850		1.000		-		1.000	6.201	55.115	-

Management Services ($ in Millions)

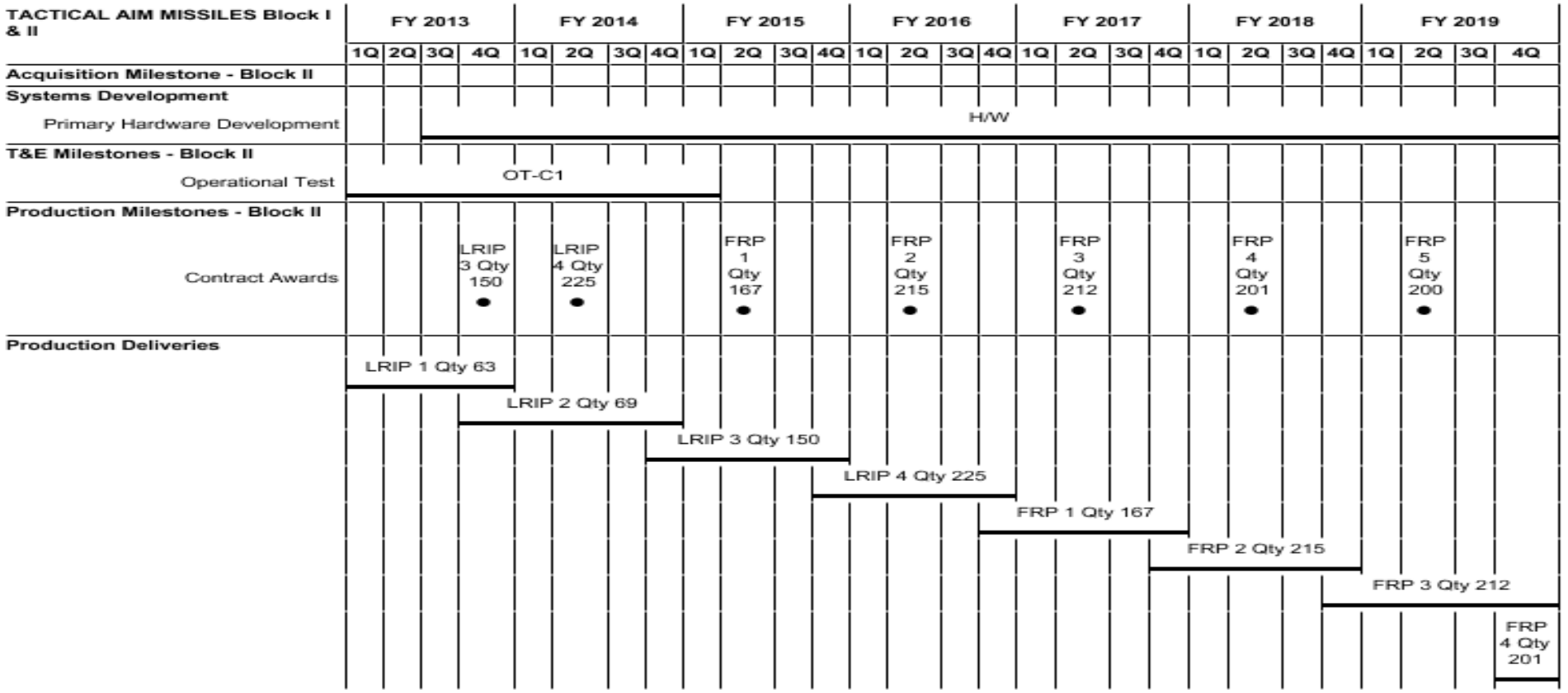
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Transportation - Material	WR	NAVAIR : Patuxent River, MD	0.145	0.096	Oct 2012	0.050	Oct 2013	0.050	Oct 2014	-		0.050	0.050	0.391	-
Travel - Obligation throughout the year	WR	NAWCAD : Patuxent River, MD	2.539	0.082	Oct 2012	0.038	Oct 2013	0.059	Oct 2014	-		0.059	0.074	2.792	-
Prior Year Mgmt cost no longer funded in the FYDP	Various	Various : Various	8.033	-		-		-		-		-	-	8.033	-
		Subtotal	10.717	0.178		0.088		0.109		-		0.109	0.124	11.216	-

	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	316.255	17.916		6.634		40.050		-		40.050	51.062	431.917	-

Remarks

The 0457 Cost to Complete on Exhibits R-2 and R-2a should be $4.494M. Exhibit R-3 reflects the correct Cost to Complete and Total Cost.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207161N / *Tactical Aim Missiles*	**Project (Number/Name)** 0457 / *AIM-9X*



2015PB - 0207161N - 0457

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207161N / *Tactical Aim Missiles*	**Project (Number/Name)** 0457 / *AIM-9X*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
TACTICAL AIM MISSILES Block I & II				
Systems Development: Primary Hardware Development: Hardware Development (Design, Development, Qual of H/W Improvements)	3	2013	4	2019
T&E Milestones - Block II: Operational Test: v9.3 Operational Test (OT-C1)	1	2013	1	2015
Production Milestones - Block II: Contract Awards: Low Rate Initial Production (LRIP 3) Award (WPN) / LRIP 3 Qty 150	4	2013	4	2013
Production Milestones - Block II: Contract Awards: Low Rate Initial Production (LRIP 4) Award / LRIP 4 Qty 225	2	2014	2	2014
Production Milestones - Block II: Contract Awards: Full Rate Production (FRP 1) Award / FRP 1 Qty 167	2	2015	2	2015
Production Milestones - Block II: Contract Awards: Full Rate Production (FRP 2) Award / LRIP 2 Qty 215	2	2016	2	2016
Production Milestones - Block II: Contract Awards: Full Rate Production (FRP 3) Award / FRP 3 Qty 212	2	2017	2	2017
Production Milestones - Block II: Contract Awards: Full Rate Production (FRP 4) Award / FRP 4 Qty 201	2	2018	2	2018
Production Milestones - Block II: Contract Awards: Full Rate Production (FRP 5) Award / FRP 5 Qty 200	2	2019	2	2019
Production Deliveries: Low Rate Initial Production Lot 11 / LRIP 1 Qty 63	1	2013	4	2013
Production Deliveries: Low Rate Initial Production Lot 12 / LRIP 2 Qty 69	4	2013	4	2014
Production Deliveries: Low Rate Initial Production Lot 13 LRIP 3 Qty 150	4	2014	4	2015
Production Deliveries: Low Rate Initial Production Lot 14 LRIP 4 Qty 225	4	2015	4	2016
Production Deliveries: Full Rate Production Lot 15 FRP 1 Qty 167	4	2016	4	2017
Production Deliveries: Full Rate Production Lot 16 FRP 2 Qty 215	4	2017	4	2018
Production Deliveries: Full Rate Production Lot 17 FRP 3 Qty 212	4	2018	4	2019

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207161N / *Tactical Aim Missiles*	**Project (Number/Name)** 0457 / *AIM-9X*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Production Deliveries: Full Rate Production Lot 18 FRP 4 Qty 201	4	2019	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0207161N / *Tactical Aim Missiles*	Project (Number/Name) 0458 / *AIM-9X Block III*	

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
0458: *AIM-9X Block III*	-	0.973	8.819	7.208	-	7.208	54.578	97.066	88.304	100.493	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: P911

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

A. Mission Description and Budget Item Justification

The AIM-9X Block III builds upon the incremental acquisition strategy used to develop AIM-9X Block I and Block II to provide increased kinematic performance against emerging advanced threats, and improved Insensitive Munition (IM) performance. Block III includes design improvements to enhance performance capabilities of the missile and will employ several components common with the AIM-9X Block II (e.g. advanced seeker, Advanced Optical Target Detector / datalink). This budget line item will fund the technology risk reduction, software development, hardware development, insensitive munitions improvements, test, and aircraft platform integration of AIM-9X Block III to ensure these capabilities perform in accordance with established requirements. Risk reduction and Engineering Manufacturing Development (EMD) programs also comply with and address the Joint Requirements Oversight Council Memorandum Insensitive Munitions direction (11 February 2009) for AIM-9X IM technology insertion. Applicable anti-tamper features already incorporated in the existing AIM-9X Block II to protect improvements inherent in design will be brought forward for AIM-9X Block III.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Product Development	-	7.849	6.343
Articles:	-	-	-

Description: Funding required to establish the AIM-9X Block III Integrated Product Team which will develop program technology development strategy, develop draft acquisition program baseline, refine program requirements, identify best value preferred system concept, and commence competitive prototyping with associated technology risk reduction.

FY 2013 Accomplishments:
N/A

FY 2014 Plans:
Begin EMD of the AIM-9X Block III with completion of risk reduction activites. Award contracts/task orders for EMD hardware and software (S/W) systems for the AIM-9X Block III. Complete risk reduction efforts for IM improvements to the AIM-9X warhead and begin engineering analysis of rocket motor IM mitigation technologies into candidate rocket motor. Begin preliminary design review for candidate technologies and complete studies related to S/W modifications required for changes to the rocket motor, increased kinematics, and guidance & control algorithms. Refine cost estimates based on rocket motor technologies and impacts associated with IM requirements. Manufacturing of prototypes using producibility approaches and lessons learned. Will conduct IM and arena tests after subjecting prototypical warheads to thermal and mechanical environments, and assess anchored lethality

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207161N / *Tactical Aim Missiles*	**Project (Number/Name)** 0458 / *AIM-9X Block III*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
models. Plan to integrate optimized Digital or Insensitive Detonator into selected warhead demonstration prototype and conduct IM and arena demonstrations in conjunction with selected warhead after environment testing. ***FY 2015 Plans:*** Continue design investigation for candidate technologies and studies related to S/W modifications required for changes to the rocket motor, increased kinematics, and guidance & control algorithms. Review to refine draft Capability Development Document (CDD) and program requirements. Continue integration studies with expected threshold platforms to define design constraints and further refine requirements. Continue risk reduction efforts for Insensitive Munition (IM) improvements to the AIM-9X warhead and engineering analysis of rocket motor IM mitigation technologies into candidate rocket motor. Will conduct IM and arena tests after subjecting prototypical warheads to thermal and mechanical environments, and assess anchored lethality models. Plan to integrate optimized Digital Insensitive Detonator into selected warhead demonstration prototype and conduct IM and arena demonstrations in conjunction with selected warhead after environment testing.			
Title: Support ***Articles:*** ***FY 2013 Accomplishments:*** Management and support services associated with AIM-9X Sidewinder Blk III. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Continue engineering technical support services associated with AIM-9X Sidewinder Block III.	0.970 -	- -	0.275 -
Title: Transportation & Travel for Program Management ***Articles:*** ***FY 2013 Accomplishments:*** Transportation and travel costs associated with supporting the AIM-9X Block III missile program. ***FY 2014 Plans:*** Management support, transportation of government funrnished materials, and travel costs associated with supporting the AIM-9X Block III missile program. ***FY 2015 Plans:*** Continue management support, transportation of government funrnished materials, and travel costs associated with supporting the AIM-9X Block III missile program.	0.003 -	0.970 -	0.590 -
Accomplishments/Planned Programs Subtotals	0.973	8.819	7.208

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207161N / *Tactical Aim Missiles*	**Project (Number/Name)** 0458 / *AIM-9X Block III*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

AIM-9X Block III will achieve Milestone Decision Authority concurrence on the program's entry into the acquisition framework and acquisition strategy. The program will likely be approved to enter into the Technology Development Phase prior to Milestone (MS) B. Prototyping to develop common core technologies will occur in FY 2015. In FY 2016 the program will downselect to a single AIM-9X Block III primary system design, which will be used for final technology development in preparation for MS-B.

E. Performance Metrics

AIM-9X Block III supporting technologies and best value preferred system concept will be developed to meet minimum system requirements that will be defined in a draft AIM-9X Block III CDD and draft program Acquisition Program Baseline; which will be established in FY 2014.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0207161N / *Tactical Aim Missiles*	Project (Number/Name) 0458 / *AIM-9X Block III*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Blk III Primary Hdw Development	C/FPIF	Raytheon Missile Systems : Tucson, AZ	0.000	-		5.385	Jun 2014	3.339	Jun 2015	-		3.339	434.558	443.282	323.025
Blk III Gov't Engineering Support	WR	NAWCWD : China Lake, CA	0.000	-		2.064	Nov 2013	1.913	Nov 2014	-		1.913	23.221	27.198	-
Blk III Gov't Engineering Support	WR	NAWCAD : Patuxent River, MD	0.000	-		0.400	Nov 2013	1.091	Nov 2014	-		1.091	13.750	15.241	-
Aircraft Integration	C/CPFF	Lockheed Martin : Fort Worth, TX	0.000	-		-		-		-		-	94.090	94.090	96.053
Telemetry Test Units	WR	NAWCWD : China Lake, CA	0.000	-		-		-		-		-	10.720	10.720	-
		Subtotal	0.000	-		7.849		6.343		-		6.343	576.339	590.531	-

Remarks

Changes have been incorporated to reflect current program direction and cost estimates. Raytheon has been identified as the prime vendor for this effort. (Previous submission identified a possible 2nd source as prime vendor). Government Systems Engineering reflects support at NAWC China Lake and Pax River. Aircraft Integration has been corrected to reflect work performed at government activity. Telemetry Test kits have been added to identify government furnished equipment provided to Raytheon.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies and Analysis	WR	NSMA : Arlington, VA	0.000	-		-		0.275	Nov 2014	-		0.275	1.150	1.425	-
Integration Study (JSF)	C/CPFF	Lockheed Martin : Fort Worth, TX	0.000	0.970	Jun 2013	-		-		-		-	-	0.970	0.970
		Subtotal	0.000	0.970		-		0.275		-		0.275	1.150	2.395	-

Remarks

The Integration Study (JSF) line reflects a one-time study at Lockheed Martin to analyze missile weight on the F-35.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0207161N / *Tactical Aim Missiles*	Project (Number/Name) 0458 / *AIM-9X Block III*

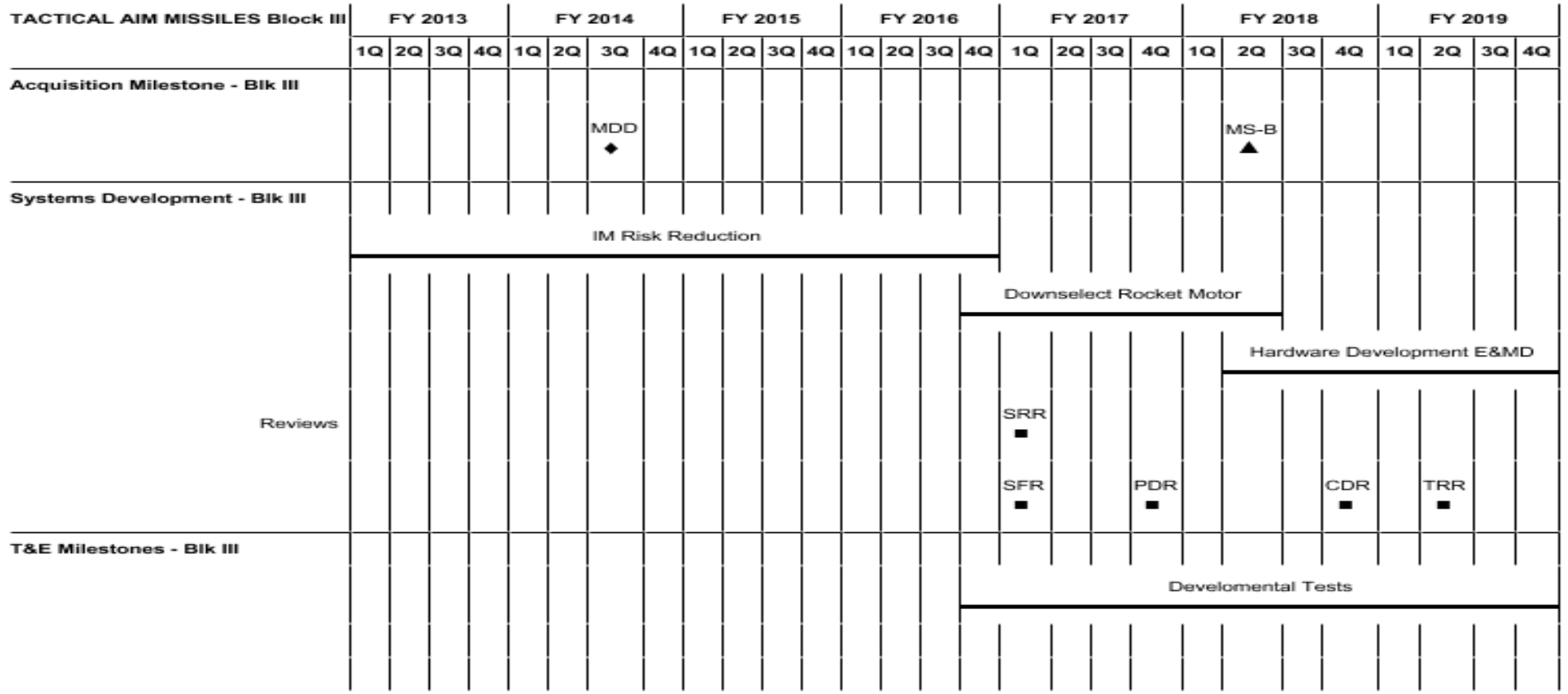
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Blk III Management and Support Services	C/CPFF	Jorge Scientific Corporation : Lexington Park, MD	0.000	-		0.865	Nov 2013	0.500	Nov 2014	-		0.500	5.250	6.615	6.615
Blk III Travel- Obligation throughout the year	WR	NAVAIR : Patuxent River, MD	0.000	0.003	Nov 2012	0.065	Oct 2013	0.060	Nov 2014	-		0.060	Continuing	Continuing	Continuing
Blk III Transportation - Material	WR	NAWCAD : Patuxent River, MD	0.000	-		0.040	Nov 2013	0.030	Nov 2014	-		0.030	0.520	0.590	-
		Subtotal	0.000	0.003		0.970		0.590		-		0.590	-	-	-

	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	0.973		8.819		7.208		-		7.208	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207161N / *Tactical Aim Missiles*	**Project (Number/Name)** 0458 / *AIM-9X Block III*



2015PB - 0207161N - 0458

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207161N / *Tactical Aim Missiles*	**Project (Number/Name)** 0458 / *AIM-9X Block III*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
TACTICAL AIM MISSILES Block III				
Acquisition Milestone - Blk III: Material Development Decision	3	2014	3	2014
Acquisition Milestone - Blk III: Acquisition Milestone B	2	2018	2	2018
Systems Development - Blk III: IM Risk Reduction (Warhead + Rocket Motor)	1	2013	4	2016
Systems Development - Blk III: Systems Development Primary H/W Development Competitive	4	2016	2	2018
Systems Development - Blk III: Systems Develoment Primary EMD	2	2018	4	2019
Systems Development - Blk III: Reviews: System Requirements Review (SRR)	1	2017	1	2017
Systems Development - Blk III: Reviews: System Function Review (SFR)	1	2017	1	2017
Systems Development - Blk III: Reviews: Preliminary Design Review (PDR)	4	2017	4	2017
Systems Development - Blk III: Reviews: Critical Design Review (CDR)	4	2018	4	2018
Systems Development - Blk III: Reviews: Technical Readiness Review (TRR)	2	2019	2	2019
T&E Milestones - Blk III: Developmental Testing	4	2016	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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0207163N *I AMRAAM*							
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	113.950	2.669	2.613	10.210	-	10.210	32.549	44.312	46.208	32.348	15.275	300.134
0981: *AMRAAM*	113.950	2.669	2.613	10.210	-	10.210	32.549	44.312	46.208	32.348	15.275	300.134
MDAP/MAIS Code: 185												

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

A. Mission Description and Budget Item Justification

This joint Navy/Air Force program is structured in response to the Joint Service Operational Requirement and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. This program supports the integration of the Advanced Medium Range Air-to-Air Missile (AMRAAM) into Navy aircraft with analysis of Navy unique applications, aircraft missile integration tasks, product improvement efforts including missile software upgrade development and procurement of hardware to support Navy test and evaluation tasks.

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	2.857	2.613	2.818	-	2.818
Current President's Budget	2.669	2.613	10.210	-	10.210
Total Adjustments	-0.188	-	7.392	-	7.392
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.034	-			
• Program Adjustments	-	-	7.700	-	7.700
• Rate/Misc Adjustments	-	-	-0.308	-	-0.308
• Congressional General Reductions Adjustments	-0.154	-	-	-	-

Change Summary Explanation

Technical: FY15 funding increase supports Electronic Protection Improvement Program (EPIP) efforts.

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0207163N *I AMRAAM*

Schedule: The F/A-18E/F Operational Test (OT) schedule growth was driven by software fixes, which paused testing until May 2013. Further testing delays were the result of sequestration, furlough, target aircraft grounding and the government shutdown. Forecast Initial Operational Capability (IOC) dates were shifted consistent with the delay in the completion of OT. Advanced EPIP AIM-120C7 is being divided into two software releases to permit fielding of incremental improvements against advanced electronic attack threats as soon as possible. Updated to reflect estimate of contract restructure dates pending receipt of proposal in mid February 2014. Schedule growth for Basic and Advanced EPIP for AIM-120D due to additional scope to address Operational Test issues.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0207163N / *AMRAAM*	Project (Number/Name) 0981 / *AMRAAM*	

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
0981: *AMRAAM*	113.950	2.669	2.613	10.210	-	10.210	32.549	44.312	46.208	32.348	15.275	300.134
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 joint Navy/Air Force program is structured in response to the Joint Service Operational Requirement and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. This program supports the integration of the Advanced Medium Range Air-to-Air Missile (AMRAAM) into Navy aircraft with analysis of Navy unique applications, aircraft missile integration tasks, product improvement efforts including missile software upgrade development and procurement of hardware to support Navy test and evaluation tasks. Funding increases in FY15 through FY19 support Navy unique Test & Evaluation for Navy fielding of the AIM-120C7 and AIM-120D Electronic Protection Improvement Program (EPIP) capability. Funding increases in FY16 through FY19 are for System Improvement Program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Aircraft integration	0.850	0.870	3.644
Articles:	-	-	-
Description: Aircraft integration activities and test and evaluation for Navy unique requirements.			
FY 2013 Accomplishments: Continued aircraft integration activities and test and evaluation for Navy unique requirements.			
FY 2014 Plans: Continue aircraft integration activities and test and evaluation for Navy unique requirements.			
FY 2015 Plans: Continue aircraft integration activities and test and evaluation for Navy unique requirements. Additional FY15 resources are required to begin AIM-120C7 Test & Evaluation of the EPIP capability for Navy fielding.			
Title: Identify potential improvements	0.402	0.426	0.436
Articles:	-	-	-
Description: Engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207163N / *AMRAAM*	**Project (Number/Name)** 0981 / *AMRAAM*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continued engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems. Conduct Operational Flight Profile efforts. ***FY 2014 Plans:*** Continue engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems. Conduct Operational Flight Profile efforts. ***FY 2015 Plans:*** Continue engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems. Conduct Operational Flight Profile efforts.			
Title: System Improvement Program (SIP) efforts	1.417	1.317	6.130
Articles:	-	-	-
Description: System engineering and test activities in AMRAAM missiles which includes aircraft integration/aircraft Operational Flight Profile efforts and Phase 4 test/equipment tasks. System engineering/aircraft integration activities for SIP with emphasis on Navy unique compatibility requirements and Navy aircraft integration/compatibility requirements. ***FY 2013 Accomplishments:*** Continued system engineering/aircraft integration activities for SIP with emphasis on Navy unique compatibility requirements and Navy aircraft integration/compatibility requirements. ***FY 2014 Plans:*** Continue system engineering/aircraft integration activities for SIP with emphasis on Navy unique compatibility requirements and Navy aircraft integration/compatibility requirements. ***FY 2015 Plans:*** Continue system engineering/aircraft integration activities for SIP with emphasis on Navy unique compatibility requirements and Navy aircraft integration/compatibility requirements. Additional FY15 resources support the EPIP to improve AIM-120C7 performance to counter evolving Electronic Attack threats.			
Accomplishments/Planned Programs Subtotals	2.669	2.613	10.210

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/ 220600: *AMRAAM*	86.883	82.529	32.165	-	32.165	194.767	210.749	269.200	315.951	1,695.381	4,923.514
• MPAF/3479: *AMRAAM*	201.370	323.015	329.600	-	329.600	367.944	402.093	455.149	460.807	2,078.842	12,487.820
• RDTE,AF/673777: *AMRAAM*	79.831	70.614	83.222	-	83.222	62.569	51.605	49.540	53.687	106.600	1,163.647

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207163N / *AMRAAM*	**Project (Number/Name)** 0981 / *AMRAAM*

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

Remarks

D. Acquisition Strategy

AMRAAM production procurements will continue across the FYDP with periodic pre-planned product improvements and Value Engineering Change Proposals. The Air Dominance Division, previously the 328th Armanent Systems Group, will revisit instituting a Long Term Pricing Agreement upon Raytheon's ability to consistently achieve monthly deliveries of 30 - 35 AIM-120Ds.

E. Performance Metrics

Meet cost, schedule, performance, funding and life cycle sustainment requirements in accordance with the Acquisition Program Baseline.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0207163N / *AMRAAM*	Project (Number/Name) 0981 / *AMRAAM*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hdw Development (EGLIN)	SS/CPAF	RAYTHEON COMPANY : Tucson AZ	43.911	0.609	Jan 2013	0.546	Jan 2014	4.660	Jan 2015	-		4.660	116.833	166.559	166.559
Award Fees (EGLIN)	SS/CPAF	RAYTHEON COMPANY : Tucson AZ	6.253	0.107	Jan 2013	0.096	Jan 2014	0.822	Jan 2015	-		0.822	20.618	27.896	27.896
Primary Hdw Development (DAHLGREN)	WR	NSWC DAHLGREN D C XDM1 : Dahlgren VA	0.117	0.026	Nov 2012	0.026	Nov 2013	0.028	Nov 2014	-		0.028	0.283	0.480	-
Primary Hdw Development (NAWCAD)	WR	NAWCAD : Patuxent River MD	1.521	0.467	Nov 2012	0.469	Nov 2013	0.447	Nov 2014	-		0.447	3.651	6.555	-
Primary Hdw Development (NAWCWD)	WR	NAWCWD : China Lake CA	0.816	0.089	Dec 2012	0.088	Dec 2013	0.088	Dec 2014	-		0.088	0.677	1.758	-
Prior Years Dev Cost no longer funded in the FYDP	Various	Various : Various	22.670	-		-		-		-		-	-	22.670	-
		Subtotal	75.288	1.298		1.225		6.045		-		6.045	142.062	225.918	-

Remarks

Remarks: Percentage of award fees actually awarded in past award fee periods is 14.2%.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support (NSMA)	WR	NAVY SYST MGT ACT : Arlington VA	3.233	0.201	Mar 2013	0.212	Jan 2014	0.217	Jan 2015	-		0.217	2.156	6.019	-
Studies & Analyses - JHU/ APL	SS/FFP	NAVSEASYSCOM : Washington DC	1.460	0.201	May 2013	0.214	May 2014	0.219	May 2015	-		0.219	2.175	4.269	4.269
Prior Years Support costs no longer funded in the FYDP	Various	Various : Various	17.420	-		-		-		-		-	-	17.420	-
		Subtotal	22.113	0.402		0.426		0.436		-		0.436	4.331	27.708	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0207163N / *AMRAAM*	Project (Number/Name) 0981 / *AMRAAM*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Dev Test & Eval (NAWCWD)	WR	NAWCWD : China Lake CA	9.603	0.850	Nov 2012	0.870	Nov 2013	3.644	Nov 2014	-		3.644	23.630	38.597	-
		Subtotal	9.603	0.850		0.870		3.644		-		3.644	23.630	38.597	-

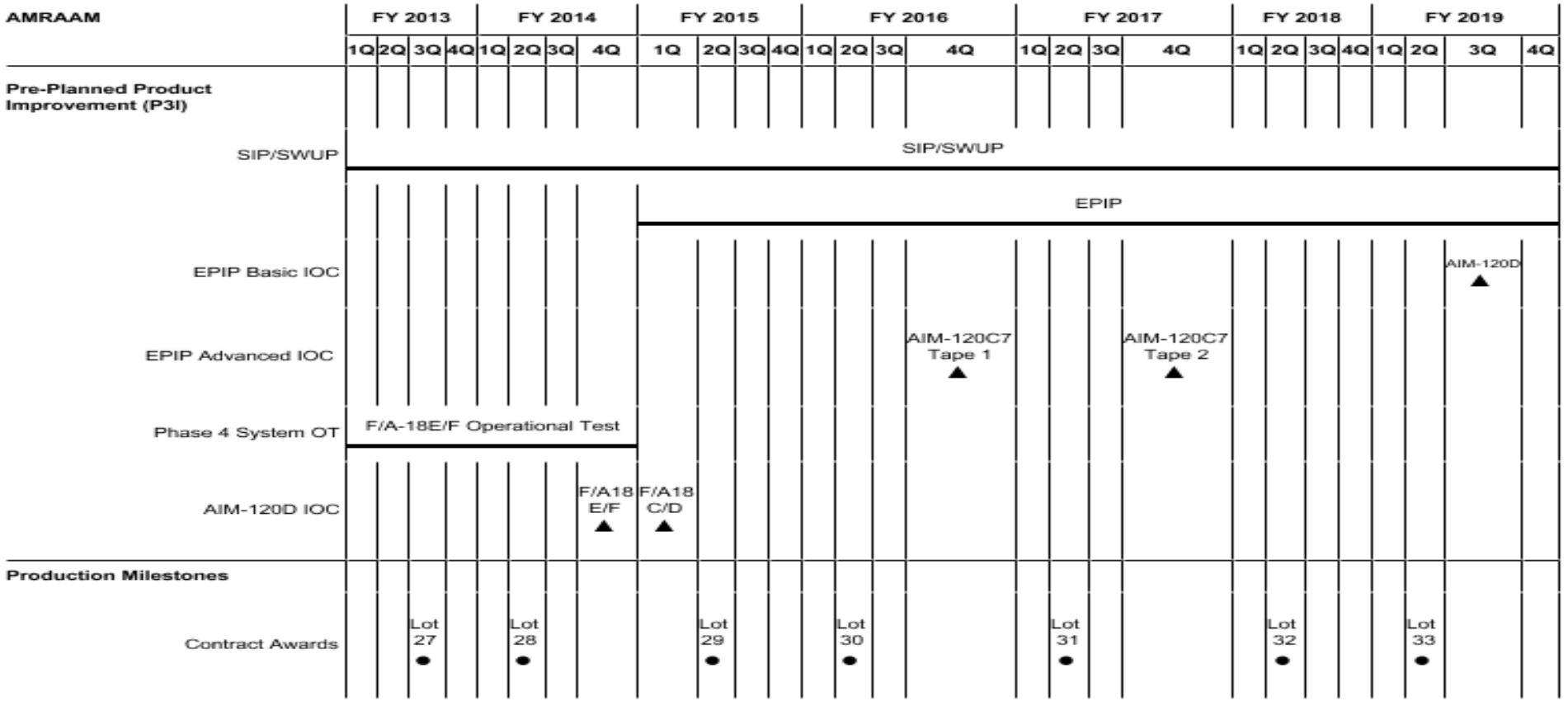
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	MIPR	PMA-259 : Eglin AFB FL	2.944	0.119	Oct 2012	0.092	Oct 2013	0.085	Oct 2014	-		0.085	0.669	3.909	-
Prior Years Mgmt Costs no longer funded in the FYDP	Various	Various : Various	4.002	-		-		-		-		-	-	4.002	-
		Subtotal	6.946	0.119		0.092		0.085		-		0.085	0.669	7.911	-

	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	113.950	2.669		2.613		10.210		-		10.210	170.692	300.134	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207163N / *AMRAAM*	**Project (Number/Name)** 0981 / *AMRAAM*



2015PB - 0207163N - 0981

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0207163N / *AMRAAM*	**Project (Number/Name)** 0981 / *AMRAAM*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
AMRAAM				
Pre-Planned Product Improvement (P3I): SIP/SWUP: SIP/SWUP Start (P3I Follow-0n)	1	2013	4	2019
Pre-Planned Product Improvement (P3I): SIP/SWUP: EPIP	1	2015	4	2019
Pre-Planned Product Improvement (P3I): EPIP Basic IOC: AIM-120D IOC	3	2019	3	2019
Pre-Planned Product Improvement (P3I): EPIP Advanced IOC: AIM-120C7 IOC Tape 1	4	2016	4	2016
Pre-Planned Product Improvement (P3I): EPIP Advanced IOC: AIM-120C7 IOC Tape 2	4	2017	4	2017
Pre-Planned Product Improvement (P3I): Phase 4 System OT: F/A-18E/F Operational Test	1	2013	4	2014
Pre-Planned Product Improvement (P3I): AIM-120D IOC: IOC F/A18 E/F (Threshold)	4	2014	4	2014
Pre-Planned Product Improvement (P3I): AIM-120D IOC: IOC F/A18 C/D	1	2015	1	2015
Production Milestones: Contract Awards: Production Lot 27 Contract Award	3	2013	3	2013
Production Milestones: Contract Awards: Production Lot 28 Contract Award	2	2014	2	2014
Production Milestones: Contract Awards: Production Lot 29 Contract Award	2	2015	2	2015
Production Milestones: Contract Awards: Production Lot 30 Contract Award	2	2016	2	2016
Production Milestones: Contract Awards: Production Lot 31 Contract Award	2	2017	2	2017
Production Milestones: Contract Awards: Production Lot 32 Contract Award	2	2018	2	2018
Production Milestones: Contract Awards: Production Lot 33 Contract Award	2	2019	2	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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0208058N *I Joint High Speed Vessel (JHSV)*							
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	35.885	1.759	0.986	-	-	-	-	-	-	-	-	38.630
3134: *Intratheater Connectors (Contract Design)*	35.885	1.759	0.986	-	-	-	-	-	-	-	-	38.630
MDAP/MAIS Code: 247												

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

A. Mission Description and Budget Item Justification

Future joint forces will be responsive, deployable, agile, versatile, lethal, survivable and sustainable. The nation will need lift assets that can provide for assured access, decrease predictability and dwell time, and have the capacity to quickly deliver troops and equipment together in a manner that provides for unit integrity. Joint High Speed Vessel (JHSV) will provide Combatant Commanders high-speed, intra-theater sealift mobility with inherent cargo handling capability and the agility to achieve positional advantage over operational distances. Not limited to major ports, the JHSV will be able to operate in austere port environments.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	1.932	0.986	-	-	-
Current President's Budget	1.759	0.986	-	-	-
Total Adjustments	-0.173	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.016	-			
• Rate/Misc Adjustments	0.001	-	-	-	-
• Congressional General Reductions Adjustments	-0.158	-	-	-	-

Change Summary Explanation

Schedule: IOC and completion of FOT&E delayed due to delivery delay of the first JHSV.
Cost: Reduced FY 2013 funding for sequestration reductions

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy									Date: March 2014			
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0208058N / *Joint High Speed Vessel (JHSV)*				Project (Number/Name) 3134 / *Intratheater 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**
3134: *Intratheater Connectors (Contract Design)*	35.885	1.759	0.986	-	-	-	-	-	-	-	-	38.630
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

Future joint forces will be responsive, deployable, agile, versatile, lethal, survivable, and sustainable. The nation will need lift assets that can provide for assured access, decrease predictability and dwell time, and have the capacity to quickly deliver troops and equipment together in a manner that provides for unit integrity. Joint High Speed Vessel (JHSV) will provide combatant commanders high-speed intra-theater sealift mobility with inherent cargo handling capability and the agility to achieve positional advantage over operational distances. Not limited to major ports, the JHSV will be able to operate in austere port environments. The Joint High Speed Vessel is one of three programs in the Department's "Capital Account Pilot Program."

The primary objective of the T&E program is to ensure the JHSV is effective and suitable for its intended mission. The focus will be on reducing test time and cost through an appropriate combination of DT and OT events in order to achieve compatible objectives.

DT&E efforts include modeling and simulation (M&S), design analysis, inspection, component testing, system level testing, demonstration, ship trials, and PDT&T events. The JHSV T&E Program will coordinate DT&E and OT&E to bring the lead ship to Initial Operational Capability (IOC) in the most efficient and timely manner possible.

Operational testing will include an Operational Assessment (OA), Initial Operational Test and Evaluation (IOT&E) and Follow-on Operational Test and Evaluation (FOT&E). JHSV OT&E will be conducted as Multi-service OT&E events.

The objective of Live Fire Test and Evaluation (LFT&E) is to provide a timely and reasonable assessment of the survivability of the system as it progresses through its development and prior to full-rate production. The program will utilize existing commercial and military technologies to modify commercial high-speed ferry designs for military use. LFT&E is included in OT&E.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	**FY 2013**	**FY 2014**	**FY 2015**
Title: Intratheater Connectors (Contract Design)	1.759	0.986	-
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0208058N / *Joint High Speed Vessel (JHSV)*	**Project (Number/Name)** 3134 / *Intratheater Connectors (Contract Design)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Completed 90% of Post Delivery Test & Trials (PDT&T) to evaluate the performance of the JHSV. Completed 90% of IOT&E. Started Final Survivability Assessment Report. Completed TSST. ***FY 2014 Plans:*** Complete Post Delivery Test & Trials (PDT&T). Conduct FOT&E. Complete IOT&E. Complete Final Survivability Assessment Report. Complete Assessment Documentation. ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	1.759	0.986	-

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/3043: *SCN Joint High Speed Vessel*	183.268	10.332	4.590	-	4.590	4.610	4.621	1.681	-	-	1,130.806
• SCN/5110: *SCN Joint High Speed Vessel*	13.539	11.248	32.850	-	32.850	27.232	15.652	9.950	-	-	112.773
• SCN/5300: *SCN Joint High Speed Vessel*	-	-	14.000	-	14.000	15.889	-	-	-	-	29.889

Remarks

D. Acquisition Strategy

Two-phased strategy with competitive preliminary design effort leading to downselect to a single contractor. FPI contract type will be used for detail design and construction.

E. Performance Metrics

Completed the test plan development for the Total Ship Survivability Trial (TSST). Completed the efforts and tasks for Operational Test & Evaluation (OT&E) and Live Fire Test & Evaluation (LFT&E) necessary to successfully begin Initial Test and Evaluation (IOT&E) in FY13

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0208058N / *Joint High Speed Vessel (JHSV)*	**Project (Number/Name)** 3134 / *Intratheater Connectors (Contract Design)*

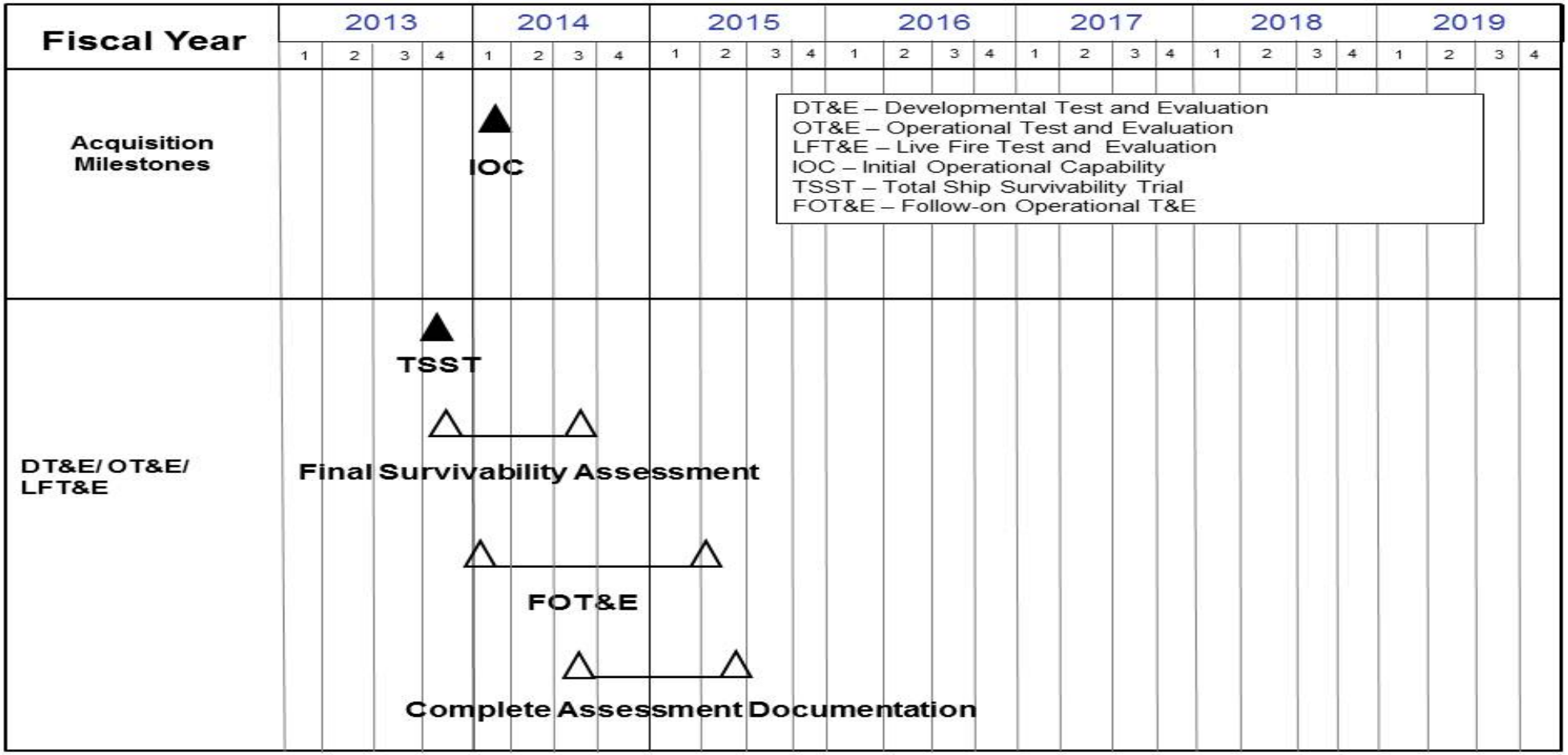


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0303109N *I Satellite Communications (Space)*							
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	4,420.314	179.029	66.196	41.829	-	41.829	31.076	16.789	34.088	38.357	Continuing	Continuing
0728: *EHF SATCOM Terminals*	603.553	28.131	21.056	24.805	-	24.805	17.235	5.099	21.618	25.581	Continuing	Continuing
0731: *FLTSATCOM*	19.364	9.706	9.202	4.752	-	4.752	3.101	-	-	-	-	46.125
2472: *Mobile User Objective Sys (MUOS)*	3,797.397	141.192	35.938	12.272	-	12.272	10.740	11.690	12.470	12.776	249.835	4,284.310
MDAP/MAIS Code: **Other MDAP/MAIS Code(s):** 290, 345												

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

A. Mission Description and Budget Item Justification

The Navy Multiband Terminal (NMT) Program is the required Navy component to the Advanced Extremely High Frequency (AEHF) program for enhancing protected and survivable satellite communications to Naval forces. The NMT system provides an increase in single service capability from 1.5 Megabits per second (Mbps) to 8 Mbps, increases the number of coverage areas and retains Anti-Jam/Low Probability of Intercept (AJ/LPI) protection characteristics. It is compatible with today's Navy Low Data Rate/Medium Data Rate (LDR/MDR) terminals and will sustain the Military Satellite Communications (MILSATCOM) architecture by providing connectivity across the spectrum of mission areas, to include land, air and naval warfare, special operations, strategic nuclear operations, strategic defense, theater missile defense, and space operations and intelligence. The NMT system will replenish and improve on Navy terminal capabilities of the Military Strategic, Tactical & Relay System (MILSTAR), Defense Satellite Communications System (DSCS), Wideband Global Satellite (WGS) and Global Broadcast System (GBS). The new system will equip the warfighters with the assured, jam resistant, secure communications as described in the joint AEHF satellite communications system and WGS Operational Requirements Documents (ORD). The NMT will provide multiband Satellite Communications (SATCOM) capability for ship, submarine, and shore platforms.

The Joint Ultra-High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated Control System (JMINI CS) is a legacy system that commenced in 1998. JMINI CS is a Navy-led, Joint-interest program providing integrated, dynamic, and centralized control of non-processed UHF MILSATCOM 5/25 kHz Demand Assigned Multiple Access (DAMA) and Demand Assigned Single Access (DASA) channels to maximize existing highly sought after SATCOM resources. The system also provides decentralized web-based management of those resources for use as a situational awareness tool for Combatant Commanders, Global SATCOM Support Centers, and Regional SATCOM Support Centers. The system is expected to operate well beyond the original 2015 End of Life (EoL) date to 2033. The JMINI CS Program will perform concept development and exploration to identify cost-effective solutions to address multiple life cycle support issues, in order to minimize loss of service to the fleet. The effort will involve evaluation, development, laboratory and integration testing of Commercial Off-The-Shelf (COTS) and Government off-the-shelf (GOTS) hardware and software to replace obsolete components or subsystems while maintaining interoperability with existing systems.

Maritime Integrated Broadcast Service (MIBS) (formerly Tactical Data Information Exchange Subsystem Broadcast (TADIXS-B)) Program Charter is to deliver Integrated Broadcast Service (IBS) data to operational and tactical decision makers aboard United States Navy ships, shore headquarters, and other joint platforms. It

will provide means to disseminate organically derived data from Navy platforms to other tactical, operational, and strategic users in theatre. MIBS provides the Navy a capability to deliver near real time data, enhancing the Common Operational Picture (COP), to support operations in all warfare areas, including: Ballistic Missile Defense (BMD), Anti-Air Warfare (AAW), Anti-Surface Warfare (ASW), Undersea Warfare (USW), Electronic Warfare (EW). The program encompasses Navy IBS systems (Joint Tactical Terminal - Maritime (JTT-M)). These systems will provide the Navy and other joint platforms with a coherent approach to fielding maritime IBS systems that takes advantage of all available pathways and services.

The Mobile User Objective System (MUOS) program provides for the development of the next generation Department of Defense (DoD) advanced narrowband communications satellite constellation. The current Ultra-High Frequency (UHF) Follow-On (UFO) constellation is projected to degrade below acceptable availability parameters in 2014. This MUOS Research Development Test & Evaluation, Navy (RDT&E,N) effort supports Full Operational Capability (FOC) in FY 2017.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	188.482	66.231	33.188	-	33.188
Current President's Budget	179.029	66.196	41.829	-	41.829
Total Adjustments	-9.453	-0.035	8.641	-	8.641
• Congressional General Reductions	-	-0.035			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-5.753	-			
• Program Adjustments	-	-	12.725	-	12.725
• Rate/Misc Adjustments	-	-	-4.084	-	-4.084
• Congressional General Reductions Adjustments	-3.700	-	-	-	-

Change Summary Explanation

Schedule:
EHF SATCOM Terminals (project 0728)
No significant technical changes.

Mobile User Objective System (project 2472)
MUOS schedule reflects adjustments to test events (including End-to-End integration and test), and delays to MUOS Hardware and antenna installation in Niscemi.

Technical:

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303109N *I Satellite Communications (Space)*

No significant technical changes.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 0728 / *EHF SATCOM Terminals*	

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
0728: *EHF SATCOM Terminals*	603.553	28.131	21.056	24.805	-	24.805	17.235	5.099	21.618	25.581	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 290

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

A. Mission Description and Budget Item Justification

The Navy Multiband Terminal (NMT) Program is the required Navy component to the Advanced Extremely High Frequency (AEHF) Program for enhancing protected and survivable satellite communications to Naval forces. The NMT system provides an increase in single service capability from 1.5 Megabits per second (Mbps) to 8 Mbps, increases the number of coverage areas, and retains Anti-Jam/Low Probability of Intercept (AJ/LPI) protection characteristics. It is compatible with today's Navy Low Data Rate/Medium Data Rate (LDR/MDR) terminals and will sustain the Military Satellite Communications (MILSATCOM) architecture by providing connectivity across the spectrum of mission areas, to include land, air and naval warfare, special operations, strategic nuclear operations, strategic defense, theater missile defense, and space operations and intelligence. The NMT system will replenish and improve on Navy terminal capabilities of the Military Strategic, Tactical & Relay System (MILSTAR), Defense Satellite Communications System (DSCS), Wideband Global Satellite (WGS), and Global Broadcast System (GBS). The new system will equip the warfighters with assured, jam resistant, secure communications as described in both the joint AEHF Satellite Communications System and the WGS Operational Requirement Documents (ORD). Mission requirements specific to Navy operations, including threat levels and scenarios, are contained in the ORD. The NMT will provide multiband Satellite Communications (SATCOM) capability for ship, submarine, and shore platforms.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: NMT Development	28.131	21.056	24.805
Articles:	-	-	-

Description: Overall program efforts include investigation of emerging technologies through study, development, and associated testing for feasibility of satellite communications-related program insertion.

FY 2013 Accomplishments:

Completed the Developmental Testing (DT) and Operational Testing (OT) of Q/Ka, Ship X/Ka, and submarine X-band capabilities into the NMT system. Completed the DT of the NMT system for testing with the on-orbit Extended Data Rate (XDR) waveform and demonstration of communications planning with the Tactical Mission Planning Sub-System (T-MPSS). Continued the development and integration of the Advanced Time Division Multiple Access Interface Processor (ATIP) into the NMT terminal. Performed system modifications to correct deficiencies discovered during testing. Continued on going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system. Achieved Initial Operational Capability milestone.

FY 2014 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Prepare for Follow-on Operational Test and Evaluation (FOT&E) of the NMT system for testing with the on-orbit Extended Data Rate (XDR) waveform and demonstration of communications planning with the Tactical Mission Planning Sub-System (T-MPSS). Complete the development and integration of the Advanced Time Delay Multiple Access Interface Processor (ATIP) into the NMT Terminal. Perform system modifications to correct deficiencies discovered during testing. Continue on going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system. Develop Anti-Access Area Denial (A2AD) specifications, perform technical and system risk reduction, and solution analysis for Airborne XDR and AEHF, to implement the A2AD mitigation strategy as prescribed in the Joint Aerial Layer Network (JALN) Analysis of Alternatives (AoA). ***FY 2015 Plans:*** Complete Follow-on Operational Test and Evaluation (FOT&E) of the NMT system for testing with the on-orbit Extended Data Rate (XDR) waveform and demonstration of communications planning with the Tactical Mission Planning Sub-System (T-MPSS). Continue on going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system. Begin Anti-Access Area Denial (A2AD) development. Includes Advanced Time Division Multiple Access (TDMA) Interface Processor (ATIP) initiatives, Adaptive Coding terminal design development, and crypto interface necessary for support of Anti-Access Area Denial (A2AD) development. Perform technical and system risk reduction, and solution analysis for Airborne XDR and AEHF, to implement the A2AD mitigation strategy as prescribed in the Joint Aerial Layer Network (JALN) Analysis of Alternatives (AoA).			
Accomplishments/Planned Programs Subtotals	28.131	21.056	24.805

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/3216: *Navy Multiband Terminal (NMT)*	156.171	183.620	272.076	-	272.076	119.072	50.848	71.033	72.114	73.968	1,279.304

Remarks

D. Acquisition Strategy

The existing Raytheon developmental contract awarded in 2007 will support the completion of Follow-On Test and Evaluation (FOT&E) of the NMT system. A new competitive contract awarded to COMTECH in 2013 will support the development of Anti-Access Area Denial (A2AD). A new competitive production contract is being planned for terminals to be procured in FY15 and beyond.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

E. Performance Metrics

The RDT&E goal for the NMT program is to create a military satellite communications system that consolidates capabilities of current and future satellite systems in a single terminal.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 0728 / *EHF SATCOM Terminals*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	C/CPAF	Various : Various	126.499	-		-		-		-		-	-	126.499	-
Hardware Development	C/FFP	Harris : Melbourne, FL	6.136	-		-		-		-		-	-	6.136	-
NMT EDM Development	C/CPAF	Raytheon : Marlborough, MA	198.680	-		-		-		-		-	-	198.680	-
Hardware Development	WR	SSC PAC : San Diego, CA	1.009	-		-		-		-		-	-	1.009	-
Ancillary Hardware Development	C/CPAF	Raytheon : Marlborough, MA	55.923	-		-		-		-		-	-	55.923	-
Software Development	WR	NUWC : Newport, RI	8.581	-		-		-		-		-	-	8.581	-
Software Development	C/CPAF	Raytheon : Marlborough, MA	50.355	7.768	Jan 2013	6.920	Mar 2014	17.010	Jan 2015	-		17.010	Continuing	Continuing	Continuing
Systems Engineering	WR	SSC PAC : San Diego, CA	22.088	-		-		-		-		-	-	22.088	-
Systems Engineering	WR	NUWC : Newport, RI	28.856	1.548	Nov 2012	1.033	Nov 2013	0.975	Nov 2014	-		0.975	Continuing	Continuing	Continuing
Systems Engineering	C/CPAF	Linquest : San Diego, CA	34.905	-		-		-		-		-	-	34.905	-
Systems Engineering	C/CPAF	Systech : San Diego, CA	1.784	2.200	Nov 2012	1.454	Nov 2013	1.365	Nov 2014	-		1.365	Continuing	Continuing	Continuing
Software Development	C/CPFF	COMTECH : Tempe, AZ	0.000	12.600	Apr 2013	8.179	Mar 2014	3.011	Dec 2014	-		3.011	Continuing	Continuing	Continuing
		Subtotal	534.816	24.116		17.586		22.361		-		22.361	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	WR	SSC PAC : San Diego, CA	11.412	-		-		-		-		-	-	11.412	-
Logistics Support	WR	SSC PAC : San Diego, CA	3.555	-		-		-		-		-	-	3.555	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 0728 / *EHF SATCOM Terminals*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Analysis	WR	NUWC : Newport, RI	6.869	-		-		-		-		-	-	6.869	-
Information Assurance	WR	SSC PAC : San Diego, CA	3.886	-		-		-		-		-	-	3.886	-
		Subtotal	25.722	-		-		-		-		-	-	25.722	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC PAC : San Diego, CA	18.809	1.481	Nov 2012	0.990	Nov 2013	0.917	Nov 2014	-		0.917	Continuing	Continuing	Continuing
Operational Test & Evaluation 1	WR	COMOPTEVFOR : Norfolk, VA	4.066	0.500	Nov 2012	1.000	Nov 2013	0.200	Nov 2014	-		0.200	Continuing	Continuing	Continuing
Developmental Test & Evaluation	C/CPAF	Raytheon : Marlborough, MA	0.898	1.340	Nov 2012	0.890	Nov 2013	0.819	Nov 2014	-		0.819	Continuing	Continuing	Continuing
		Subtotal	23.773	3.321		2.880		1.936		-		1.936	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Management	C/CPFF	BAH : San Diego	8.441	0.300	Nov 2012	0.250	Nov 2013	0.234	Nov 2014	-		0.234	Continuing	Continuing	Continuing
Program Management	C/CPFF	BAH : San Diego	8.461	0.300	Nov 2012	0.250	Nov 2013	0.234	Nov 2014	-		0.234	Continuing	Continuing	Continuing
Acquisition Management	WR	NCCA : Various	0.653	-		-		-		-		-	-	0.653	-
Travel	Reqn	SPAWAR : Various	1.687	0.094	Nov 2012	0.090	Nov 2013	0.040	Nov 2014	-		0.040	Continuing	Continuing	Continuing
		Subtotal	19.242	0.694		0.590		0.508		-		0.508	-	-	-

	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	603.553	28.131		21.056		24.805		-		24.805	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 0728 / *EHF SATCOM Terminals*	

	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

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

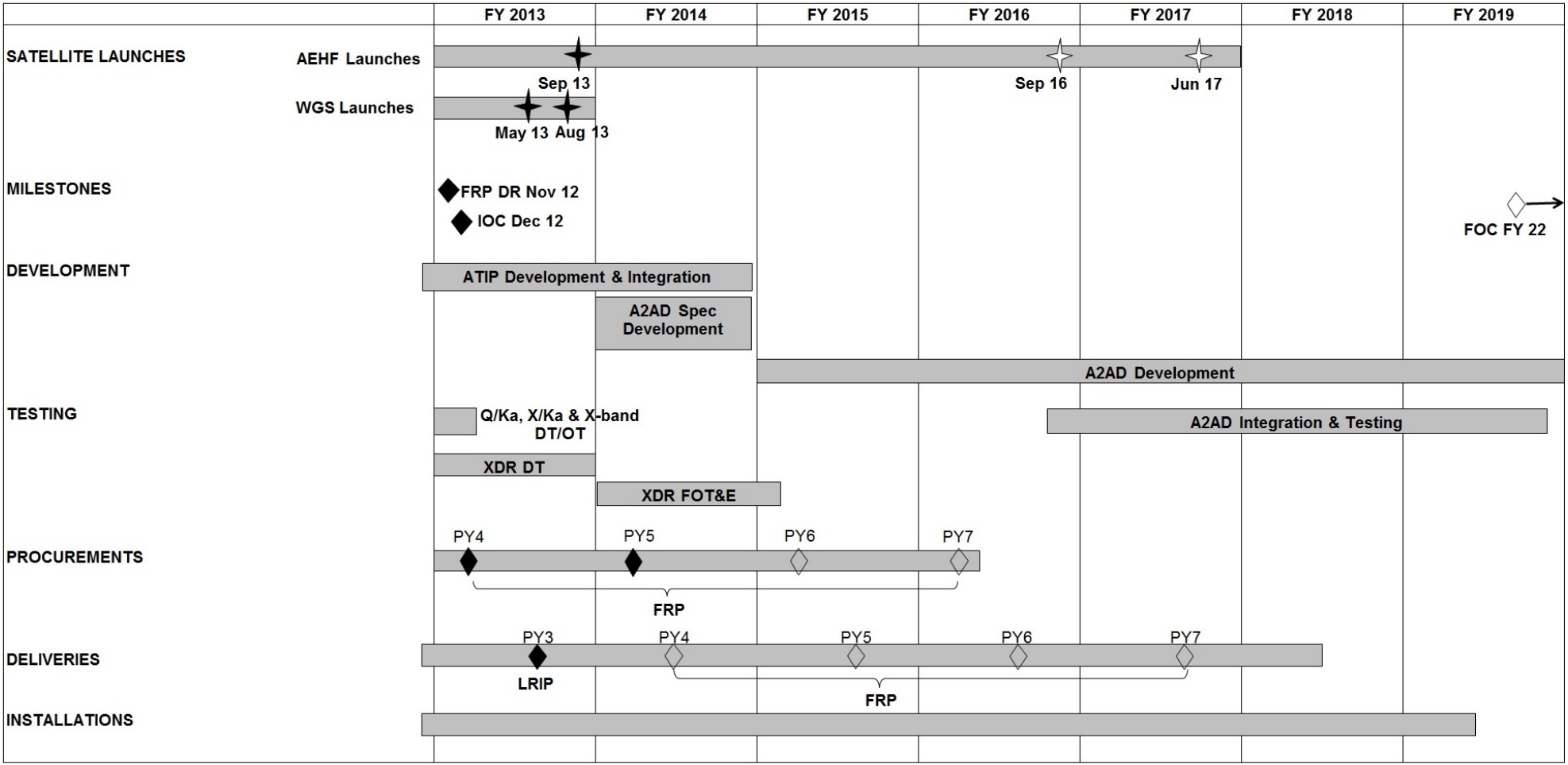


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 0728				
Q/Ka, X/Ka & X-band DT/OT	1	2013	1	2013
FRP DR	1	2013	1	2013
Initial Operational Capability (IOC)	1	2013	1	2013
Procurement Year 4 (PY4)	1	2013	1	2013
XDR DT	1	2013	4	2013
ATIP Development & Integration	1	2013	4	2014
WGS Launch #6	3	2013	3	2013
LRIP PY3 Delivery	3	2013	3	2013
WGS Launch #7	4	2013	4	2013
AEHF Launch SV-3	4	2013	4	2013
XDR FOT&E	1	2014	1	2015
A2AD Spec Development	1	2014	4	2014
Procurement Year 5 (PY5)	2	2014	2	2014
FRP PY4 Delivery	2	2014	2	2014
Procurement Year 6 (PY6)	2	2015	2	2015
FRP PY5 Delivery	3	2015	3	2015
Procurement Year 7 (PY7)	2	2016	2	2016
FRP PY6 Delivery	3	2016	3	2016
AEHF Launch SV-4	4	2016	4	2016
FRP PY7 Delivery	3	2017	3	2017
AEHF Launch SV-5	3	2017	3	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0728 / *EHF SATCOM Terminals*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
A2AD Development	1	2015	3	2019
A2AD DT/OT Integration & Testing	4	2016	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 0731 / *FLTSATCOM*	

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
0731: *FLTSATCOM*	19.364	9.706	9.202	4.752	-	4.752	3.101	-	-	-	-	46.125
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 Joint Ultra-High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated Control System (JMINI CS) is a legacy system that commenced in 1998. JMINI CS is a Navy-led, Joint interest program providing integrated, dynamic, and centralized control of non-processed UHF MILSATCOM 5/25 kHz Demand Assigned Multiple Access (DAMA) and Demand Assigned Single Access (DASA) channels to maximize existing highly sought after SATCOM resources used to support operational missions as well as joint training and tactical exercises. The system provides decentralized web-based management of those resources for use as a situational awareness tool for Combatant Commanders and SATCOM Support Centers. The JMINI CS is required to operate beyond the original End of Life (EoL) of 2015 in order to continue to support mission critical operations through at least 2033. The JMINI CS Program of Record (POR) will perform concept development and exploration to identify cost-effective solutions to address multiple life cycle support issues in order to address the increasing risk of an unrecoverable hardware or software failure, which would result in a loss of service for the fleet. The effort will involve evaluation, prototype development, laboratory and integration testing of Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) hardware and software to replace obsolete components or subsystems while maintaining interoperability with existing systems.

(U) Maritime Integrated Broadcast Service (MIBS) (formerly Tactical Data Information Exchange Subsystem Broadcast (TADIXS-B)) program charter is to deliver Integrated Broadcast Service (IBS) data to operational and tactical decision makers aboard United States Navy ships, shore headquarters, and other joint platforms. It will provide means to disseminate organically derived data from Navy platforms to other tactical, operational, and strategic users in theater. MIBS provides the Navy a capability to deliver near real time data, enhancing the Common Operational Picture (COP), to support operations in all warfare areas, including: Ballistic Missile Defense (BMD), Anti-Air Warfare (AAW), Anti-Surface Warfare (ASW), Undersea Warfare (USW), Electronic Warfare (EW). The program encompasses Navy IBS systems (Joint Tactical Terminal - Maritime (JTT-M)). These systems will provide the Navy and other joint platforms with a coherent approach to fielding maritime IBS systems that takes advantage of all available pathways and services.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Maritime Integrated Broadcast Service (MIBS)	0.059	-	-
Articles:	-	-	-
FY 2013 Accomplishments: Completed Navy support for the Common Integrated Broadcast (CIB) waveform Multiservice Operational Test and Evaluation (MOT&E) including analysis and final reporting.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** N/A			
Title: JMINI CS	9.647	9.202	4.752
Articles:	-	-	1.000
FY 2013 Accomplishments: Continued concept development and product improvement framework for a cost effective refresh, to extend the planned life cycle of the legacy JMINI program. Commenced architecture design and analysis of software and hardware for possible reuse. ***FY 2014 Plans:*** Complete software analysis and assessments, as well as cost-benefit analyses and market research of system design elements to determine the most cost effective and technically appropriate hardware and software solutions. Commence prototype development and software integration efforts. ***FY 2015 Plans:*** Finalize prototype design, develop test plans and begin implementation of a comprehensive test strategy. Continue software development and integration.			
Accomplishments/Planned Programs Subtotals	9.706	9.202	4.752

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/2900: *Maritime Integrated Broadcast Service (MIBS)*	13.680	11.646	1.991	-	1.991	-	-	-	-	Continuing	Continuing
• OPN/3215: *JMINI*	-	-	6.947	-	6.947	5.691	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

JMINI CS: The Joint Ultra-High Frequency (UHF) Military Satellite Communications (MILSATCOM) is an ACAT IV (T) system that is post-FRP. As a legacy system that commenced in 1998, JMINI CS is expected to operate well beyond the original 2015 End of Life (EoL) date to 2033. The JMINI CS Program of Record (POR) will evaluate the most cost-effective solutions to address multiple life cycle support issues, in order to minimize loss of service to the fleet. The effort will involve evaluating Commercial Off-The-Shelf (COTS) and Government off-the-shelf (GOTS) hardware and software, and conducting laboratory/integration testing to ensure proper functionality and interoperability.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

MIBS: The Joint Tactical Terminal (JTT) AN/USC-62 (JTT) will be upgraded, enhancing existing terminal capability to support the Common Integrated Broadcast (CIB), Common Message Format (CMF), and the National Security Agency (NSA) mandated Crypto Modernization Initiative (CMI). The upgrade requires integration testing to be completed by Space and Naval Warfare (SPAWAR) System Center Pacific personnel. Participation in the CIB Multiservice Operational Test and Evaluation (MOT&E) prior to installation.

E. Performance Metrics

JMINI CS: The JMINI CS POR will perform concept development and exploration of the JMINI CS 5 KHz and 25 KHz systems, to analyze alternatives for the most advantageous use of new technologies to lengthen the JMINI CS system life span in order to minimize loss of service to the Fleet.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 0731 / *FLTSATCOM*

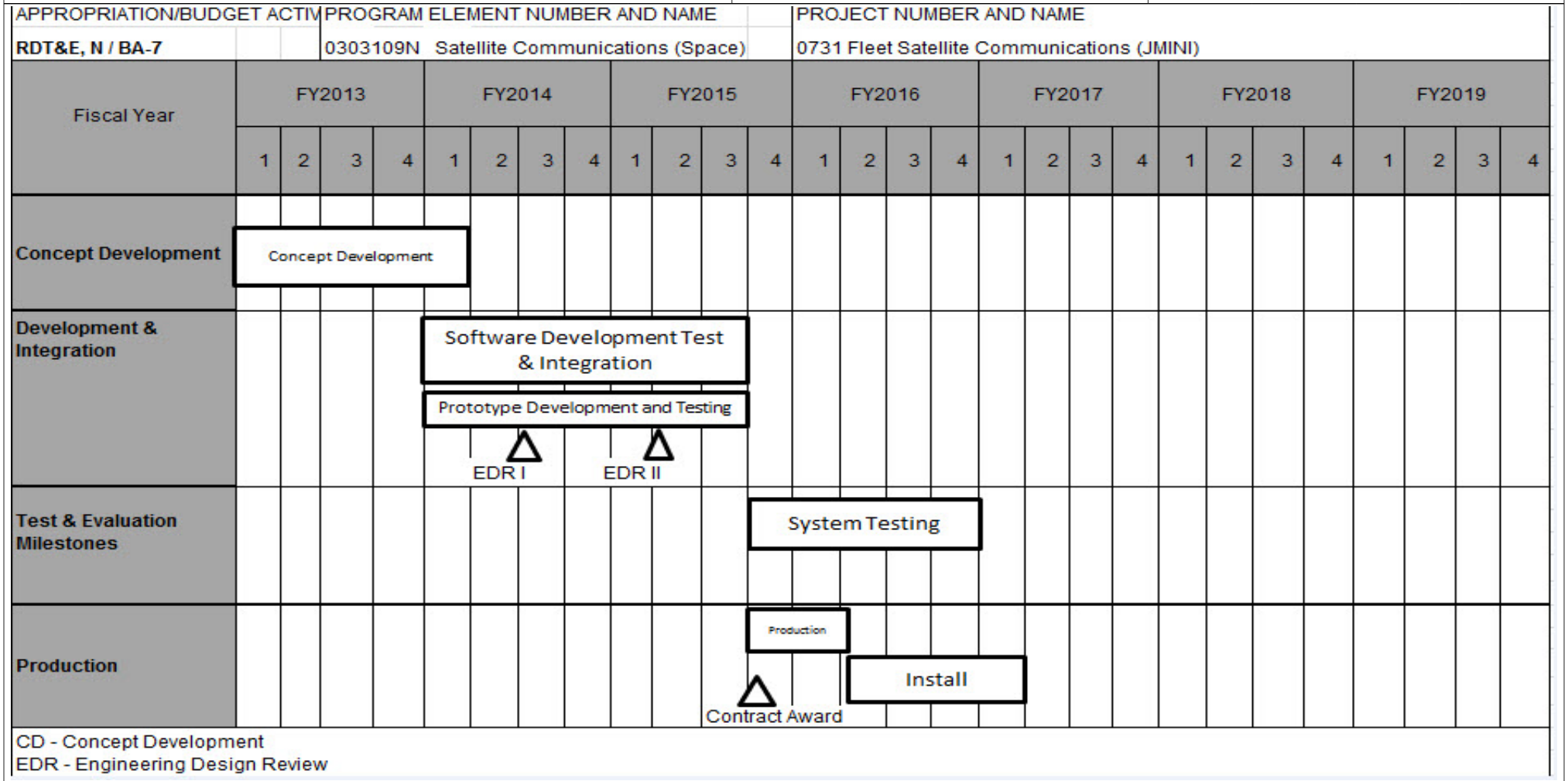


Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 2472 / *Mobile User Objective Sys (MUOS)*	

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
2472: *Mobile User Objective Sys (MUOS)*	3,797.397	141.192	35.938	12.272	-	12.272	10.740	11.690	12.470	12.776	249.835	4,284.310
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 345

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

A. Mission Description and Budget Item Justification

The Mobile User Objective System (MUOS) program provides for the development of the next generation Department of Defense (DoD) advanced narrowband communications satellite constellation. The current Ultra-High Frequency (UHF) Follow-On (UFO) constellation is projected to degrade below acceptable availability parameters in 2014.

This MUOS Research Development Test & Evaluation, Navy (RDT&E,N) effort supports Full Operational Capability (FOC) in FY 2017.

FY15: Conduct follow-on Information Assurance Control & Validation (IACV) at each ground site to obtain IATO extensions. Continue Information Assurance (IA) vulnerability fixes identified during the IACVs at all sites. Continue research for emerging IA issues, maintain security accreditations, regression test (acceptance test) and implement mandated security changes to ensure system readiness/availability. Conduct terminal integration, testing, and certification of MUOS capable terminal hardware/software devices to ensure interoperability with the MUOS ground systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Mobile User Objective Sys (MUOS)	141.192	35.938	12.272
Articles:	-	-	-
FY 2013 Accomplishments: Completed factory testing and launch site preparations, shipped to launch site, conducted launch site testing, performed launch vehicle mate operations, launch of satellite 2 and performed on-orbit testing. Completed installation of hardware at Northwest. Completed installation and testing of software updates at Wahiawa, Geraldton, Northwest, and Niscemi in support of launch 2. Completed acceptance testing of the MUOS follow-on waveform. Conducted Information Assurance (IA) waveform assessment and remediation of findings. Implemented Engineering Change Proposals (ECPs) requiring Ground software changes.			
FY 2014 Plans: Complete on-orbit testing phase for Satellite 2, conduct End to End (E2E) risk reduction testing, conduct Technical Evaluation 2 (TECHEVAL 2), perform Operational Test Readiness Review (OTRR), initiate and complete the Multiservice Operational Test and Evaluation #2 (MOT&E) effort. Provide fixes to ground software resulting from system testing, and information assurance			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
vulnerability alerts. Implement ECPs requiring ground software changes. Complete the accreditation effort to obtain the initial Interim Authority to Operate (IATO) for Niscemi. Continue fixing IA vulnerabilities identified during the Information Assurance Control & Validation (IACV) effort for Geraldton, Wahiawa, and Northwest. Conduct new IACVs at all sites to obtain IATO extensions. ***FY 2015 Plans:*** Conduct follow-on IACVs at each ground site to obtain IATO extensions. Continue IA vulnerability fixes identified during the IACVs at all sites. Continue research for emerging IA issues, maintain security accreditations, regression test (acceptance test) and implement mandated security changes to ensure system readiness/availability. Conduct terminal integration, testing, and certification of MUOS capable terminal hardware/software devices to ensure interoperability with the MUOS ground systems.			
Accomplishments/Planned Programs Subtotals	141.192	35.938	12.272

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/2433: *Mobile User Objective System (MUOS)*	21.426	16.914	208.700	-	208.700	40.133	10.303	10.393	10.836	828.272	2,933.002

Remarks

D. Acquisition Strategy

Research Development Test & Evaluation, Navy (RDT&E,N) funds in FY13 and out planned for the continuation of the Risk Reduction & Design Development (RRDD) contract for the first 2 MUOS satellites, ground infrastructure, waveform development and associated system engineering and integration, test and evaluation.

Weapons Procurement, Navy (WPN) funds in FY13 and beyond used for production of the remaining four satellites and launch services for all six satellites.

E. Performance Metrics

FY 2014 and beyond: Installation and test initial and follow-on waveforms; complete acceptance testing of entire ground system. Conduct IA waveform assessment and remediation of findings. Conduct End-to-End (E2E) Risk Reduction testing and integration activities.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 2472 / *Mobile User Objective Sys (MUOS)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RRDD AOS Contract	C/CPAF	Lockheed Martin (LM) : Sunnyvale, CA	3,370.993	134.529	Nov 2012	24.915	Mar 2014	9.689	Nov 2014	-		9.689	259.953	3,800.079	Continuing
CE Contracts & Demos	C/FFP	LM / Raytheon / Spec Astro / Boeing : VAR	21.320	-		-		-		-		-	-	21.320	Continuing
CAD Contracts	C/FFP	LM / Raytheon : VAR	105.154	-		-		-		-		-	-	105.154	Continuing
AoA for MUOS	MIPR	Aerospace : El Segundo, CA	2.782	-		-		-		-		-	-	2.782	Continuing
Government Studies	MIPR	Aerospace : El Segundo, CA	0.711	-		-		-		-		-	-	0.711	Continuing
Crypto Procurement	MIPR	NSA : Fort Meade, MD	3.703	-		-		-		-		-	-	3.703	Continuing
UHF Augmentation	C/CPAF	Lockheed Martin (LM) : Sunnyvale, CA	0.491	-		-		-		-		-	-	0.491	Continuing
		Subtotal	3,505.154	134.529		24.915		9.689		-		9.689	259.953	3,934.240	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
UFO TT&C Terminal Upgrades	WR	SSC PAC : San Diego, CA	10.691	-		-		-		-		-	-	10.691	Continuing
Facilities Modifications	WR	SSC LANT : Norfolk, VA	2.733	0.039	Oct 2012	-		-		-		-	-	2.772	Continuing
Australian Site Prep	C/FFP	Boeing : Brisbane, AUS	24.870	-		-		-		-		-	-	24.870	Continuing
Studies & Analyses (EELV)	MIPR	SMC/FMAIC : El Segundo, CA	0.825	-		-		-		-		-	-	0.825	Continuing
ISCS Integration	WR	NAVSOC : Point Mugu, CA	7.419	-		-		-		-		-	-	7.419	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 2472 / *Mobile User Objective Sys (MUOS)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Narrowband SATCOM SE Group (NSSEG) - MUOS E2E	WR	SSC LANT : Charleston, SC	2.492	-		-		-		-		-	-	2.492	Continuing
		Subtotal	49.030	0.039		-		-		-		-	-	49.069	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	SSC PAC : San Diego, CA	15.321	3.407	Dec 2012	3.990	Feb 2014	0.728	Nov 2014	-		0.728	3.088	26.534	Continuing
Operational Test & Evaluation	WR	OPTEVFOR : Norfolk, VA	4.171	0.231	May 2013	1.501	Nov 2013	-		-		-	-	5.903	Continuing
		Subtotal	19.492	3.638		5.491		0.728		-		0.728	3.088	32.437	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPAF	Accenture : San Diego, CA	134.249	-		-		-		-		-	-	134.249	Continuing
Contractor Engineering Support	C/CPFF	Vector Planning and Services, Inc. : San Diego, CA	7.705	0.865	Aug 2013	3.519	Aug 2014	1.202	Aug 2015	-		1.202	13.755	27.046	Continuing
Government Engineering	WR	SSC PAC : San Diego, CA	32.261	0.771	Dec 2012	0.788	Feb 2014	0.269	Dec 2014	-		0.269	10.134	44.223	Continuing
Program Mgmt Support	C/CPAF	Booz Allen Hamilton : McLean, VA	41.862	-		-		-		-		-	-	41.862	Continuing
Program Management Support	C/CPFF	Booz Allen Hamilton : McLean, VA	1.466	1.264	Dec 2012	1.125	Dec 2013	0.384	Dec 2014	-		0.384	10.581	14.820	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303109N / *Satellite Communications (Space)*	Project (Number/Name) 2472 / *Mobile User Objective Sys (MUOS)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Travel	WR	PMW 146 : San Diego, CA	2.479	0.086	Oct 2012	0.100	Oct 2013	-		-		-	-	2.665	Continuing
Frequency Filing	C/FFP	ITU : Geneva, CH	0.855	-		-		-		-		-	-	0.855	Continuing
IPA/ICAT	WR	Aerospace : El Segundo, CA	0.390	-		-		-		-		-	-	0.390	Continuing
Acquisition Workforce Fund	C/FP	Not Specified : Not Specified	2.454	-		-		-		-		-	-	2.454	Continuing
		Subtotal	223.721	2.986		5.532		1.855		-		1.855	34.470	268.564	-

	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	3,797.397	141.192		35.938		12.272		-		12.272	297.511	4,284.310	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

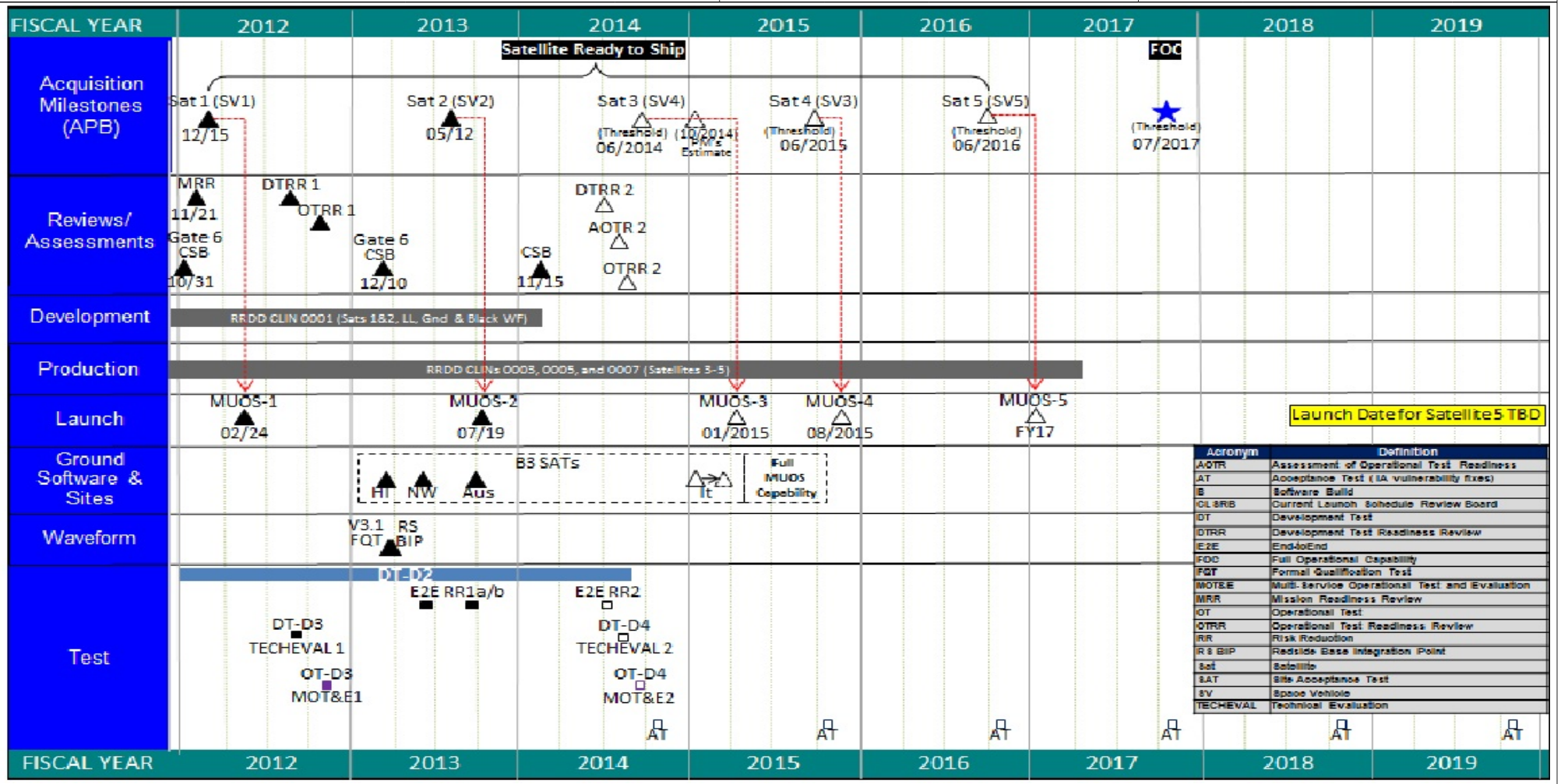


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2472				
Wahiawa Build 3.1 (B3 SAT)	1	2013	1	2013
Redside Waveform V3.1 FQT	1	2013	1	2013
Redside Waveform V3.1 BIP (RS BIP)	1	2013	1	2013
Gate 6/Configuration Steering Board (CSB) 2	1	2013	1	2013
Northwest Build 3.1 (B3 SAT)	2	2013	2	2013
End-to-End Risk Reduction #1 (E2E RR-1a)	2	2013	2	2013
Ready to Ship date #2	3	2013	3	2013
End-to-End Risk Reduction #1 (E2E RR-1b)	3	2013	4	2013
Australia Build 3.1 (B3 SAT)	3	2013	4	2013
Launch of Satellite #2 (MUOS 2)	4	2013	4	2013
End-to-End Risk Reduction #2 (E2E RR-2)	2	2014	3	2014
Development Test Readiness Review (DTRR) 2	3	2014	3	2014
DT-D4 Tech Eval 2	3	2014	3	2014
Operational Test Readiness Review (OTRR) #2	3	2014	3	2014
Assessment of Operational Test Readiness (AOTR)	3	2014	3	2014
OT-D4 Multi-Service Operational Testing & Evaluation (MOT&E 2)	3	2014	3	2014
Acceptance Test FY14 (AT)	4	2014	4	2014
Italy Build 3.1	1	2015	1	2015
Ready to Ship date #3	1	2015	1	2015
Launch of Satellite #3 (MUOS 3)	2	2015	2	2015
Ready to Ship date #4	3	2015	3	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303109N / *Satellite Communications (Space)*	**Project (Number/Name)** 2472 / *Mobile User Objective Sys (MUOS)*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Acceptance Test FY15 (AT)	4	2015	4	2015
Launch of Satellite #4 (MUOS 4)	4	2015	4	2015
Ready to Ship date #5	4	2016	4	2016
Acceptance Test FY16 (AT)	4	2016	4	2016
Launch of Satellite #5 (MUOS 5)	1	2017	1	2017
Full Operational Capability (FOC)	2	2017	2	2017
Acceptance Test FY17 (AT)	4	2017	4	2017
Acceptance Test FY18 (AT)	4	2018	4	2018
Acceptance Test FY19 (AT)	4	2019	4	2019

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0303138N *I Consolidated Afloat Network Ent Services(CANES)*							
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	99.779	15.510	24.476	22.780	-	22.780	25.968	25.580	23.226	23.719	Continuing	Continuing
0725: *Communication Automation*	0.000	1.213	1.002	3.009	-	3.009	3.475	2.993	1.010	1.030	Continuing	Continuing
9C87: *CANES Integration*	99.779	14.297	23.474	19.771	-	19.771	22.493	22.587	22.216	22.689	343.445	590.751

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

A. Mission Description and Budget Item Justification

Consolidated Afloat Networks & Enterprise Services (CANES) is the Navy's only Program of Record (POR) to replace existing afloat networks and provide the necessary infrastructure for applications, systems, and services required for the Navy to dominate the Cyber Warfare domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks including Integrated Shipboard Network Systems (ISNS), Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M), Sensitive Compartmented Information (SCI) Networks, and Submarine Local Area Network (SubLAN). These legacy afloat network designs are currently End of Life and CANES will replace these unaffordable and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service, within which current and future iterations of Navy Tactical Network computing and storage capabilities will reside. CANES will provide complete infrastructure, inclusive of hardware, software, processing, storage, and end user devices for Unclassified, Coalition, Secret and SCI for all basic network services to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and aircraft. In addition, hosted applications and systems inclusive of Command and Control, Intelligence, Surveillance and Reconnaissance, Information Operations, Logistics and Business domains require the CANES infrastructure to operate in the tactical environment. Integrating these applications and systems is accomplished through Application Integration (AI), the engineering process used to evaluate and validate compatibility between CANES and the Navy-validated applications, systems and services that will utilize the CANES infrastructure and services. Specific programs, such as Distributed Common Ground System - Navy (DCGS-N), Global Command and Control System - Maritime (GCCS-M), Naval Tactical Command Support System (NTCSS), and Undersea Warfare Decision Support System (USW-DSS), are dependent on the CANES Common Computing Environment (CCE) to field, host, and sustain their capability because they no longer provide their own hardware. CANES requires that Automated Digital Network System (ADNS) field prior to or concurrently with CANES due to the architectural reliance between the two programs.

CANES will develop updates on a rolling four year hardware baseline and a two year software baseline. CANES is based on the overarching concept of reducing the number of afloat network baselines and providing enhanced efficiency through a single engineering focus on integrated technical solutions. This will allow for streamlined acquisition, contracting test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines, logistics, and training efforts into a unified support structure. Platform Sets 1, 2, 3, and 4 define phases of CANES system development efforts. Each platform set consists of different ship class design baselines.

In FY 2015, CANES RDT&E investment will support the developmental efforts for Technical Insertion (TI) software baseline. Perform systems engineering efforts to complete functional baselines and updates to technical data packages. Continue testing events at Enterprise Engineering and Certification (E2C) laboratory for TI

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303138N *I Consolidated Afloat Network Ent Services(CANES)*

software baseline. Perform Developmental Testing (DT) and Follow-On Test and Evaluation (FOT&E) for force level platforms. Achieve Full Deployment Decision (FDD).

The Communications Automation Program - This project is a continuing program that provides for automation and communications upgrades for Fleet tactical users. It includes Automated Digital Network System (ADNS) and High Frequency Internet Protocol/Sub Network Relay.

ADNS is the method by which tactical Navy units transfer Internet Protocol (IP) data to Navy and Department of Defense communities on the Global Information Grid (GIG). ADNS serves as a gateway to enable joint and coalition interoperability for these tactical assets and ensures GIG connectivity. ADNS allows unclassified, secret, top secret traffic, and various joint, allied, and coalition services to reconnect to the Defense Information Systems Network (DISN) ashore via radio paths and pier connectivity.

In FY 2015, ADNS RDT&E investment will support continued interface design development and integration with network applications, development of Line-of-sight (LOS) Link, DISN integration, development of Cipher-Text (CT) piers. Also in FY2015, study efforts will begin with the intention of integrating ADNS into the Joint Aerial Layer Network - Maritime (JALN-M) system. JALN-M is the Navy implementation that provides network connectivity in areas that have limited or denied Satellite Communications (SATCOM). ADNS study efforts will include addressing network management, intra and inter domain routing, Quality of Service (QoS), and Concept of Operations discussions.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	16.749	24.476	22.710	-	22.710
Current President's Budget	15.510	24.476	22.780	-	22.780
Total Adjustments	-1.239	-	0.070	-	0.070
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.279	-			
• Program Adjustments	-	-	-0.064	-	-0.064
• Rate/Misc Adjustments	-	-	0.134	-	0.134
• Congressional General Reductions Adjustments	-0.960	-	-	-	-

Change Summary Explanation

Technical: N/A

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303138N *I Consolidated Afloat Network Ent Services(CANES)*

Funding:
N/A

Schedule:
Impacts resulting from operational ship availability timelines for the CANES Initial Operational Test and Evaluation (IOT&E) and Follow-On Test and Evaluation (FOT&E) test platforms caused the Unit Level DT1, Unit Level DT2, IOT&E and Force Level DT and Force Level FOT&E test events to be re-phased. The delays to the ship availability timeline also caused IOC to be re-phased based on IOC definition in the program's Capability Development Document (CDD) for IOC to be declared once first installation is completed. CANES development of Platform Sets 1, 2, 3 & 4 has been re-phased to include development in FY 2014 to align with ship installation schedules of platforms added to the CANES Target Inventory Objective. CANES Limited Deployment re-phased to reflect Limited Deployment authorization provided at Milestone C.

The ADNS INC III Submarine Verification of the Correction of Deficiencies (VCD) Report has been added in 4QFY13 to finalize the Operational Test report required by COMOPTEVFOR (COTF).

The ADNS program will continue system development efforts for interface design development and integration with network applications and Defense Information Systems Network (DISN), future SATCOM, JALN-M and Radio Frequency (RF) paths.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303138N / *Consolidated Afloat Network Ent Services(CANES)*	Project (Number/Name) 0725 / *Communication Automation*	

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
0725: *Communication Automation*	-	1.213	1.002	3.009	-	3.009	3.475	2.993	1.010	1.030	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 is a continuing program that provides for automation and communications upgrades for Fleet tactical users.

Automated Digital Network System (ADNS) provides routing, switching, baseband, configuration and monitoring capabilities for interconnecting naval, coalition and joint enclaves worldwide. ADNS utilizes off the shelf equipment and network protocols as specified by the Joint Technical Architecture. ADNS Increment (INC) II provides capabilities of load balancing, radio frequency restoral, initial quality of service to include application prioritization, initial traffic management, and enhancements designed to maximize use of available bandwidth for surface, shore, and airborne platforms. ADNS INC III converges all Navy tactical voice, video, and data requirements into a converged IP data stream. ADNS INC III interoperates with higher bandwidth satellites, supporting up to 25 mega bytes per second (Mbps) of throughput on unit level ships and up to 50 Mbps on force level ships. INC III architecture also incorporates an IPv4/IPv6 dual stack and a Cipher Text security architecture to align to joint and coalition networks, in addition to greater security utilizing the High Assurance Internet Protocol (IP) Encryptor (HAIPE) devices. ADNS INC III serves as the Navy tactical interface for IP Networking with Joint Tactical Radio System, and Advanced Extremely High Frequency to include Consolidated Afloat Networks and Enterprise Services (CANES). Starting in FY2015, ADNS will serve as the Navy tactical interface for IP Networking for the JALN-M system. ADNS will investigate emerging technologies to integrate with additional Department of Defense C4I Programs to improve interstrike group networking and extend the network to the tactical edge.

FY15 funds will be used for continued interface design development and integration with network application, development of Line-of-sight (LOS) Link, Defense Information Systems Network (DISN) integration, and development of Cipher-Text (CT) Piers. Also in FY2015, study efforts will begin with the intention of integrating ADNS into the JALN-M system. JALN-M is the Navy implementation that provides network connectivity in areas that have limited or denied Satellite Communications (SATCOM). ADNS study efforts will include addressing network management, intra and inter domain routing, Quality of Service (QoS), and Concept of Operations discussions.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Automated Digital Network System	1.213	1.002	3.009
Articles:	-	-	-
FY 2013 Accomplishments: Continued development of updated system and subsystem interface designs for integration with new SATCOM and RF paths as they emerged. Tested and integrated the evolving network applications as they were incorporated into the C4I architecture;			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303138N / *Consolidated Afloat Network Ent Services(CANES)*	**Project (Number/Name)** 0725 / *Communication Automation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
actions included examining and testing interfaces with Enterprise Network Management System, transition to IPv6, and final phase out of serial links. Continued Integration of Super High Frequency (SHF) Split IP. Continued Interface testing for emerging Line-of-Sight (LOS) links. Completed Video and Voice Over Secure Internet Protocol (VVoSIP) integration into the ADNS boundary. Completed Operational Testing and Verification of the Correction of Deficiencies (VCD) on ADNS INC III Submarines. ***FY 2014 Plans:*** Continue testing interfaces with Enterprise Network Management System, transition to IPv6, and final phase out of serial links. Integration of Super High Frequency (SHF) Split IP. Interface testing for emerging LOS links. ***FY 2015 Plans:*** Continue interface design development and integration for network applications, develop LOS link, Defense Information Systems Network (DISN) integration and develop Cipher-Text (CT) Piers. Investigate and recommend platform network devices, network design support to include WAN integration and interface designs and integration on the shore for JALN-M.			
Accomplishments/Planned Programs Subtotals	1.213	1.002	3.009

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/2915: *CANES (ADNS Only)*	51.336	52.098	56.626	-	56.626	46.753	34.698	51.619	53.784	-	346.914

Remarks

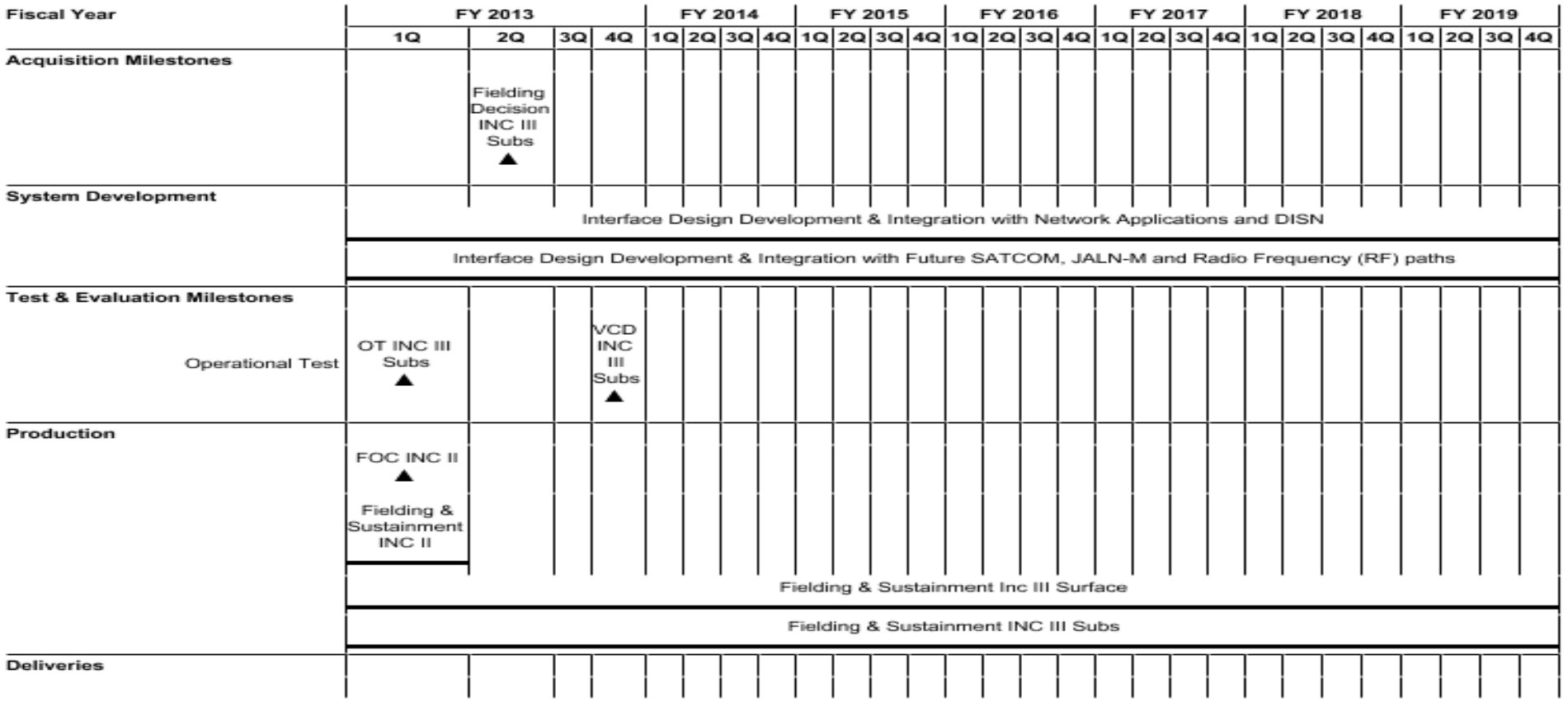
D. Acquisition Strategy

Automated Digital Network System (ADNS): Evolutionary acquisition approach with overlapping development and implementation phases for defined INC I, II, and III baselines. INC I , II , and III will use competitively awarded contracts to implement changes consistent with acquisition initiatives. ADNS leverages Commercial-Off-The-Shelf (COTS) and Government Off-the-Shelf (GOTS) products while capitalizing on acquisition reform initiatives to achieve material savings in the logistics, installation, integration and training areas. Where feasible, differing types of advantageous contract vehicles will be used to provide flexibility, decrease contract administrative costs, and encourage acquisition streamlining through the use of COTS/GOTS products.

E. Performance Metrics

ADNS - Included in the ADNS program goals are the improvements to bandwidth throughput, connectivity to multiple Radio Frequency (RF) paths, greater security, and system capability delivered within a smaller form factor. The ADNS program will, at a minimum, provide bandwidth throughput enhancements resulting in an increase from 2 megabytes per
second (Mbps) to 25 Mbps. ADNS will also provide the ability to transport data across multiple paths simultaneously vice the current limitations of single or secondary paths. ADNS will provide greater security posture by encrypting each enclave, and securing the core via Cipher Text.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303138N / *Consolidated Afloat Network Ent Services(CANES)*	**Project (Number/Name)** 0725 / *Communication Automation*



2015PB - 0303138N - 0725

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303138N / *Consolidated Afloat Network Ent Services(CANES)*	Project (Number/Name) 9C87 / *CANES 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
9C87: *CANES Integration*	99.779	14.297	23.474	19.771	-	19.771	22.493	22.587	22.216	22.689	343.445	590.751
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

Consolidated Afloat Networks & Enterprise Services (CANES) is the Navy's only Program of Record (POR) to replace existing afloat networks and provide the necessary infrastructure for applications, systems, and services required for the Navy to dominate the Cyber Warfare domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks including Integrated Shipboard Network Systems (ISNS), Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M), Sensitive Compartmented Information (SCI) Networks, and Submarine Local Area Network (SubLAN). These legacy afloat network designs are currently End of Life and CANES will replace these unaffordable and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service, within which current and future iterations of Navy Tactical Network computing and storage capabilities will reside. CANES will provide complete infrastructure, inclusive of hardware, software, processing, storage, and end user devices for Unclassified, Coalition, Secret and SCI for all basic network services to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and aircraft. In addition, hosted applications and systems inclusive of Command and Control, Intelligence, Surveillance and Reconnaissance, Information Operations, Logistics and Business domains require the CANES infrastructure to operate in the tactical environment. Integrating these applications and systems is accomplished through Application Integration (AI), the engineering process used to evaluate and validate compatibility between CANES and the Navy-validated applications, systems and services that will utilize the CANES infrastructure and services. Specific programs, such as Distributed Common Ground System - Navy (DCGS-N), Global Command and Control System - Maritime (GCCS-M), Naval Tactical Command Support System (NTCSS), and Undersea Warfare Decision Support System (USW-DSS), are dependent on the CANES Common Computing Environment (CCE) to field, host, and sustain their capability because they no longer provide their own hardware. CANES requires that Automated Digital Network System (ADNS) field prior to or concurrently with CANES due to the architectural reliance between the two programs.

CANES will develop updates on a rolling four year hardware baseline and a two year software baseline. CANES is based on the overarching concept of reducing the number of afloat network baselines and providing enhanced efficiency through a single engineering focus on integrated technical solutions. This will allow for streamlined acquisition, contracting test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines, logistics, and training efforts into a unified support structure. Platform Sets 1, 2, 3, and 4 define phases of CANES system development efforts. Each platform set consists of different ship class design baselines.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: CANES Integration	14.297	23.474	19.771
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303138N / *Consolidated Afloat Network Ent Services(CANES)*	**Project (Number/Name)** 9C87 / *CANES Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Milestone C achieved 1QFY13. Completed Platform Sets 1 and 2 baseline development. Started testing events at E2C laboratory in support of Platform Set 1 baseline and purchased necessary lab assets and test articles in support of testing events. Performed systems engineering efforts to complete functional baselines and updates to technical data packages. Completed Operational Assessment (OA) for unit level. ***FY 2014 Plans:*** Start and complete DT on unit level platforms. Initiate development for TI software baselines. Perform system engineering efforts to complete functional baselines and updates to technical data packages. Complete Platform Sets 3 and 4 baseline development. Continue testing events at E2C lab on Platform Sets 2, 3 & 4 and purchase necessary lab assets and test articles in support of testing events. Complete IOT&E on unit level platforms. Achieve IOC upon completion of first CANES installation. ***FY 2015 Plans:*** Continue development for TI software baseline. Perform systems engineering efforts to complete functional baselines and updates to technical data packages. Continue testing events at E2C laboratory for TI software baseline. Perform DT and FOT&E in support of force level testing and perform DT Assist for TI software development. Achieve Full Deployment Decision (FDD).			
Accomplishments/Planned Programs Subtotals	14.297	23.474	19.771

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/2915: *CANES*	246.415	273.242	300.963	-	300.963	329.747	291.600	357.483	352.983	4,195.368	6,436.248
• OPN/2925: *CANES Intell*	62.586	55.262	65.015	-	65.015	28.920	51.799	48.670	48.316	682.967	1,118.971

Remarks

D. Acquisition Strategy

CANES is an ACAT IAM MAIS program. The program office is employing a multiple-phase, multiple-award down-select contract strategy to reduce program risks and maintain competition in both design development and production during contract performance. Two competitive contracts were awarded to design, develop, and deliver all hardware and the associated operating system, virtualization and other commercial software needed to deliver a functional network. The Limited Deployment (LD) contract was awarded to Northrop Grumman (NG) on 2QFY12. Milestone C achieved in 1QFY13. In 3QFY14, a separate full and open indefinite delivery indefinite quantity (IDIQ) multiple award contract (MAC) production contract will be awarded to support future production.

E. Performance Metrics

Early RDT&E investment and sustainment of dual design contractors through the development phase reduced Total Ownership Cost (TOC) from Milestone B to Milestone C. Cost avoidance throughout the life of the program is based on 1) reducing the number of networks through the use of mature, certified, cross domain

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303138N / *Consolidated Afloat Network Ent Services(CANES)*	**Project (Number/Name)** 9C87 / *CANES Integration*

technologies; 2) reducing the infrastructure footprint and associated costs for hardware afloat; and 3) providing increased capability to meet current and projected war fighter requirements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303138N / *Consolidated Afloat Network Ent Services(CANES)*	Project (Number/Name) 9C87 / *CANES Integration*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPFF	Lockheed Martin : San Diego, CA	22.329	-		-		-		-		-	-	22.329	22.329
Primary Hardware Development	C/CPFF	Northrop Grumman : Herndon, VA	25.867	1.000	Nov 2012	-		-		-		-	-	26.867	26.957
Primary Hardware Development	WR	SPAWAR Systems Center : San Diego, CA	12.384	4.177	Nov 2012	11.047	Nov 2013	10.031	Nov 2014	-		10.031	235.461	273.100	209.438
Primary Software Development	WR	SPAWAR Systems Center : San Diego, CA and Charleston, SC	8.044	2.424	Dec 2012	6.908	Nov 2013	5.879	Nov 2014	-		5.879	35.264	58.519	48.574
Systems Engineering	WR	SPAWAR Systems Center : San Diego, CA and Charleston, SC	16.175	1.916	Nov 2012	3.897	Nov 2013	2.436	Nov 2014	-		2.436	39.661	64.085	50.798
Systems Engineering	MIPR	US ARMY CECOM (MITRE) : San Diego, CA	1.480	0.567	Nov 2012	-		0.300	Nov 2014	-		0.300	15.484	17.831	19.934
Systems Engineering	C/CPFF	BAH : San Diego, CA	0.690	-		-		-		-		-	-	0.690	0.690
Primary Hardware Development	WR	NUWC : Newport, RI	0.000	2.923	May 2013	-		-		-		-	-	2.923	5.120
Primary Software Development	C/CPFF	NSMA : Washington DC	0.000	0.234	Feb 2014	-		-		-		-	-	0.234	-
		Subtotal	86.969	13.241		21.852		18.646		-		18.646	325.870	466.578	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Studies & Design	MIPR	Washington HQ Services : Washington DC	0.650	-		-		-		-		-	-	0.650	0.650

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303138N / *Consolidated Afloat Network Ent Services(CANES)*	Project (Number/Name) 9C87 / *CANES Integration*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.650	-		-		-		-		-	-	0.650	0.650

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Test & Evaluation	MIPR	JITC : Fairfax, VA	0.743	0.375	Nov 2012	-		0.196	Nov 2014	-		0.196	3.566	4.880	4.673
Operational Test & Evaluation	WR	COMOPTEVFOR : Norfolk, VA and Washington, DC	0.717	0.298	Nov 2012	0.510	Mar 2014	0.326	Nov 2014	-		0.326	4.584	6.435	5.891
		Subtotal	1.460	0.673		0.510		0.522		-		0.522	8.150	11.315	10.564

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	SPAWAR Systems Center : San Diego, CA and Charleston, SC	2.742	-		-		-		-		-	-	2.742	2.742
Program Management & Acquisition Support	C/CPFF	Systems Research & Application : San Diego, CA	4.073	0.383	Dec 2012	0.572	Dec 2013	0.603	Dec 2014	-		0.603	9.425	15.056	14.326
Financial Management Support	C/CPFF	INDUS Technology : San Diego, CA	1.167	-		-		-		-		-	-	1.167	1.167
Cost Estimation and Analyses	C/CPFF	Booz Allen Hamilton : San Diego, CA	1.420	-		-		-		-		-	-	1.420	1.420
Logistics Support	C/CPFF	TCI : San Diego, CA	1.298	-		-		-		-		-	-	1.298	1.298
Program Management	C/CPFF	CSA : San Diego, CA	0.000	-		0.334	Feb 2014	-		-		-	-	0.334	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303138N / *Consolidated Afloat Network Ent Services(CANES)*	Project (Number/Name) 9C87 / *CANES Integration*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering	C/CPFF	SAIC : San Diego, CA	0.000	-		0.206	Jan 2014	-		-		-	-	0.206	-
		Subtotal	10.700	0.383		1.112		0.603		-		0.603	9.425	22.223	-

	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	99.779	14.297		23.474		19.771		-		19.771	343.445	500.766	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303138N / *Consolidated Afloat Network Ent Services(CANES)*	**Project (Number/Name)** 9C87 / *CANES Integration*

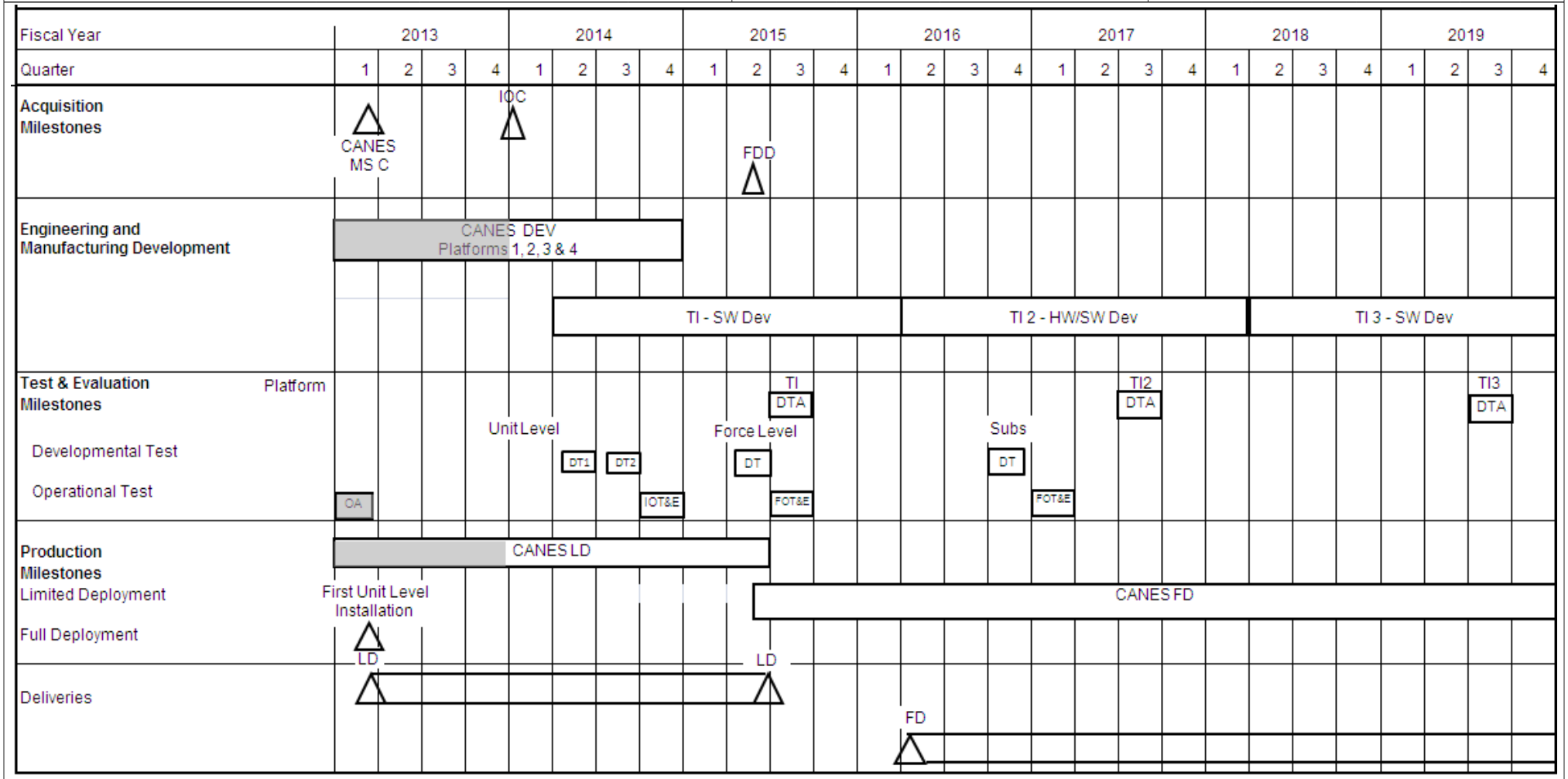


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303138N / *Consolidated Afloat Network Ent Services(CANES)*	**Project (Number/Name)** 9C87 / *CANES Integration*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Fiscal Year				
Acquisition Milestone: Acquisition Milestone - CANES MS C	1	2013	1	2013
Acquisition Milestone: Acquisition Milestone - Initial Operational Capability (IOC)	1	2014	1	2014
Acquisition Milestone: Acquisition Milestone - Full Deployment Decision Review (FDD)	2	2015	2	2015
Engineering and Manufacturing Development: Platform: Engineering and Manufacturing Development - Platform Set 1, 2, 3 & 4	1	2013	4	2014
Engineering and Manufacturing Development: Platform: Engineering and Manufacturing Development - Technical Insertion (TI) Software Development	2	2014	1	2016
Engineering and Manufacturing Development: Platform: Engineering and Manufacturing Development - TI 2 Hardware (HW)/SW Development	2	2016	1	2018
Engineering and Manufacturing Development: Platform: Engineering and Manufacturing Development - TI 3 SW Development	2	2018	4	2019
Test & Evaluation Milestone: Development Test: Operational Assesment (1) - Unit Level	1	2013	1	2013
Test & Evaluation Milestone: Development Test: Developmental Test - Force Level	2	2015	2	2015
Test & Evaluation Milestone: Development Test: Developmental Test - Sub	4	2016	4	2016
Test & Evaluation Milestone: Development Test: Development Test Assist - TI	3	2015	3	2015
Test & Evaluation Milestone: Development Test: Development Test Assist- TI2	3	2017	3	2017
Test & Evaluation Milestone: Development Test: Development Test Assist- TI3	3	2019	3	2019
Test & Evaluation Milestone: Development Test: Developmental Test - (1) - Unit Level	2	2014	2	2014
Test & Evaluation Milestone: Development Test: Developmental Test - (2) - Unit Level	3	2014	3	2014
Test & Evaluation Milestone: Operational Test: Operational Test - Initial Operational Test & Evaluation (IOT&E)	4	2014	4	2014
Test & Evaluation Milestone: Operational Test: Operational Test Force Level - FOT&E	3	2015	3	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303138N / *Consolidated Afloat Network Ent Services(CANES)*	**Project (Number/Name)** 9C87 / *CANES Integration*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Test & Evaluation Milestone: Operational Test: Operational Test - FOT&E Sub	1	2017	1	2017
Production Milestone: Limited Deployment: Production Milestone - Limited Deployment (LD)	1	2013	2	2015
Production Milestone: Limited Deployment: Production Milestone - First Unit Level Installation	1	2013	1	2013
Production Milestone: Full Deployment: Production Milestone - Full Deployment (FD)	2	2015	4	2019
Deliveries: Deliveries - Full Deployment (FD)	2	2016	4	2019
Deliveries: Deliveries - Limited Deployment (LD)	1	2013	2	2015

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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0303140N *I Information Sys Security 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	317.124	27.723	23.514	23.053	-	23.053	25.423	21.848	22.393	23.000	Continuing	Continuing
0734: *Communications Security R&D*	311.460	25.284	21.113	19.171	-	19.171	23.327	19.723	20.282	20.814	Continuing	Continuing
3230: *Information Assurance*	5.664	2.439	2.401	3.882	-	3.882	2.096	2.125	2.111	2.186	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The Information Systems Security Program (ISSP) ensures the protection of Navy and joint cyberspace systems from exploitation and attack. Cyberspace systems include wired and wireless telecommunications systems, Information Technology (IT) systems, and the content processed, stored, or transmitted therein. ISSP includes the protection of the Navy's National Security Systems and Information (NSSI). ISSP must be rapid, predictive, adaptive, and tightly coupled to cyberspace technology. Through modeling and simulation of Department of Defense (DoD) and commercial cyberspace systems evolution, ISSP provides architectures, products, and services based on mission impacts, information criticality, threats, vulnerabilities, and required defensive countermeasure capabilities.

ISSP is the Navy's implementation of statutory and regulatory requirements specified in Federal Information Security Management Act of 2002 (FISMA, 44 U.S.C. section 3541), the Computer Security Act of 1987 (Public Law 100-235), Privacy Act of 1974 (5 U.S.C. section 552a, Public Law No. 93-579), National Security Act of 1947 (Public Law 235), Comprehensive National Cyber security Initiative (CNCI) National Security Presidential Directive 54/Homeland Security Presidential Directive 23 (NSPD-54/ HSPD-23), National Security Directive 42, Presidential Decision Directive 63, Executive Order 13526, Appendix III of Office of Management and Budget (OMB) Circular A-130 Revised, Committee for National Security Systems (CNSS) Policy 22, Chairman Joint Chiefs of Staff Instructions 6510.01F and 6510.02D, DoD Directives 8500.01, O-8530.01, and 8570.01, the new DoD Instruction (DoDI)8500.01, NIST 800-53 rev 4 IA control catalog, new DoDI 8510.01, and CNSS Instruction 1253.

FY15 will focus on ISSP efforts that address the risk management of cyberspace as defined in "The National Military Strategy for Cyberspace Operations", Chairman of the Joint Chiefs of Staff, Dec 2006, defensive Information Operations (IO) as defined in Joint Publication 3-13, and Defensive Cyberspace Operations (DCO) as defined in Joint Publication 3-12, which includes the capabilities to protect, detect, restore, and respond. ISSP provides the Navy with the following cyber security elements: (1) defense of NSSI, including the Nuclear Command, Control, and Communications (NC3) system, naval weapons systems, critical naval infrastructure, joint time and navigation systems, and industrial control systems; (2) assured separation of information levels and user communities, including allied, coalition, non-Governmental, Defense Industrial Base, and other public partners; (3) technologies supporting the Navy's Computer Network Defense (CND) service provider operations; (4) assurance of the Navy's telecommunications infrastructure and the wireless spectrum; (5) assurance of joint-user cyberspace domains, using a defense-in-depth architecture; (6) assurance of the critical computing base and information store; (7) assurance of mobile and cloud computing; (8) supporting assurance technologies, including the Public Key Infrastructure (PKI) and Key Management(KM); and (9) Cyber remediation capabilities that will accelerate the Navy's ability to prevent, constrain and mitigate cyber-attacks and critical vulnerabilities as well as provide greater resiliency, awareness, data analytics, redundancy and diversity into the Navy's Defense-in-Depth (DiD) strategy.

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303140N *I Information Sys Security Program*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	26.307	23.531	27.548	-	27.548
Current President's Budget	27.723	23.514	23.053	-	23.053
Total Adjustments	1.416	-0.017	-4.495	-	-4.495
• Congressional General Reductions	-	-0.017			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.212	-			
• SBIR/STTR Transfer	-0.382	-			
• Program Adjustments	-	-	-0.015	-	-0.015
• Rate/Misc Adjustments	-0.001	-	-4.480	-	-4.480
• Congressional General Reductions Adjustments	-0.413	-	-	-	-

Change Summary Explanation

Schedule:

Computer Network Defense (CND):

- Due to the dynamically changing threat, CND Inc 2 Full Operational Capability (FOC) has shifted beyond the current Future Years Defense Program (FYDP) to align with Capabilities Production Document (CPD)
- Added CND Build Milestones
- Build 3 completion shifted from 2Q15 to 3Q15.
- Build 4 start shifted from 1Q15 to 2Q15. Build 4 completion shifted from 1Q16 to 2Q16.
- Build 5 start shifted from 4Q15 to 1Q16. Build 5 completion shifted from 4Q16 to 1Q17.

Navy Cryptography (Crypto):

- KG-45A FOC shifted from 4QFY13 to 1QFY14 due to fleet schedule changes
- Link 22 (L22) Preliminary Design Review (PDR) 1 & 2 coupled to maintain schedule
- L22 Technical Readiness Review (TRR) 1 shifted from 4QFY13 to 3QFY14, L22 TRR 2 shifted from 1QFY14 to 3QFY14, L22 Production Readiness Review shifted from 3QFY14 to 4QFY14, and L22 Full Development Delivery shifted from 3QFY14 to 4QFY14 due to changes in vendor's schedule.
- VINSON/Advanced Narrowband Digital Voice Terminal Crypto Modernization (VACM) Milestone C (MS C) shifted from 4QFY13 to 2QFY14, Initial Operational Test and Evaluation (IOT&E) start shifted from 4QFY13 to 4QFY14, Full Rate Production (FRP) decision shifted from 3QFY14 to 2QFY15, and Initial Operational Capability (IOC) shifted from 4QFY14 to 2QFY16, due to changes in Air Force schedule

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303140N *I Information Sys Security Program*

Electronic Key Management System (EKMS):
- Phase V FOC completed.

Key Management Infrastructure (KMI):
- Capability Increment 2 (CI-2) Spiral 2 (SP2) FOC shifted from Q3FY18 to Q1FY18 due change in fielding plan and in accordance with National Security Agency(NSA) Electronic Key Management System (EKMS) end of life date
- CI-2 Spiral 1 (SP1) Full Rate Production Decision (FRPD) and Full Rate Fielding Decision (FRFD) completed.

Public Key Infrastructure (PKI):
- PKI Inc2 Spiral 3 IOC shifted from 3QFY13 to 2QFY14 and Inc 2 FOC shifted from 2QFY14 to 4QFY15 due to testing schedule delays. The Defense Information Security Agency (DISA) is the Lead Agency for PKI.

Funding:
Project 3230 - FY15 $1.2M increase in funding supports the Weaselboard Program which is addressing an urgent Speed to Fleet initiative to assess the health and protection of shipboard systems and identify anomalous activity with Shipboard Supervisory Control and Data Acquisition (SCADA) information.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0303140N / *Information Sys Security Program*				Project (Number/Name) 0734 / *Communications Security R&D*			
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**
0734: *Communications Security R&D*	311.460	25.284	21.113	19.171	-	19.171	23.327	19.723	20.282	20.814	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 Information Systems Security Program (ISSP) Research Development Test & Evaluation (RDT&E) efforts provide Information Assurance (IA) and Defensive Cyberspace Operations (DCO) solutions to protect the forward deployed, bandwidth-limited, highly mobile Naval information subscriber and the associated command, control, and communications required to achieve the integrated military advantage from Net-Centric operations. ISSP addresses engineering design, development, modeling, simulation, test, and evaluation for the unique IA challenges associated with dispersed, bandwidth limited, and forward-tactical connected US Navy communications systems.

This project includes a rapidly evolving design and application engineering effort to modernize cryptographic equipment and ancillaries with state-of-the-art replacements to counter evolving and increasingly sophisticated threats, in accordance with the Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6510 requirements. Communication Security (COMSEC) and Transmission Security (TRANSEC) evolution are from stand-alone dedicated devices to embedded modules incorporating National Security Agency (NSA) approved cryptographic engines, loaded with the certified algorithms and key, and interconnected via industry-defined interfaces. This includes the Department of Defense (DoD) Global Information Grid (GIG) capability requirements document for the development of Content Based Encryption (CBE) and in the implementation of the Committee for National Security Systems (CNSS) Policy 15 on the "Use of Public Standards for the Sharing of Information among National Security Systems."

In addition to protecting national security information, ISSP RDT&E efforts provide enterprise-wide assurance for statutorily protected information, such as the 107 protected data types described in the federal task force on Controlled Unclassified Information (CUI) and in DoD Manual 5200.01 Volume 4. ISSP RDT&E efforts must also provide solutions to the most advanced state-sponsored and criminal-intent Advanced Persistent Threats (APT), including those to Platform Information Technology (PIT), weapons systems, Industrial Control Systems (ICS), and Supervisory Control and Data Acquisition (SCADA).

ISSP RDT&E efforts provide dynamic risk-managed IA solutions to the Navy information infrastructure, not just security devices placed within a network. Extensive effort will be placed on rapidly providing solutions required for the new DoD Instruction (DoDI) 8500.01, (CNSS) Instruction No. 1253, and National Institute of Science and Technology (NIST) Special Publication (SP) 800-53 IA control set, focused primarily on espionage and sabotage capable, state-sponsored APTs. Additional efforts include the implementation of data object security labeling and provenance metadata, also required by DoDI 8500.01, which is a major enabler for cross-domain data sharing. Few technology areas change as fast as telecommunications and computers; resulting in the need for continuous evaluation, development, and testing of IA products and cyber defense strategies. ISSP efforts in support of this environment include developing or applying: (1) new secure voice and secure data prototypes and protocols; (2) technology for a new Suite B capable programmable COMSEC and TRANSEC devices and software; (3) security appliances and software for

switched and routed networks; (4) technology to interconnect networks of dissimilar classification and need-to-know, known respectively as Cross Domain Solutions (CDS) and virtually secure environments (VSE); (5) techniques for assuring code and data residing in and transiting the Navy's computing base and information store; (6) Public Key Infrastructure (PKI) and associated access control technologies such as smartcards and similar security tokens; (7) Key Management (KM) devices such as Simple Key Loaders (SKL), COMSEC Material Work Stations (CMWS), and Key Management Infrastructure (KMI) equipment (Client Management (MGC)/ Advanced Key Processor (AKP) MGC/AKPs, High Assurance Protocol Equipment, Delivery Only Client (DOC) and Next Generation devices; (8) technologies that provide assured and persistent Identity and Access Management (IdAM) for persons, virtual instances, and connected devices; (9) technologies for assuring cloud and mobile operating environments and devices; (10) defensive cyber security technologies required to support strategic and tactical cyber operations in an Anti-Access, Area-Denial (A2AD) hostile environment; and (11) Cyber Remediation capabilities that will accelerate the Navy's ability to prevent, constrain and mitigate cyber-attacks and critical vulnerabilities as well as provide greater resiliency, awareness, data analytics, redundancy and diversity into the Navy's Defense-in-Depth (DiD) strategy.

FY 15 Highlights for Information Systems Security Programs (ISSP):

Computer Network Defense (CND): Continue to develop, integrate, and test CND Builds, DiD and SA technologies for knowledge-empowered CND operations for shore sites and afloat platforms. Continue to develop new capabilities for the Navy's C2 architecture and provide technical guidance to ensure CND requirements are met by CANES. Continue to implement DOD and USCC IA/cyber security tools and mandates into ONE-Net, IT-21 and excepted networks. Continue evaluation of needs derived from the stakeholders and CCSG, as well as develop, update, and integrate the CND/IA suites with adaptive defense, security sensors, incident reporting, correlation, packet capture processing, and situational awareness capabilities to provide increased DiD, perform near real-time analysis of events, and counter APT. Provide Vulnerability Remediation Asset Manager (VRAM) tool to include Online Compliance Reporting System (OCRS) and Continuous Monitoring Risk Scoring (CMRS) capabilities. Begin impact analysis of DODI 8500.01 IA controls implementation in CND. Initiate integration and testing of Secure Socket Layer (SSL) intercept to achieve compliance with Defense Information Security Agency (DISA)firewall security guidance. Continue to further efforts to virtualize CND capabilities and consolidating IA Services in the ONE-Net environment. Begin development and implementation of an optimal technical and governance solution for interception of outbound encrypted traffic. Start analysis to replace and assume acquisition management of Navy Cyber Defense Operations Command's (NCDOC) tactical sensor infrastructure. Continue to support C10F NCSA efforts, deploying integrated tools at the C10F MOC to support C2 of the CS; NCSA will provide near real-time risk assessments, actionable intelligence, and immediate mitigation courses of action for knowledge-empowered CND operations throughout the Navy. Continue to develop JCTD delivered VSE to segment networks and adaptively manage operational risks. Provide Cyber Remediation initiatives within the Navy's CND/IA program in order to achieve improved network defense and security wholeness.

Navy Cryptography (Crypto): Continue development of TRANSEC replacement product for legacy devices. Complete iApp development efforts and initiate iApp crypto integration into specific devices. Complete Link-22 MLLC full development and provide support for transition to production efforts. Continue providing security engineering support for modernization of space crypto systems, embeddable crypto modernization strategies, and Next Generation Crypto initiatives. Continue providing support for NSA certification authority, acquisition authority, and data testing for all CM efforts. Continue to coordinate internally with other programs to address future crypto modernization efforts to include DMR, CDLS/TCDL. Continue to investigate impacts of upcoming NSA security enhancements for crypto mod products to include Enhanced FireFly (EFF), hardware and software. Continue to research and study the Secure Telephone Equipment (STE) follow-on. Continue to provide VACM

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303140N / *Information Sys Security Program*	**Project (Number/Name)** 0734 / *Communications Security R&D*

technical engineering support on behalf of DoN. Achieve VACM's Full Rate Production (FRP) decision and complete VACM Initial Operational Test & Evaluation (IOT&E).

Key Management (KM): Perform capability, verification testing that includes DT and OT in support of KMI CI-2 Spiral 2/Spin 2 software Full Rate Fielding Decision (FRFD). Achieve IOC on KMI CI-2 Spiral 2/Spin 1. Continue transition strategy, Alteration Installation Team (AIT) transition packages and define requirements for incorporation of other KMI roles into Navy architecture. Continue defining capability requirements for KMI CI-3. Continue supporting KMI transition working group meetings, developing white papers and supporting documentation for KMI CI-3. Conduct Next Generation Fill Device verification testing of Navy COMSEC requirements. Continue migrating CMWS/DMD and other Next Generation Fill Devices, the follow on to Simple Key Loader (SKL) into the KMI environment. Continue development, engineering and testing to the iApp which will enhance KMI secure communications and the Navy's implementation of the KMI DOC configuration, on the afloat and subsurface networks with the NSA KMI Spiral 2 software baseline. Continue engineering support to KMI PMO and vendors to develop capabilities required for the Navy, Army, and Air Force. Achieve Tactical Key Loader (TKL) Full Operational Capability (FOC).

Public Key Infrastructure (PKI): Continue research, develop, and test Identity and Access Management (IdAM) technologies to support afloat and OCONUS networks. Continue development and testing of tools to support Non-Person Entity (NPE) certificates in tactical/austere environments. Begin research and evaluate PKI authentication capabilities to support mobile devices for afloat and OCONUS networks. Continue to research and develop the next version of Navy Certificate Validation Infrastructure (NCVI) to support Online Certificate Status Protocol (OCSP) on afloat and OCONUS networks. Begin providing PKI support in the software development efforts for afloat networks, to include Common Access Card (CAC), Cryptographic Log-On (CLO), SIPRNet Token, and NPE. Begin test and evaluation support for technologies coming from the DoD Program Management Office (PMO) for future integration into Navy networks. Continue to ensure Navy compliance with new PKI related cryptographic algorithms and certificate changes on the CAC, Alternate Logon Token (ALT), and SIPRNet hardware token. PKI Inc 2 will reach Full Operational Capability (FOC).

Information Assurance (IA) Services: Continue to provide security systems engineering support for the development of DoD and Navy IA architectures and the transition of new technologies to address Navy IA challenges. Provide IA risk analysis and recommended risk mitigation strategies for Navy networks and Command, Control, Communications, Computers and Intelligence (C4I) systems. This includes the expanded requirements to provide complete IdAM.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Computer Network Defense (CND)	9.700	7.533	8.398
Articles:	-	-	-

FY 2013 Accomplishments:
Developed, integrated and tested Computer Network Defense (CND) Build 1 and initiated future builds. Ensured security of Navy networks met Department of Defense (DoD) mandates and initiatives for securing the Global Information Grid (GIG). Developed, integrated, and tested Defense-in-Depth (DiD) and Situational Awareness (SA) technologies for knowledge-empowered CND operations for afloat and shore installations. Supported the development and deployment of new capabilities into the Navy's architecture, as well as provided technical guidance to ensure CND requirements were met by Consolidated Afloat Networks and Enterprise Services (CANES). Supported DoD defined tools and capabilities including host based security tools, automation

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
of reporting, monitoring, analysis and response. Integrated CND capabilities to perform near real-time analysis of events and updated the CND Information Assurance (IA) suites with adaptive defense, incident reporting, correlation, and SA capabilities. Promoted Course of Action (COA) development analysis and execution to improve interoperability with the Global Network Operations (NetOps) Information Sharing Environment. Developed enhancements and evaluated needs derived from the CND Capabilities Steering Group (CSSG) to advance analysis and response to network threats. Leveraged the Ozone Widget framework and the US Cyber Command (USCC) Cyber Pilot architecture to start to deliver visualization and analysis tools in support of Fleet Cyber Command (FCC) / Commander Tenth Fleet (C10F) Cyber SA efforts at the C10F Maritime Operations Center (MOC). Achieved Full Rate Production (FRP). ***FY 2014 Plans:*** Continue to develop, integrate, and test CND Builds, DiD and SA technologies for knowledge-empowered CND operations for shore sites and afloat platforms. Continue to develop new capabilities for the Navy's Command and Control (C2) architecture and provide technical guidance to ensure CND requirements are met by CANES. Continue to implement DoD and USCC IA/ cyber security mandates into Outside the Continental United States (OCONUS) Navy Enterprise Network (ONE-Net), Information Technology for the 21st Century (IT-21), and excepted networks as required. Continue the evaluation of needs derived from the CCSG and develop, update, and integrate the CND/IA suites with adaptive defense, security sensors, incident reporting, correlation, packet capture processing and situational awareness capabilities to provide increased DiD, to perform near real-time analysis of events, and to counter Advanced Persistent Threats (APT). Further efforts to virtualize CND capabilities and consolidate IA services in the ONE-Net environment. Continue to support C10F Navy Cyber Situational Awareness (NCSA) efforts, deploying integrated tools at the C10F MOC to support C2 of the Communications Systems (CS); NCSA will provide near real-time risk assessments, actionable intelligence, and immediate mitigation courses of action for knowledge-empowered CND operations throughout the Navy. Develop and further the Joint Capability Technology Demonstration (JCTD) Virtual Secure Enclaves (VSE) to segment networks and adaptively manage operational risks. ***FY 2015 Plans:*** Continue to develop, integrate, and test CND Builds, DiD and SA technologies for knowledge-empowered CND operations for shore sites and afloat platforms. Continue to develop new capabilities for the Navy's C2 architecture and provide technical guidance to ensure CND requirements are met by CANES. Continue to implement DOD and USCC IA/cyber security tools and mandates into ONE-Net, IT-21 and excepted networks. Continue evaluation of needs derived from the stakeholders and CCSG, as well as develop, update, and integrate the CND/IA suites with adaptive defense, security sensors, incident reporting, correlation, packet capture processing, and situational awareness capabilities to provide increased DiD, perform near real-time analysis of events, and counter APT. Provide Vulnerability Remediation Asset Manager (VRAM) tool to include Online Compliance Reporting System (OCRS) and Continuous Monitoring Risk Scoring (CMRS) capabilities. Begin impact analysis of DODI 8500.01 IA controls implementation in CND. Initiate integration and testing of Secure Socket Layer (SSL) intercept to achieve compliance with Defense Information Security Agency (DISA)firewall security guidance. Continue to further efforts to			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303140N / *Information Sys Security Program*	**Project (Number/Name)** 0734 / *Communications Security R&D*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
virtualize CND capabilities and consolidating IA Services in the ONE-Net environment. Begin development and implementation of an optimal technical and governance solution for interception of outbound encrypted traffic. Start analysis to replace and assume acquisition management of Navy Cyber Defense Operations Command's (NCDOC) tactical sensor infrastructure. Continue to support C10F NCSA efforts, deploying integrated tools at the C10F MOC to support C2 of the CS; NCSA will provide near real-time risk assessments, actionable intelligence, and immediate mitigation courses of action for knowledge-empowered CND operations throughout the Navy. Continue to develop JCTD delivered VSE to segment networks and adaptively manage operational risks. Provide Cyber Remediation initiatives within the Navy's CND/IA program in order to achieve improved network defense and security wholeness.			
Title: Navy Cryptography (Crypto)	9.964	7.850	6.381
Articles:	-	-	-
FY 2013 Accomplishments: Continued research, evaluation, and prioritization of cryptographic products for modernization. Continued coordination with the National Security Agency (NSA) and support to the Cryptographic Joint Algorithm Integrated Product Team (IPT). Continued identifying strategies to reduce the overall crypto inventory within the Department of the Navy (DoN) to realize long term cost savings. Continued providing systems engineering services in support of execution of the Link-22 Modernized Link Level Communications Security (MLLC) full development efforts including: Preliminary Design Review (PDR) 1&2, Test Readiness Review (TRR) 1&2, and Critical Design Review (CDR). Conducted research into making modern crypto devices Key Management Infrastructure (KMI) aware, focusing on the Intermediary Application (iApp) development. Continued Naval Research Laboratory (NRL) research into Secure Voice (SV). Provided technical engineering support on behalf of DoN in support of Air Force VINSON/Advanced Narrowband Digital Voice Terminal Crypto Modernization (VACM) and perform Navy system tests on Production Representative Engineering Development Models (PREDMs). Continued providing security engineering support for Office of Secretary of Defense (OSD) Chief Information Officer (CIO) Nuclear Command and Control (NC2)/ Nuclear Command, Control, and Communications (NC3) Crypto Modernization (CM) efforts on behalf of the Navy. Transitioned Transmission Security (TRANSEC) Request For Information (RFI) items for CM solutions and coordinated with the NSA and other services; continued TRANSEC study and analysis for replacement products for legacy devices. Continued investigation into crypto replacement strategies for ground terminals of space systems, as well as replacements for legacy/embeddable crypto. Continued providing support for NSA certification authority, acquisition support and data testing for all cryptographic modernization efforts.			
FY 2014 Plans: Complete TRANSEC study and analysis for a replacement product for legacy devices and initiate TRANSEC development efforts. Continue iApp development efforts focusing on incorporating functionality into specific Navy crypto devices, fill devices, and support products. Complete NRL's research into SV. Provide VACM technical engineering support on behalf of DoN, achieve Milestone C (MS C), perform Navy system tests on PREDMs, and initiate Initial Operational Test & Evaluation (IOT&E). Continue			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303140N / *Information Sys Security Program*	**Project (Number/Name)** 0734 / *Communications Security R&D*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
providing security engineering support modernization of space crypto systems, embeddable crypto modernization strategies, and Next Generation Crypto initiatives. Coordinate internally with other programs to address future crypto modernization efforts to include Digital Modular Radio (DMR), Communication Data Link System (CDLS)/Tactical Common Data Link (TCDL). Investigate impacts of upcoming NSA security enhancements for crypto modernization products to include Enhanced Firefly, hardware and software. Research and study the Secure Telephone Equipment (STE) follow-on. Complete Link-22 MLLC Test Readiness Review (TRR)1&2, Preliminary Readiness Review (PRR), and deliver full development article. Continue providing support for NSA certification authority, acquisition authority, and data testing for all CM efforts. Achieve Full Operational Capability(FOC)of KG-45A devices. ***FY 2015 Plans:*** Continue development of TRANSEC replacement product for legacy devices. Complete iApp development efforts and initiate iApp crypto integration into specific devices. Complete Link-22 MLLC full development and provide support for transition to production efforts. Continue providing security engineering support for modernization of space crypto systems, embeddable crypto modernization strategies, and Next Generation Crypto initiatives. Continue providing support for NSA certification authority, acquisition authority, and data testing for all CM efforts. Continue to coordinate internally with other programs to address future crypto modernization efforts to include DMR, CDLS/TCDL. Continue to investigate impacts of upcoming NSA security enhancements for crypto mod products to include Enhanced FireFly (EFF), hardware and software. Continue to research and study the Secure Telephone Equipment (STE) follow-on. Continue to provide VACM technical engineering support on behalf of DoN. Achieve VACM's Full Rate Production (FRP) decision and complete VACM Initial Operational Test & Evaluation (IOT&E).			
Title: Key Management (KM)	2.619	2.641	2.022
Articles:	-	-	-
FY 2013 Accomplishments: Began capability, engineering, development, and verification testing support to Key Management Infrastructure (KMI) Capability Increment (CI)-2 Spiral 2 Spin 1. Continued transition strategy and defined requirements for incorporation of other KMI roles into Navy architecture. Continued supporting KMI transition working group meetings, developed white papers and supporting documentation for KMI. Continued requirements definition support to the development of the next generation fill device. Continued Migrating Communications Security (COMSEC) Material Work Station (CMWS)/Data Management Device (DMD) and other Next Generation Fill Devices to the KMI environment. Began shipboard bandwidth study in support of KMI Manager Client (MGC) architecture in the afloat operational environment. Began to define capability requirements for KMI CI-3. Provided engineering and analysis to a centralized configuration management and crypto unit inventory tracking tool which will improve Electronic Key Management System (EKMS) and Crypto product management. Provided engineering and analysis to the Intermediary Application (iApp) which will enhance KMI secure communications. Defined KMI Delivery Only Client (DOC) solution requirements. Completed Full Operation Test & Evaluation (FOT&E) KMI Spiral 1 test events and Spiral 1 Full Rate Fielding/			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Production Decision. Tactical Key Loader (TKL) achieved Full Rate Production Decision (FRPD) and Initial Operational Capability (IOC). Electronic Key Management System (EKMS) Phase V achieved Full Operational Capability (FOC). ***FY 2014 Plans:*** Continue capability, engineering, development,verification testing, and perform Development Testing (DT), Operational Testing (OT) in support of KMI CI-2 Spiral 2/Spin 1 software Full Rate Fielding Decision (FRFD). Continue transition strategy and define requirements for incorporation of other KMI roles into Navy architecture. Continue defining capability requirements for KMI CI-3. Continue supporting KMI transition working group meetings, developing white papers and supporting documentation for KMI CI-3. Continue requirements definition support to the development of the Next Generation Fill Device. Continue migrating CMWS/DMD and other Next Generation Fill Devices to the KMI environment. Continue development engineering and testing to the iApp which will enhance KMI secure communications. Conduct shipboard bandwidth assessment with Spiral 2 Software in support of KMI MGC. Complete capability Subject Matter Expert (SME) support to National Security Agency (NSA) for Spiral 2/Spin 1. Continue engineering support to KMI Program Management Office (PMO) and vendors to develop capabilities required for the Navy, Army, and Air Force. ***FY 2015 Plans:*** Perform capability, verification testing that includes DT and OT in support of KMI CI-2 Spiral 2/Spin 2 software Full Rate Fielding Decision (FRFD). Achieve IOC on KMI CI-2 Spiral 2/Spin 1. Continue transition strategy, Alteration Installation Team (AIT) transition packages and define requirements for incorporation of other KMI roles into Navy architecture. Continue defining capability requirements for KMI CI-3. Continue supporting KMI transition working group meetings, developing white papers and supporting documentation for KMI CI-3. Conduct Next Generation Fill Device verification testing of Navy COMSEC requirements. Continue migrating CMWS/DMD and other Next Generation Fill Devices, the follow on to Simple Key Loader (SKL) into the KMI environment. Continue development, engineering and testing to the iApp which will enhance KMI secure communications and the Navy's implementation of the KMI DOC configuration, on the afloat and subsurface networks with the NSA KMI Spiral 2 software baseline. Continue engineering support to KMI PMO and vendors to develop capabilities required for the Navy, Army, and Air Force. Achieve Tactical Key Loader (TKL) Full Operational Capability (FOC).			
Title: Public Key Infrastructure (PKI)	0.398	0.409	0.315
Articles:	-	-	-
FY 2013 Accomplishments: Researched, analyzed and evaluated Public Key Infrastructure (PKI) enabled (PKE) products (Microsoft and non-Microsoft) such as Virtual Private Networks (VPNs), routers, switches, and servers for their suitability to support Navy requirements for Non-Person Entity (NPE) certificates and to support identity management and protection requirements. Provided systems engineering support for Secret Internet Protocol Router Network (SIPRNet) PKI enablement for Navy Programs of Record (POR). Researched and tested PKI solutions for non-Microsoft systems . Continue to support the manual and automatic enrollment and issuance			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
of PKI NPE certificates to Navy servers and devices. Continued to evaluate Defense Information Systems Agency's (DISA) auto-enrollment and registration services for DoD PKI enabled devices. Continued to research and evaluate new technologies and develop solutions to enable the Navy's PKI to process new cryptographic algorithms and new secure hash algorithms, to include Elliptic Curve Cryptography (ECC) and Secure Hash Algorithms (SHA)-256. Tested and evaluated DISA's Online Certificate Status Protocol (OCSP) enhancements for certificate authentication in the Navy afloat and ashore environment. Ensured interoperability of PKI with Computer Network Defense (CND) systems architecture. ***FY 2014 Plans:*** Complete development of PKI solutions, including the SIPRNet Shipboard Validation Authority (SVA) and Cryptographic Log-on (CLO) capability to non-Microsoft systems and Microsoft non-Domain services. Begin testing and evaluation of the NIPRNet Enterprise Alternate Token System (NEATS) for shore and afloat role-based tokens. Complete research and testing of DISA OCSP enhancements for certificate authentication in the Navy afloat and ashore environments. Continue to ensure Navy compliance and compatibility with new PKI related cryptographic algorithms, to include ECC and SHA-256. Ensure compliance and compatibility with certificate changes on the Common Access Card (CAC), Alternate Logon Token (ALT), and SIPRNet hardware token. Continue to ensure compatibility and interoperability of PKI with CND systems architecture. Continue to research and develop tools to support certificates for Non-Person Entity (NPE) devices and tactical/austere environments. Begin researching Identity and Access Management (IdAM) technologies to increase information security. Start investigating virtualization of Navy Certificate Validation Infrastructure (NCVI) servers. Achieve PKI Increment 2 Spiral 3 Initial Operational Capability (IOC). ***FY 2015 Plans:*** Continue to ensure Navy compliance and compatibility with new PKI related cryptographic algorithms, to include ECC and SHA-256. Continue to ensure Navy compliance and compatibility with certificate changes on the CAC, ALT, and SIPRNet hardware token. Complete testing and evaluation of NEATS to support role-based token issuance for afloat and Outside of the Continental United States (OCONUS) networks. Continue to ensure compatibility and interoperability of PKI with CND systems architecture. Complete NPE research and development efforts and begin testing tools to support NPE certificates in tactical/ austere environments. Continue to research and begin development and testing of IdAM technologies to increase information security support afloat and OCONUS networks. Begin research and evaluation of PKI authentication capabilities to support mobile devices for afloat and OCONUS networks. Continue to investigate virtualization of NCVI servers and begin research and development of the next version of NCVI to support OCSP on afloat and OCONUS networks. Begin providing PKI support in the software development efforts for afloat networks, to include CAC, CLO, SIPRNet Token, and NPE. Begin test and evaluation support for technologies coming from the DoD Program Management Office (PMO) for future integration into Navy networks. Achieve PKI Increment 2 Spiral 3 Full Operational Capability (FOC).			
Title: Information Assurance (IA) Services	2.603	2.680	2.055

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 Accomplishments: Continued to provide security systems engineering support for the development of DoD and DoN Information Assurance (IA) architectures and the transition of new technologies to address Navy IA challenges. Provided updates to the Navy IA master plan that reflect emerging priorities and address Navy specific threats. Coordinated IA activities across the virtual SYSCOM via the IA Trusted Architecture (TA) to ensure the security design and integration of Computer Adaptive Network Defense-in-Depth (CANDiD) products and services is consistent across the Navy for major initiatives such as the future afloat, ashore, and OCONUS networks. Provided IA risk analysis and recommended risk mitigation strategies for Navy critical networks and Command, Control, Communications, Computers and Intelligence (C4I) systems. Coordinated with the Navy acquisition community to ensure IA requirements are identified and addressed within the development cycles for emerging Navy network and C4I capabilities. Continued to evaluate products for security issues and develop guidance and procedures for the design and integration of risk mitigation strategies via appropriate IA controls.			
FY 2014 Plans: Continue to provide security systems engineering support for the development of DoD and DoN IA architectures and the transition of new technologies to address Navy IA challenges. Provide updates to reflect emerging priorities and address Navy specific threats. Coordinate IA activities across the virtual SYSCOM via the IA TA to ensure the security design and integration of cybersecurity products and services is consistent across the Navy for major initiatives such as the future afloat, ashore, and OCONUS networks. Provide IA risk analysis and recommended risk mitigation strategies for Navy critical networks and C4I systems. Coordinate with the Navy acquisition community to ensure IA requirements are identified and addressed within the development cycles for emerging Navy network and C4I capabilities. Continue to evaluate products for security issues and develop guidance and procedures for the design and integration of risk mitigation strategies via appropriate IA controls.			
FY 2015 Plans: Continue to provide security systems engineering support for the development of DoD and DoN IA architectures and the transition of new technologies to address Navy IA challenges. Continue to provide updates to reflect emerging priorities and address Navy specific threats. Continue to coordinate IA activities across the virtual SYSCOM via the IA TA to ensure the security design and integration of cybersecurity products and services is consistent across the Navy for major initiatives such as the future afloat, ashore, and OCONUS networks. Continue to provide IA risk analysis and recommended risk mitigation strategies for Navy critical networks and C4I systems. Continue to coordinate with the Navy acquisition community to ensure IA requirements are identified and addressed within the development cycles for emerging Navy network and C4I capabilities. Continue to evaluate products for security issues and develop guidance and procedures for the design and integration of risk mitigation strategies via appropriate IA controls.			
Accomplishments/Planned Programs Subtotals	25.284	21.113	19.171

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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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
• OPN/3415: *Info Sys Security Program (ISSP)*	123.918	133.530	110.766	-	110.766	144.125	81.580	86.039	89.929	Continuing	Continuing

Remarks

D. Acquisition Strategy

Computer Network Defense (CND): The CND Acquisition Category (ACAT) IVT program is a layered protection strategy, using Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) hardware and software products that collectively provide an effective network security infrastructure. The rapid advance of cyber technology requires an efficient process for updating CND tools deployed to afloat and shore platforms. Recognizing the need for future CND capability improvements, CND implements an evolutionary acquisition strategy that delivers CND capabilities in multiple builds and functionality releases that address validated requirements.

Navy Cryptography (Crypto): Modernized crypto devices will replace legacy crypto in accordance with the Chairman of the Joint Chiefs of Staff (CJCS) mandate (CJCS Instruction 6510) as well as the National Security Agency (NSA) planned decertification, which improves the security of the Navy's data in transit. Link-22 Modernized Link Level Communications Security (MLLC has a two-step development phase. Preliminary development was completed with prototype and is now in full development to obtain initial product baseline. Strategies followed by other lead agencies include VINSON/Advanced Narrowband Digital Voice Terminal Crypto Modernization (VACM) and KG-3X which has the United States Air Force (USAF) as contract lead.

Key Management Infrastructure (KMI): KMI, an NSA led Joint ACAT program, is the next generation Electronic Key Management System (EKMS) that provides the infrastructure for management, ordering and distribution of key material as well as directly supporting the key requirements of all Crypto modernization efforts. KMI will follow an increment/spiral development strategy. KMI will continue to develop alternative architecture implementations for communities within the Navy.

Public Key Infrastructure (PKI): DoD PKI is a Joint ACAT program under the guidance of NSA Acquisition Executive (AE) as Program Manager (PM) and the DoD Chief Information Officer (CIO) as the Milestone Decision Authority (MDA). The Navy PKI project is the Navy element of the DoD PKI ACAT program. The Navy PKI program supports the DoD-wide implementation of PKI products and services across Navy afloat, non-Navy Marine Corps Intranet (NMCI), and OCONUS networks.

E. Performance Metrics

Computer Network Defense (CND):
* Provide the ability to protect from, react to, and restore operations after an intrusion or other catastrophic event through validated contingency plans for 100% of CND systems.
* Develop dynamic security defense capabilities, based on the CND posture as an active response to threat attack sensors and vulnerability indications to provide adequate defenses against subversive acts of trusted people and systems, both internal and external, by integration of anomaly-based detection solutions into the design solutions for 100% of authorized Navy enclaves.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
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* Defend against the unauthorized use of a host or application, particularly operating systems, by development and/or integration of host-based intrusion prevention system design solutions for 100% of authorized Navy enclaves.
* Continue to develop and provide Cyber Situational Awareness (CSA) to the Commander United States Tenth Fleet (C10F) Maritime Operations Center (MOC).

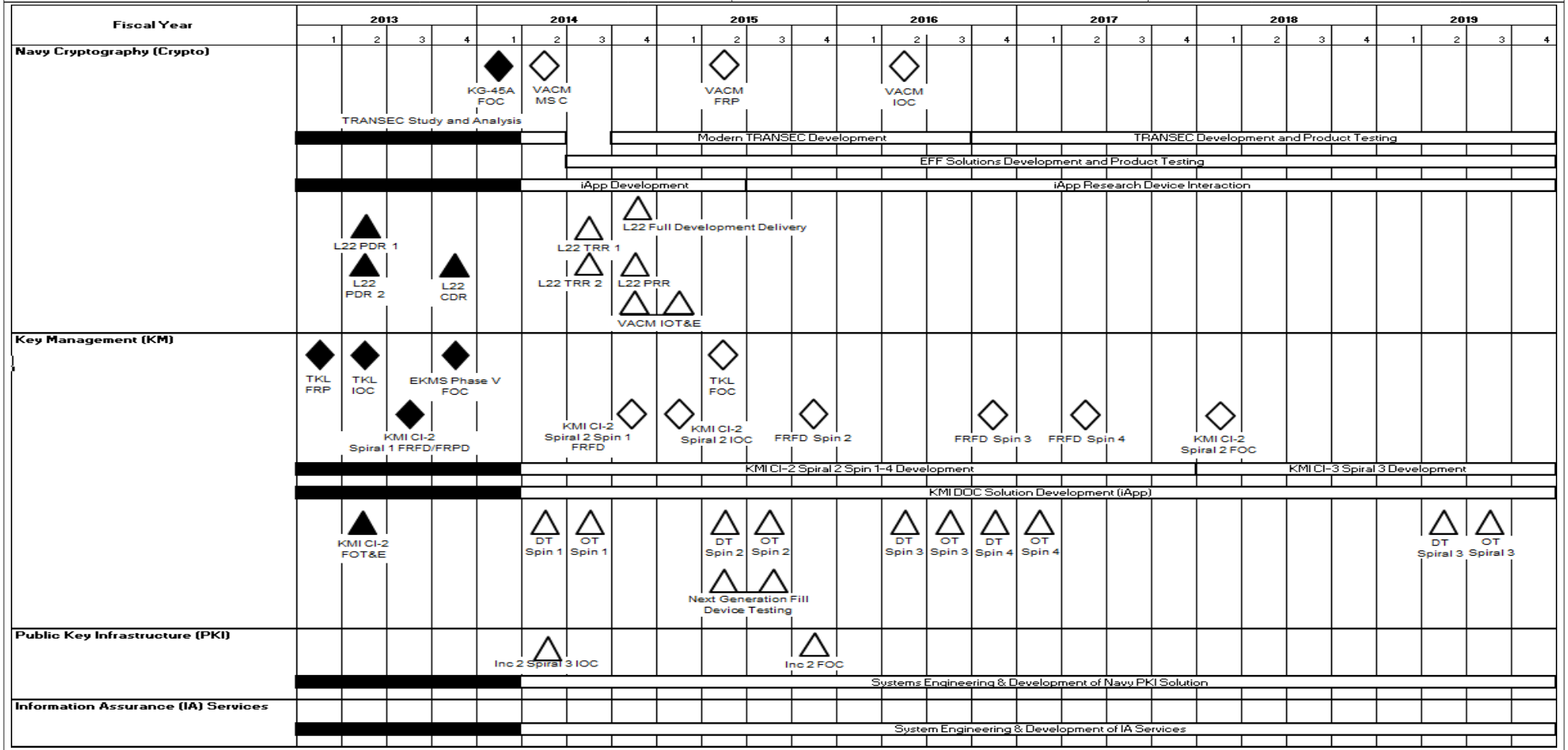
Navy Cryptography (Crypto):
* Meet 100% of Chairman of the Joint Chiefs of Staff Instruction (CJCSI 6510) Cryptographic Modernization (CM) requirements within the current FYDP by conducting a gap analysis and building a CM roadmap and implementation plan to allow the Navy NETWAR FORCEnet Enterprise to establish operational priorities based on risk assessments. The gap analysis is an effort to analyze current integrated legacy cryptographic devices within the Department of the Navy (DoN) inventory with known algorithm vulnerability dates, assess lifecycle sustainment issues, and identify transition device schedules, where they exist.
* Meet 100% of Top Secret (TS) and SECRET CJCSI 6510 by fielding modern cryptographic devices or request "key extension" via the Joint Staff Military Communications-Electronics Board (MCEB).
* Increase the functionality of cryptographic devices by replacing 2 legacy cryptographic devices with 1 modern device, where possible, and identify and implement modern small form factor, multi-channel cryptos (e.g., KIV-7M replacing KIV-7HS, KIV-7HSB, KG-84, KWR-46, KL-51, etc.).

Key Management (KM):
* Meet 100% of submarine and US Coast Guard key management requirements in order to replace existing Electronic Key Management System (EKMS) Tier 2 systems with a Key Management Infrastructure (KMI)/Delivery Only Client (DOC) solution Intermediary Application (iApp).
* Complete engineering efforts and testing of iApp to be transitioned to submarines and US Coast Guard Cutters to begin FY16.
* Incorporate 100% of the Communication Security (COMSEC) Manager Workstation (CMWS) requirements into the iApp baseline.
* Provide and refine Navy unique requirements into the National Security Agency (NSA) KMI Capability Increment (CI)-3 Capability Development Document (CDD).

Public Key Infrastructure (PKI):
* Provide integration support to ensure Navy networks and Programs of Record (POR) comply with DoD PKI requirements on NIPRNet and SIPRNet, per DoDI 8520.02.
* Ensure 100% interoperability with DoD and Federal partners by researching and evaluating enhanced cryptographic algorithms and DoD certificate changes.

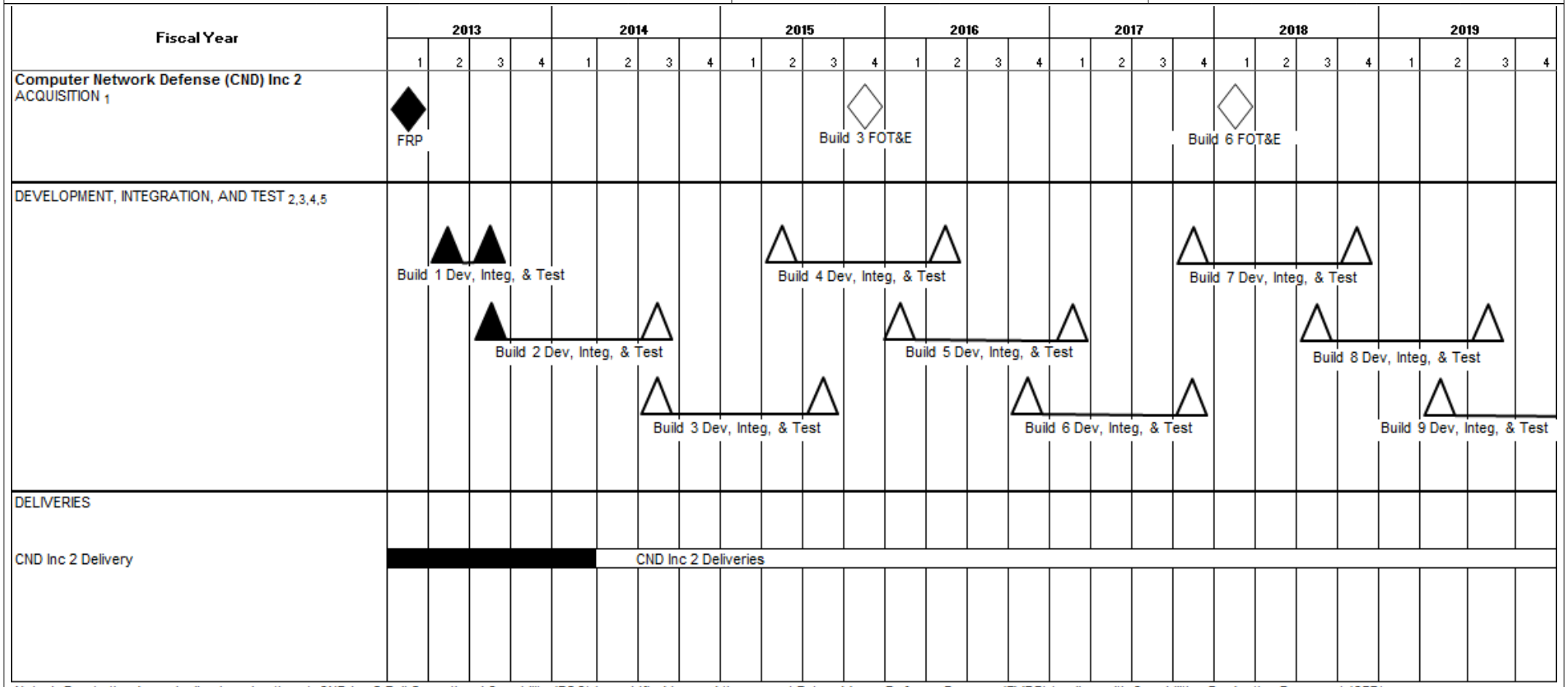
Information Assurance (IA) Services:
* Ensure 100% interoperability and application of commercial standards compliance for ISSP products by researching and conducting selective evaluations, integrating and testing commercial-off-the-shelf/Non-Developmental Item IA security products. Evaluation may include defensible network boundary capabilities such as firewalls, secure routers and
switches, guards, Virtual Private Networks (VPN), and network Intrusion Prevention Systems (IPS).
* Provide 100% of the services delineated in OPNAVINST 5239.1C by serving as the Navy's Information Assurance (IA) technical lead by developing IA risk analysis and recommended risk mitigation strategies for critical Navy networks and C4I systems.
* Coordinate IA activities across the Navy Enterprise via the IA Trusted Architecture (TA) to measure effectiveness of Navy networks. Ensure the security design and integration of Computer Adaptive Network Defense-in-Depth (CANDiD) products and services and that they are 100% interoperable and operationally acceptable across the Navy for major initiatives such as the future afloat, ashore, and Outside the Continental United States (OCONUS) networks.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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Reference "R2 - Change Summary Explanation" for notes

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
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Note 1: Due to the dynamically changing threat, CND Inc 2 Full Operational Capability (FOC) has shifted beyond the current Future Years Defense Program (FYDP) to align with Capabilities Production Document (CPD)
Note 2: Added CND Build Milestones
Note 3: Build 3 completion shifted from 2Q15 to 3Q15.
Note 4: Build 4 start shifted from 1Q15 to 2Q15. Build 4 completion shifted from 1Q16 to 2Q16.
Note 5: Build 5 start shifted from 4Q15 to 1Q16. Build 5 completion shifted from 4Q16 to 1Q17.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy											Date: March 2014	
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0303140N / *Information Sys Security Program*				Project (Number/Name) 3230 / *Information Assurance*			
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**
3230: *Information Assurance*	5.664	2.439	2.401	3.882	-	3.882	2.096	2.125	2.111	2.186	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 goal of the Information Assurance (IA) program is to ensure the continued protection of Navy and joint information and information systems from hostile exploitation and attack. ISSP activities address the triad of Defense Information Operations: protection, detection, and reaction. Evolving attack sensing (detection), warning, and response (reaction) responsibilities extend far beyond the traditional ISSP role in protection or Information Systems Security (INFOSEC). Focused on the highly mobile forward deployed subscriber, the Navy's adoption of Network-Centric Warfare (NCW) places demands upon the ISSP, as the number of users expands significantly and the criticality of their use escalates. Today, the ISSP protects an expanding core of services critical to the effective performance of the Navy's mission.

The rapid rate of change in the underlying commercial and government information infrastructures makes the provision of security an increasingly complex and dynamic problem. IA technology mix and deployment strategies must evolve quickly to meet rapidly evolving threats and vulnerabilities. No longer can information security be divorced from the information infrastructure. The ISSP enables the Navy's war fighter to trust in the availability, integrity, authentication, privacy, and non-repudiation of information.

This project includes funds for advanced technology development, test and evaluation of naval information systems security based on leading edge technologies that will improve information assurance (e.g., situational awareness and information infrastructure protection) across all command echelons to tactical units afloat and war fighters ashore. This effort will provide the research to develop a secure seamless interoperable, common operational environment of networked information systems in the battle space and for monitoring and protecting the information infrastructure from malicious activities. This effort will provide naval forces a secure capability and basis in its achievement of protection from unauthorized access and misuse, and optimized IA resource allocations in the information battle space. This program will also develop core technology to: (1) improve network infrastructure resistance and resiliency to attacks; (2) enable the rapid development and certification of security-aware applications and information technologies in accordance with the Common Criteria for IA and IA-enabled information technology products by the National Security Telecommunications and Information Systems Security Instructions; and (3) measure the effectiveness and efficiency of IA defensive capabilities under naval environments.

The program will develop common architectural frameworks that facilitate integration of network security capabilities, enable effective seamless interoperation, and contribute to a common consistent picture of the networked environment with respect to information assurance and security. This effort will address the need for a common operational picture for IA, as well as assessment of security technology critical to the success of the mission. This effort will also initiate requirements definition for situational awareness capabilities to support computer network defense in a highly-distributed, homogeneous, and heterogeneous networks including mobile and embedded networked devices. This effort also includes the architectural definition of situational awareness and visualization capabilities to support active computer network defense and support underlying data mining and correlation tools. This includes addressing the capability to remotely manage and securely control the

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303140N / *Information Sys Security Program*	**Project (Number/Name)** 3230 / *Information Assurance*

configurations of network security components to implement changes in real time or near real time. Program will also initiate requirements definition for secure coalition data exchange and interoperation among security levels and classifications, and ensure approaches address various security level technologies as well as emerging architectural methods of providing interoperability across different security levels. Examine multi-level aware applications and technologies including databases, web browsers, routers/switches, etc. Efforts will also initiate infrastructure protection efforts as the Navy develops network centric architectures and warfare concepts, ensuring an evolutionary development of security architectures and products for IA that addresses Navy infrastructure requirements. IA will ensure the architectures evolve to provide proper protection as technology, DoD missions, and threats continuously evolve. IA includes defensive protections as well as intrusion monitoring (sensors), warning mechanisms, and response capabilities in the architecture. Ensure the unique security and performance requirements of tactical systems, including those operating various security levels are addressed. Also, the program will initiate the efforts to conceptualize new network centric warfare technology to protect our assets, such as secure network gateways, routers, components and tools that improve the survivability of Navy networks. Last, IA will provide systems security engineering, certification and accreditation support for high-confidence naval information systems and ensure certification and accreditation approaches are consistent with Navy and DoD requirements.

FY15 : Continue development of new network security demands addressing nation-state level sponsored activity. Incorporate security services to thwart Denial of Network Service (DNS) attacks, distributed denial of service, botnet and other sophisticated attacks.

Increase in funding supports the Weaselboard Program which is addressing an urgent Speed to Fleet initiative to assess the health and protection of shipboard systems and identify anomalous activity with Shipboard Supervisory Control and Data Acquisition (SCADA) information.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Information Assurance (IA)	2.439	2.401	3.882
Articles:	-	-	-

FY 2013 Accomplishments:
Continued the development of new network security technology focused on addressing nation-state level sponsored activity. Successfully characterizing certain attacks/profiles to increase detection rates of the technology- focusing on embedded malicious code and exfiltration of data from host environments. Continued development of attribution technology, focusing on nation-state activities across network boundaries that obfuscate traffic using techniques such as anonymization. Continued the development of a new high assurance boundary controller to protect Navy and Marine Corps data and resources from attack incorporating security services to thwart Denial of Network Service (DNS) attacks, distributed denial of service attacks, and botnet attacks, as well as sophisticated attacks to control the core, operating environment and ensuring essential robust communications are available through the boundary controller to provide continuity of operations during nation state sponsored attacks. Incremental technology demonstrated in representative Navy networks. Continued the development of mobile security techniques that introduce time- and location-based security parameters for geo-location and asset protection and management addressing the specific issues of geo-location and mapping in Global Positioning System (GPS)-constrained environments. Continued the development of critical cryptographic technology to support Navy unique platforms and requirements, such as Unmanned Autonomous Systems (UASs) ensuring the technology addresses the limited size, weight and power issues, and multiple data

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303140N / *Information Sys Security Program*	**Project (Number/Name)** 3230 / *Information Assurance*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
classification processing requirements, as well as providing on-the-fly programmability of mission data and key material to support various missions. Several critical milestones (e.g., PDR) achieved. Continued systems security engineering, certification and accreditation support for high-confidence naval information systems and ensure certification and accreditation approaches are consistent with Navy and DoD requirements. Continued development of a security framework for a federated cross-domain service oriented architecture (SOA) ensuring the framework addresses all critical aspects of SOA including cross-domain service discovery, identity management, and service invocation, while minimizing inference attacks. Continued the development of a security framework for mobile communication devices that allows the use/integration of commercial technology in a secure manner with initial efforts focusing on identity management, secure data storage, processing and exchange.			
FY 2014 Plans: Continue the development of new network security technology focused on addressing nation state level sponsored activity. Continue the development of a security framework for a federated, cross-domain SOA ensuring the framework addresses all critical aspects of SOA including cross-domain service discovery, identity management, and service invocation, while minimizing inference attacks. Continue the development of a security framework for mobile communication devices that allows the use/integration of commercial technology in a secure manner, such as to support the integration of Droid and/or iPhone devices. Continue the efforts focused on identity management and secure data storage, processing and exchange. Continue the development of mobile security techniques that introduce time and location based security parameters for geo-location and asset protection and management while addressing the specific issues of geo-location and mapping in GPS-constrained environments. Continue the development of critical cryptographic technology to support Navy unique platforms and requirements such as UAS ensuring the technology addresses the limited size, weight and power issues, and multiple data classification processing requirements, while as providing on-the-fly programmability of mission data and key material to support various missions such as COMSEC, ELINT, SIGINT, etc. Continue systems security engineering, certification and accreditation support for high-confidence naval information systems and ensure certification and accreditation approaches are consistent with Navy and DoD requirements. Complete the characterization of attacks/profiles to increase detection rates of the technology, especially for identifying new/emerging malicious code. Complete the development of attribution technology, focusing on nation-state activities across network boundaries that obfuscate traffic using techniques such as anonymization. Complete the incorporation of security services to thwart DNS attacks, distributed denial of service attacks, and botnet attacks, as well as sophisticated attacks to control the core operating environment. Initiate the development of new sensing and instrumentation technology to support attack prediction and to measure the effectiveness of network security technology. Initiate the development of technology to provide prediction/early warning sensing of impending attacks based on network traffic and user behavior.			
FY 2015 Plans: Continue at a reduced level of effort the development of a security framework for mobile communication devices. Emphasize addressing the security issues associated with bring-your-own-device/bring-your-own-application (BYOD/BYOA), such as to support the integration of Droid and/or iPhone devices. Continue at a reduced level of effort the development of new network			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303140N / *Information Sys Security Program*	**Project (Number/Name)** 3230 / *Information Assurance*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
security technology focused on addressing nation state level sponsored activity. Continue at a reduced level of effort the development of enabling technology building blocks for identity management and secure data storage, processing and exchange. Initiate and complete the Weaselboard Project to study and assess vulnerabilities with Shipboard Supervisory Control and Data Acquisition (SCADA) information which conducts an operational demonstration on a Naval platform.			
Accomplishments/Planned Programs Subtotals	2.439	2.401	3.882

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Protection of Navy and joint information from hostile exploitation and attack.

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303150M *I WWMCCS/GLOBAL COMMAND AND CONTROL 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	0.000	0.071	-	0.296	-	0.296	0.296	-	-	-	-	0.663
4041: *Global Force Mgmt - DI (GFM-DI) for Global Cmd and Cont Sys (GCCS)*	0.000	0.071	-	0.296	-	0.296	0.296	-	-	-	-	0.663

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

A. Mission Description and Budget Item Justification

PE 0303150M reflects a portion of the Global Force Management-Data Initiative (GFM-DI) advocated by the VCJCS. Funding enhancements support GFM-DI implementation of the Force Management and Adaptive Planning Processes by FY13 and Financial, Health Records, and Information Assurance by FY16.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	0.500	-	0.307	-	0.307
Current President's Budget	0.071	-	0.296	-	0.296
Total Adjustments	-0.429	-	-0.011	-	-0.011
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.071	-			
• SBIR/STTR Transfer	-0.001	-			
• Rate/Misc Adjustments	0.001	-	-0.011	-	-0.011
• Congressional Recision Adjustments	-0.357	-	-	-	-
• Congressional General Reductions Adjustments	-0.143	-	-	-	-

Change Summary Explanation

The lack of funding in FY14 is due to program adjustments which realigned resources to FY15 and FY16 for more efficient execution.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0303150M / *WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM*	Project (Number/Name) 4041 / *Global Force Mgmt - DI (GFM-DI) for Global Cmd and Cont Sys (GCCS)*	

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
4041: *Global Force Mgmt - DI (GFM-DI) for Global Cmd and Cont Sys (GCCS)*	-	0.071	-	0.296	-	0.296	0.296	-	-	-	-	0.663
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

Global Command and Control System (GCCS) consists of Command and Control (C2) subsystems which provide Combatant Commanders, the Joint Staff and other Tactical Commanders a near real time picture of the battle space necessary to conduct joint and multinational operations of U.S. Military Forces. This effort specifically supports developmental efforts for Global Force Management-Data Initiative (GFM-DI). GFM-DI will make force structure authorization data visible, accessible and understandable across the Department and will provide the authoritative data source for all DoD force structure as directed by Joint Planning Guidance VII, dated June 2006.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Joint Forces Requirements Generator (JFRG)	0.071	-	0.296
Articles:	-	-	-
FY 2013 Accomplishments: Supported Joint Forces Requirements Generator (JFRG) II/MAGTF Deployment Support System (MDSS) II ECP development.			
FY 2014 Plans: N/A			
FY 2015 Plans: Funds for modernization effort to incorporate Global Force Management-Data Center (GFM-DC) data elements.			
Accomplishments/Planned Programs Subtotals	0.071	-	0.296

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This will be a phased implementation led by the Joint Staff J8 Models and Analysis Support Office (MASO).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303150M / *WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM*	**Project (Number/Name)** 4041 / *Global Force Mgmt - DI (GFM-DI) for Global Cmd and Cont Sys (GCCS)*

E. Performance Metrics

Technical: This exhibit reflects a break-out of GFM-DI efforts into unique USMC PE's.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0303150M / *WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM*	**Project (Number/Name)** 4041 / *Global Force Mgmt - DI (GFM-DI) for Global Cmd and Cont Sys (GCCS)*

JFRG Program Schedule

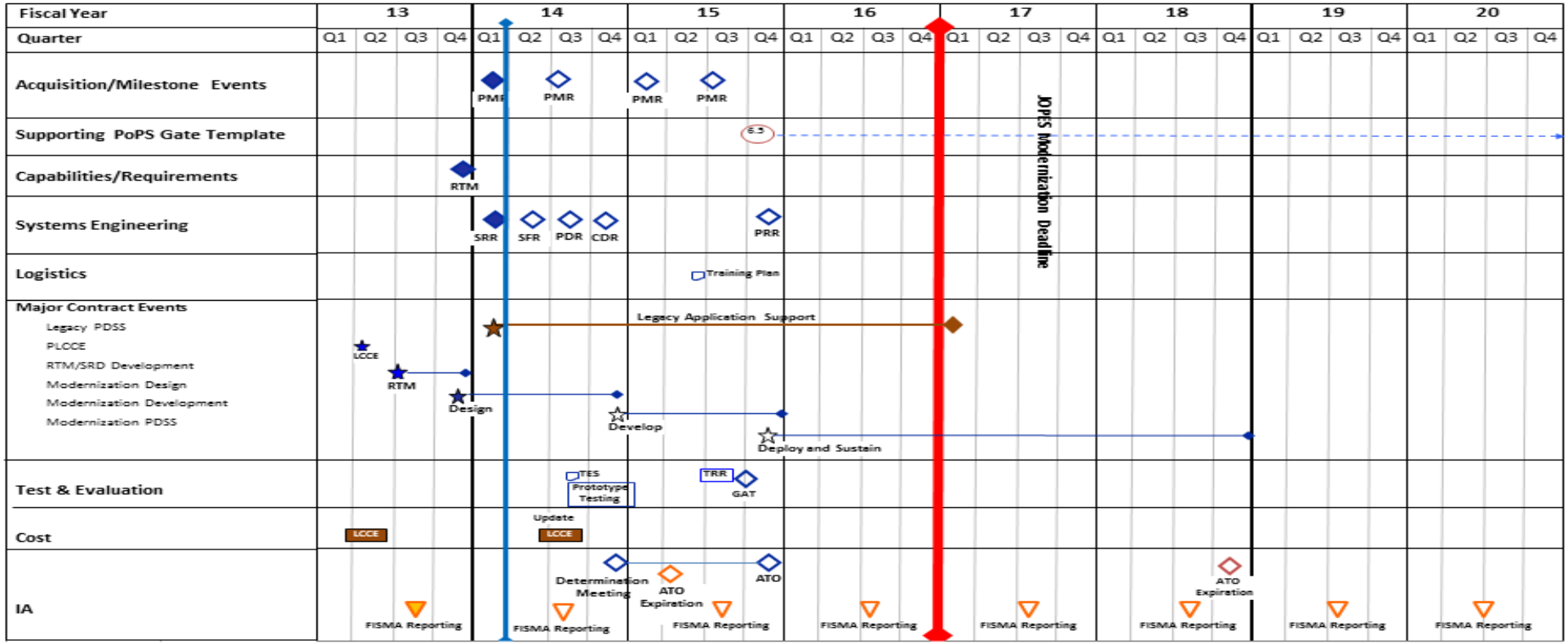


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305149N *I Cobra Judy*							
COST ($ in Millions)	**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	837.369	14.460	-	-	-	-	-	-	-	-	-	851.829
4021: *CJR System Engineering*	837.369	14.460	-	-	-	-	-	-	-	-	-	851.829
MDAP/MAIS Code: 365												

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

A. Mission Description and Budget Item Justification

Cobra Judy Replacement funds will replace the current U.S. Naval Ship (USNS) Observation Island which has become unsustainable and due to leave service in 2014. This program funds the development of a single ship-based radar suite for ballistic missile treaty verification. Cobra Judy provides monitoring and verification of specific aspects of United States treaties with other countries. It is necessary to replace the current Cobra Judy to prevent any potential gap in coverage. Prior studies have indicated that a ship-based radar replacement is the most timely and cost effective solution. This program is joint-funded.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	17.091	-	-	-	-
Current President's Budget	14.460	-	-	-	-
Total Adjustments	-2.631	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.150	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-0.001	-	-	-	-
• Congressional General Reductions Adjustments	-1.480	-	-	-	-

Change Summary Explanation

Schedule:
- ME Ship Integration moved from 4th Qtr FY11 to 2nd Qtr FY 13
- Ship Delivery moved from 3rd Qtr FY11 to 2nd Qtr FY12
- Tech Eval moved from 1st Qtr FY13 to 2nd Qtr FY13
- FY 2013 reductions reflect Congressionally mandated sequestration and general reductions.

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305149N *I Cobra Judy*

- Program ends in FY13

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305149N / *Cobra Judy*	Project (Number/Name) 4021 / *CJR System 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
4021: *CJR System Engineering*	837.369	14.460	-	-	-	-	-	-	-	-	-	851.829
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

Cobra Judy Replacement funds will replace the current U.S. Naval Ship (USNS) Observation Island which has become unsustainable and due to leave service in 2014. This program will fund the development of a single ship-based radar suite for ballistic missile treaty verification. Cobra Judy provides monitoring and verification of specific aspects of United States treaties with other countries. It is necessary to replace the current Cobra Judy to prevent any potential gap in coverage. Prior studies have indicated that a ship-based radar replacement is the most timely and cost effective solution. This program is joint-funded.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: SYSTEMS ENGINEERING	3.684	-	-
Articles:	-	-	-
FY 2013 Accomplishments: - Integration of non-prime mission equipment			
FY 2014 Plans: N/A			
FY 2015 Plans: N/A			
Title: TEST AND EVALUATION	10.776	-	-
Articles:	-	-	-
FY 2013 Accomplishments: - Radar & ship integration and test - Ship crew contracts after ship delivery			
FY 2014 Plans: N/A			
FY 2015 Plans: N/A			
Accomplishments/Planned Programs Subtotals	14.460	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305149N / *Cobra Judy*	**Project (Number/Name)** 4021 / *CJR System Engineering*

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
• 0303901N/4003: *Cobra Judy Replacement*	14.586	-	-	-	-	-	-	-	-	-	142.300

Remarks

D. Acquisition Strategy

The acquisition strategy calls for leveraging ongoing Navy Ballistic Missile Defense (BMD) radar development, updating existing user interface/communications/data handling equipment designs from a similar operational unit and purchasing and integrating the mission equipment aboard an appropriate merchant-class hull. System design will be accomplished using in-hand technologies and commercial standards to lower schedule risk and produce a product with the lowest possible life-cycle cost.

E. Performance Metrics

-Successfully complete Design Reviews & MDA-Level Reviews
-Successfully complete Initial Operational Capability (IOC)
-Successfully complete X-Band Development
-Successfully complete S-Band Radar Development
-Successfully complete Mission Equipment String Integration
-Successfully complete ME Ship Integration
-Successfully complete Mission Communications Suite Lightoff
-Ship Delivery
-Successfully complete TECHEVAL/Post Delivery Test & Trails
-Successfully complete Operational Test & Readiness Review (OTRR)
-Successfully complete IOT&E Initial Operational Test OPEVAL

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305160N *I Navy Meteorological and Ocean Sensors-Space(METOC)*							
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	0.820	0.738	0.742	0.359	-	0.359	0.645	60.650	0.661	0.680	Continuing	Continuing
0524: *Navy METOC Support (SPACE)*	0.820	0.738	0.742	0.359	-	0.359	0.645	0.641	0.661	0.680	Continuing	Continuing
1452: *GEO SAT*	0.000	-	-	-	-	-	-	60.009	-	-	-	60.009

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

A. Mission Description and Budget Item Justification

This program element supports the Navy's requirements in meteorological and oceanographic (METOC) space-based remote sensors. These requirements include commitments to satellite, sensor, and operational demonstration/development activities as well as the transition to fleet applications associated with three satellite programs: 1) the joint Defense Meteorological Satellite Program (DMSP), 2) the jointly funded Coriolis satellite which includes Navy Satellite Based Wind Speed (WindSat) and Air Force Solar Mass Ejection Imager instruments, 3) the Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2) altimetry satellite funded entirely by Navy.

The Navy METOC Space-Based Sensing Capabilities project provides for Navy participation in Navy/Air Force cooperative efforts leading to DMSP sensor development, and specifically participation in the calibration and validation of instruments and delivery of satellite products to the fleet. The passive microwave instruments carried on the DMSP satellites provide global and atmospheric data of direct operational relevance, including sea surface wind, sea ice, and precipitation. WindSat is a partnered program that meets multiple naval remote sensing requirements and provides a significant risk reduction for the Joint Polar Orbiting Satellite System (JPSS) satellites' Microwave Imaging Sensor instrument.

The GEOSAT Follow-On project, and GFO-2 program, will provide a polar-orbiting satellite that measures sea surface topography using a precise altimeter. Both the GEOSAT Follow-On and Navy METOC Support (Space) projects fulfill Navy's obligation to develop naval service-unique, mission critical space-based METOC technology.

Starting in FY12 the Navy has delayed all GFO-2 altimetry satellite development efforts until FY 2017.

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 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0305160N *I Navy Meteorological and Ocean Sensors-Space(METOC)*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	0.810	0.742	0.885	-	0.885
Current President's Budget	0.738	0.742	0.359	-	0.359
Total Adjustments	-0.072	-	-0.526	-	-0.526
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.004	-			
• Rate/Misc Adjustments	-	-	-0.526	-	-0.526
• Congressional General Reductions Adjustments	-0.068	-	-	-	-

Change Summary Explanation

Schedule: The Navy has delayed all Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2) altimetry satellite development efforts until FY 2017.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305160N / *Navy Meteorological and Ocean Sensors-Space(METOC)*	Project (Number/Name) 0524 / *Navy METOC Support (SPACE)*	

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
0524: *Navy METOC Support (SPACE)*	0.820	0.738	0.742	0.359	-	0.359	0.645	0.641	0.661	0.680	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 Meteorology and Oceanography (METOC) Space-Based Sensing Capabilities project provides for the naval service's unique sensor development efforts Navy Satellite Based Wind Speed (WindSat) and Navy participation in the Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave/Imager and Special Sensor Microwave Imager Sounder calibration/validation efforts in support of the fleet operational requirements. WindSat, an initiative begun in 1997, is a partnered program that meets multiple naval remote sensing requirements and provides a significant risk reduction for the Joint Polar Satellite System (JPSS) satellites' Conical Microwave Imaging Sensor instrument. The passive microwave instruments carried on DMSP and future JPSS satellites provide global oceanic and atmospheric data of direct operational relevance, including sea surface wind speed, sea ice, and precipitation.

The METOC Space-Based Sensing Capabilities project ensures the naval service's operational requirements are satisfied primarily through demonstration of technologies for inclusion on operational constellations such as DMSP, the JPSS and the National Oceanic and Atmospheric Administration's Geostationary Operational Environmental Satellites (GOES). These efforts fulfill naval service unique requirements that are not funded within the DMSP, JPSS or GOES programs, and are in accordance with current inter-agency agreements.

The primary focus of the FY 2015 request is to continue assessment of other national, commercial, and foreign earth observing satellite system's sensor data for use in Navy Atmospheric and Oceanographic Prediction Models.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: METOC Space-Based Sensing Capabilities	0.738	0.742	0.359
Articles:	-	-	-
FY 2013 Accomplishments: Continued performance assessment on National Polar-orbiting Operational Environmental Satellite System Preparatory Project (NPP) and DMSP satellite sensor suites. Conducted assessment of planned JPSS sensors for use in Navy Operational Environmental predictive models. Began assessment of other national, commercial, and foreign earth observing satellite system's sensor data for use in Navy Atmospheric and Oceanographic Prediction Models.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305160N / *Navy Meteorological and Ocean Sensors-Space(METOC)*	**Project (Number/Name)** 0524 / *Navy METOC Support (SPACE)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue performance assessment on National Polar-orbiting Operational Environmental Satellite System Preparatory Project (NPP) and Defense Meteorological Satellite Program (DMSP) satellite sensor suites. Continue assessment of planned Joint Polar Satellite System (JPSS) sensors and assessment of other national, commercial, and foreign earth observing satellite system's sensor data for use in Navy Atmospheric and Oceanographic Prediction Models. ***FY 2015 Plans:*** Continue assessment of planned national earth observing satellite system's sensor data, specifically the JASON sensors, for use in Navy Atmospheric and Oceanographic Prediction Models.			
Accomplishments/Planned Programs Subtotals	0.738	0.742	0.359

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/0603207N/2342: *METOC DATA ASSIMILATION AND MOD*	10.242	10.250	4.937	-	4.937	8.154	8.352	8.709	9.669	Continuing	Continuing
• OPN/4226: *Meteorological Equipment*	17.790	19.118	12.575	-	12.575	14.947	15.834	16.512	16.549	Continuing	Continuing

Remarks

D. Acquisition Strategy

Naval service unique, space based Meteorology and Oceanography (METOC) requirements. Particular sensors or data sources with unique naval service mission needs are targeted to accelerate acquisition or ensure threshold accomplishment of Joint or converged national program plans. Navy Satellite Based Wind Speed provides risk reduction data and developmental technology that the Joint Polar Satellite System (JPSS) program will use in the development of the Conical Microwave Imager Sounder (CMIS). CMIS will collect global microwave radiometry and sounding data to produce microwave imagery and other meteorological and oceanographic data. CMIS can be viewed as the follow-on instrument to the Special Sensor Microwave (SSM) instruments Navy developed for the Defense Meteorological Satellite Program. These CMIS sensors will be acquired as part of the JPSS architecture which supports these Navy requirements in the future. Maintenance of rigorous sensor calibration and data validation for operational SSM instruments continues along with algorithm development in support of fleet applications. The Advanced Altimeter technologies will improve radar altimeter resolution and aerial coverage to support Navy requirements for sea surface topography measurement in the littorals.

E. Performance Metrics

Goal: Provide precise and near real-time METOC forecasting to the warfighter using existing and future space-based satellite derived data, including ocean surface wind speed, rain rate, ice concentration, and soil moisture measurements.
Metric: Provide precise ocean surface wind speed within plus or minus 2.0 meters per second, the rain over land and ocean rate within plus or minus 5.0 millimeters per hour, soil moisture measurements within plus or minus 10%; and sea ice concentrations within plus or minus 10%.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305160N / *Navy Meteorological and Ocean Sensors-Space(METOC)*	Project (Number/Name) 1452 / *GEO SAT*	

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
1452: *GEO SAT*	-	-	-	-	-	-	-	60.009	-	-	-	60.009
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 a Polar-orbiting satellite (the Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2)) that measures sea surface topography using a precise altimeter. Mission data will be collected by the Spacecraft Operations Center and passed to the Payload Operations Center, and Altimetry Data Fusion Center, which are co-located at the Naval Oceanographic Office, Stennis Space Center, MS. Mission data is used in global and regional scale ocean forecast models. GFO-2 will provide a capability for precise mesoscale (e.g., fronts and eddies) and basin-scale oceanography. This capability will support tactical anti-submarine warfare, mine warfare, naval special warfare mission planning, tactical decision aids, and sensor/weapon performance prediction. GFO-2 will also provide an undersea warfare battlespace characterization capability that supports submarine detectability, weapon settings, sound velocity profiles, tropical cyclone intensity, and track forecasts.

GFO-2 data will be made freely available to other agencies, such as the National Oceanic and Atmospheric Administration and the National Aeronautics and Space Administration, who value its input to studies involving global warming and climate change, including El Nino Southern Oscillation effects.
Ocean topography data was previously provided by GEOSAT from 1985 until the satellite failed in January 1990. The Geodetic/geophysical Satellite Follow-On satellite was launched in February 1998 and deorbited in November 2008. The GEOSAT GFO-2 will provide for the continuation of this capability.

The Navy has delayed all Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2) altimetry satellite development efforts until FY 2017.

B. Accomplishments/Planned Programs ($ in Millions)

N/A

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Navy will revise Acquisition Strategy to support restart in FY17.

E. Performance Metrics

Goal: Provide Meteorology and Oceanography (METOC) GEOSAT derived mission data to improve the accuracy of global and regional scale oceanographic forecast models.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305160N / *Navy Meteorological and Ocean Sensors-Space(METOC)*	**Project (Number/Name)** 1452 / *GEO SAT*

Metric: Anti-Submarine Warfare capability is highly dependent on the operational environment. GEOSAT Follow-On 1 demonstrated that a space based altimeter provided the equivalent of approximately a 500-fold increase in available subsurface observations and a 10-fold increase in available surface observations, critical to characterization of the ocean environment and oceanographic modeling. War-gaming models show that this increased knowledge of the subsurface acoustic propagation resulting from one altimeter reduced the probability of losing a ship to subsurface attack from 80% to 20% for various scenarios.

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305192N *I JT Military Intel Programs*							
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	7.962	4.799	6.166	-	6.166	6.257	6.322	6.396	6.525	Continuing	Continuing
2295: *JDISS/LOCE Integration*	0.000	7.962	4.799	6.166	-	6.166	6.257	6.322	6.396	6.525	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The details of this program element are classified CONFIDENTIAL and are submitted annually to Congress in the classified budget justification books.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	8.617	4.804	5.210	-	5.210
Current President's Budget	7.962	4.799	6.166	-	6.166
Total Adjustments	-0.655	-0.005	0.956	-	0.956
• Congressional General Reductions	-	-0.005			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	1.350	-	1.350
• Rate/Misc Adjustments	0.001	-	-0.394	-	-0.394
• Congressional General Reductions Adjustments	-0.656	-	-	-	-

Change Summary Explanation

Technical: Not applicable.
Schedule: 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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305204N *I Tactical Unmanned Aer Vehicles*							
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	173.929	6.956	8.381	8.505	-	8.505	8.624	8.873	8.977	9.148	Continuing	Continuing
2478: *Tactical Control System*	173.929	6.956	8.381	8.505	-	8.505	8.624	8.873	8.977	9.148	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

Tactical Unmanned Aerial Vehicle is a Joint Military Intelligence Program

This Program Element (PE) includes joint tactical Unmanned Aerial Vehicle system support for DoD to provide the warfighters with the capability for day/night aerial Reconnaissance, Surveillance and Target Acquisition, intelligence, communications/data relay, and minefield detection. This PE includes the Tactical Control System (TCS) which provides a multi-level, scalable, and flexible control of the air vehicles and payloads, as well as direct receipt and dissemination of unmanned aerial vehicles sensor data.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	9.066	8.381	8.513	-	8.513
Current President's Budget	6.956	8.381	8.505	-	8.505
Total Adjustments	-2.110	-	-0.008	-	-0.008
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-0.008	-	-0.008
• Congressional General Reductions Adjustments	-0.610	-	-	-	-
• Congressional Directed Reductions Adjustments	-1.500	-	-	-	-

Change Summary Explanation

Schedule:
Updated Tactical Control System schedule to coincide with MQ-8 Fire Scout schedule milestones.

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305204N *I Tactical Unmanned Aer Vehicles*

VTUAV related milestones
Revised milestone terminology: Aligns with Navy decision to transition MQ-8 Endurance Upgrade, Radar, and Weapons capabilities into the MQ-8 Program of Record. Added schedule events for Anti Submarine Warfare/Mine Counter-Measure/Surface Warfare to support Littoral Combat Ship mission package integration, Quick Reaction Assessments, DDG-51 Test, and updated production and delivery schedules across FYDP.

Technical: None

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305204N / *Tactical Unmanned Aer Vehicles*	Project (Number/Name) 2478 / *Tactical Control 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
2478: *Tactical Control System*	173.929	6.956	8.381	8.505	-	8.505	8.624	8.873	8.977	9.148	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 supports the Tactical Control System (TCS), a standards-based system, that provides interoperability and commonality for Command and Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance interfaces of Unmanned Aircraft Systems (UAS). TCS software, operating on Ground Control Station hardware, utilizes North Atlantic Treaty Organization (NATO) Standardization Agreements (STANAG)-4586 architecture communicating across a Tactical Common Data Link.

TCS provides a full range of scalable UAS capabilities from passive receipt of air vehicle and payload data to full air vehicle and payload command and control. TCS offers the war fighter a common core operating environment to simultaneously receive, process, and disseminate data from different UAS types for intelligence, reconnaissance, surveillance, and combat assessment.

This program supports enhancements and updates to TCS in order to continue to meet supported air vehicle enhancements, incorporation of new technologies that will be used to enhance overall system performance, incorporate new payloads and payload capabilities (such as advanced sensors and weapons), incorporate multi-vehicle control, incorporate NATO STANAG-4586 and Command, Control, Communications, Computers and Intelligence enhancements, and alignment with OSD direction for UAS control segments.

TCS software is incorporated into the MQ-8 Fire Scout system and fields in conjunction with MQ-8. TCS software addresses MQ-8 requirements validated by the Joint Requirements Oversight Council in the VTUAV Capability Production Document (May 2007) and multiple Joint Emergent Operational Need/Urgent Operational Needs statements. TCS supported by a Operational Requirements Document (Feb 2000).

TCS maximizes the use of contractor and government off-the-shelf hardware and software whenever possible and incorporates software/hardware enhancements where appropriate to maintain growth potential and minimize hardware and operating system dependence. TCS software is interoperable and is compliant with the OSD Command and Control, Communications, Intelligence Joint Technical Architecture, Distributed Common Ground System standards, Global Command and Control System (GCCS), and NATO standards. TCS hardware and software upgrades will support the Navy's Common Control System migration.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: TCS Development and Integration	6.211	7.727	7.846
Articles:	-	-	-
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305204N / *Tactical Unmanned Aer Vehicles*	**Project (Number/Name)** 2478 / *Tactical Control System*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue TCS integration with MQ-8 development and Rapid Deployment Capability efforts. Continue new TCS capabilities to support requirements for Littoral Combat Ship Integration. Continue TCS NATO STANAG 4586 compliance. Continue TCS C4ISR interface integration & testing. Complete flight testing of hardware and operating system independence initiatives. Complete UAS weapons control and continue RADAR, Special Operation Forces (SOF) payloads, Navy payload integration, and MQ-8 Endurance Upgrade integration. Continue technology refresh, LINUX transition, and move to service oriented architecture. ***FY 2014 Plans:*** Continue Tactical Control System (TCS) integration with MQ-8 development. Continue new TCS capabilities to support requirements for Littoral Combat Ship (LCS) efforts. Continue TCS STANAG 4586 compliance. Continue TCS C4ISR interface integration and testing for MQ-8 systems. Continue hardware and operating system independence initiatives. Continue RADAR, SOF payloads, Navy payload integration, MQ-8 Endurance Upgrade Integration, and commence Common Control Software Integration. ***FY 2015 Plans:*** Continue TCS integration and test with MQ-8 development. Continue new TCS capabilities to support requirements for LCS efforts. Continue TCS STANAG 4586 compliance. Continue TCS C4ISR interface integration and testing for MQ-8 systems. Continue hardware and operating system independence initiatives. Continue Radar, SOF payloads, Navy payload integration, MQ-8 Endurance Upgrade Integration, and continue Common Control System integration and demonstrations. Continue technology refresh, LINUX transition, and move to service oriented architecture.			
Title: Technical and Engineering Services	0.745	0.654	0.659
Articles:	-	-	-
FY 2013 Accomplishments: Continue government engineering support, contractor support, program support, and travel for the TCS program. ***FY 2014 Plans:*** Continue government engineering support, contractor support, program support, and travel for the TCS program. ***FY 2015 Plans:*** Continue government engineering support, contractor support, program support, and travel for the TCS program.			
Accomplishments/Planned Programs Subtotals	6.956	8.381	8.505

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305204N / *Tactical Unmanned Aer Vehicles*	**Project (Number/Name)** 2478 / *Tactical Control System*

D. Acquisition Strategy

The Tactical Control System (TCS) program is Government owned, non-proprietary software that currently supports the Fire Scout program. The TCS program continues to focus on Navy requirements and standards based on interoperability. Government-owned TCS software development toolkit is available to all UAS developers and manufacturers that allows a low-cost integration into the open architecture non-proprietary TCS system. TCS will provide software modules to the Navy Common Control System (CCS) and the TCS tech refresh hardware will support migration to CCS software.

E. Performance Metrics

Successfully complete the Coastal Battlefield Reconnaissance and Analysis Navy payload integration. Support MQ-8C Endurance Upgrade, Radar, and Weapons Rapid Deployment Capabilities and transition of those capabilities into the MQ-8 Program of Record. Successfully complete Littoral Combat Ship Integration. Complete Developmental and Operational Test. Successfully complete MQ-8 Weapons Rapid Deployment Capability Integration.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305204N / *Tactical Unmanned Aer Vehicles*	**Project (Number/Name)** 2478 / *Tactical Control System*

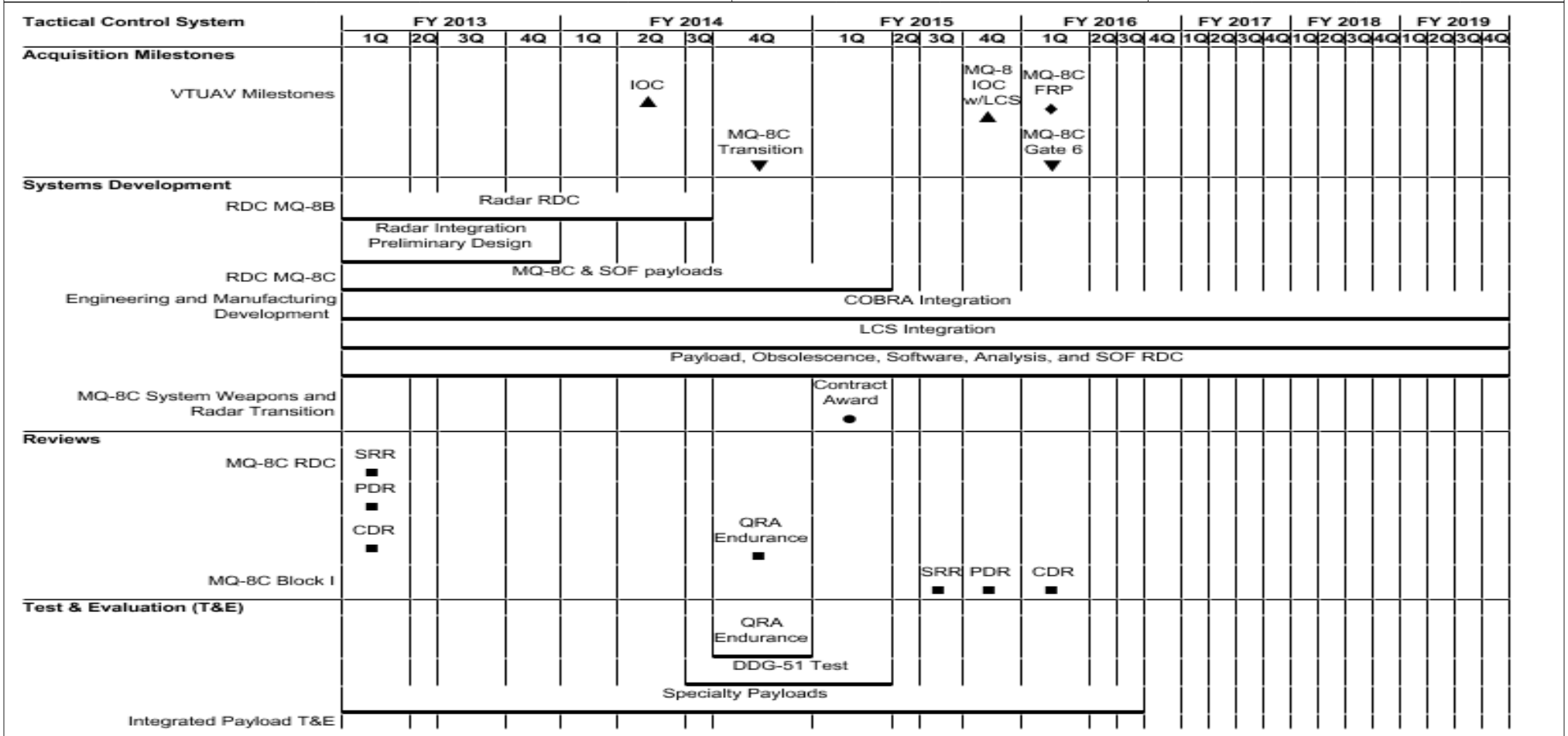
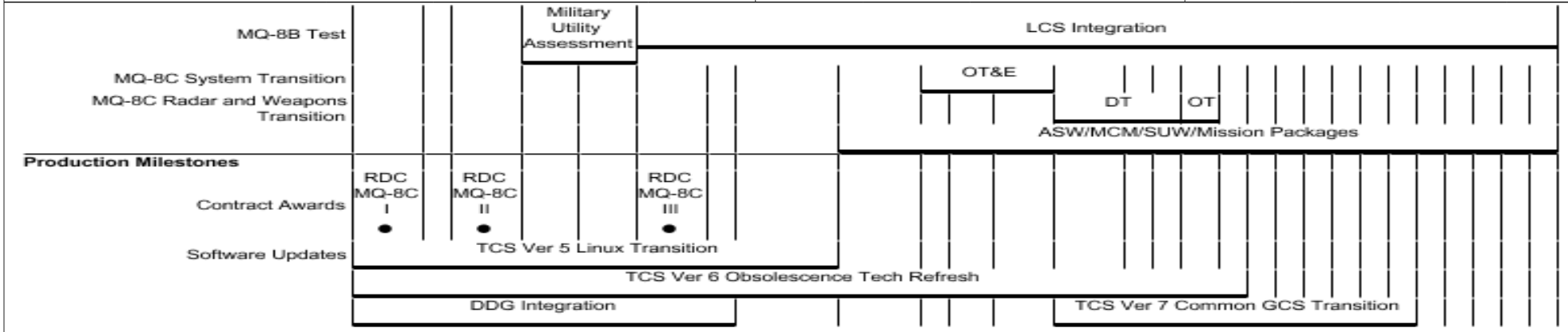


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305204N / *Tactical Unmanned Aer Vehicles*	**Project (Number/Name)** 2478 / *Tactical Control System*



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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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305207N *I Manned Reconnaissance 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
Total Program Element	0.000	28.099	-	-	-	-	-	-	-	-	-	28.099
0117: *Reef Point*	0.000	10.931	-	-	-	-	-	-	-	-	-	10.931
3329: *Multi Intelligence Sensor Development*	0.000	17.168	-	-	-	-	-	-	-	-	-	17.168

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

A. Mission Description and Budget Item Justification

The details of this program element are classified SECRET and are submitted annually to Congress in the classified budget justification books.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	30.654	-	-	-	-
Current President's Budget	28.099	-	-	-	-
Total Adjustments	-2.555	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.001	-	-	-	-
• Congressional General Reductions Adjustments	-2.556	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305207N / *Manned Reconnaissance Sys*	Project (Number/Name) 0117 / *Reef Point*	

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
0117: *Reef Point*	-	10.931	-	-	-	-	-	-	-	-	-	10.931
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

A. Mission Description and Budget Item Justification

The details of this program element are classified SECRET and are submitted annually to Congress in the classified budget justification books.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0305207N / *Manned Reconnaissance Sys*				Project (Number/Name) 3329 / *Multi Intelligence Sensor 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**
3329: *Multi Intelligence Sensor Development*	-	17.168	-	-	-	-	-	-	-	-	-	17.168
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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

A. Mission Description and Budget Item Justification

The details of this program element are classified SECRET and are submitted annually to Congress in the classified budget justification books.

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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305208M *I (U)Distributed Common Ground/Surface 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	30.643	26.540	5.527	11.613	-	11.613	1.123	0.161	0.254	0.289	Continuing	Continuing
2268: *Distributed Common Ground System (DCGS-MC)*	30.643	26.540	5.527	11.613	-	11.613	1.123	0.161	0.254	0.289	Continuing	Continuing

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

Note

Effective FY 2014 the Increment II Advanced Analytics/All Source capability was realigned to Intelligence Analysis System (PE 0206625M). Effective FY 2015 the Joint Surveillance Target Attack Radar System (JSTARS) capability (PE 0206625M) is subsumed by DCGS-MC. Topographic Production Capability (TPC) and Tactical Exploitation Group (TEG) have merged into DCGS-MC. Funding for these efforts under PE 0206625M has been realigned to DCGS-MC PE 0305208M effective FY 2011.

A. Mission Description and Budget Item Justification

DCGS-MC, in compliance with the Department of Defense DCGS Family of Systems (FOS) concept, is a service-level effort to migrate select USMC Intelligence, Surveillance and Reconnaissance (ISR) processing and exploitation capabilities into a single, integrated, net-centric baseline that will be interoperable with other services and agencies.

Multiple functional capability sets will be configured to support Marine intelligence analysts across the Marine Air-Ground Task Force (MAGTF). The goal of DCGS-MC is to make external and internal ISR data more visible, accessible, and understandable.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	25.917	5.535	11.850	-	11.850
Current President's Budget	26.540	5.527	11.613	-	11.613
Total Adjustments	0.623	-0.008	-0.237	-	-0.237
• Congressional General Reductions	-	-0.008			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.801	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-0.237	-	-0.237
• Congressional General Reductions Adjustments	-2.178	-	-	-	-

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305208M *I (U)Distributed Common Ground/Surface Systems*

Change Summary Explanation

The funding decrease from FY 2013 to FY 2014 is attributed to the achievement of Milestone C in 2QFY14 and reduced Engineering and Manufacturing Development efforts for Increment 1 (Geospatial Intelligence) in FY 2014. Funding increase from FY 2014 to FY 2015 supports Virtual Imagery Processor - Marine Corps (VIP-MC) engineering and manufacturing development and research, development and testing of geospatial intelligence (GEOINT) optimization efforts, hardware refresh and antenna optimization.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305208M / *(U)Distributed Common Ground/Surface Systems*	Project (Number/Name) 2268 / *Distributed Common Ground System (DCGS-MC)*	

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
2268: *Distributed Common Ground System (DCGS-MC)*	30.643	26.540	5.527	11.613	-	11.613	1.123	0.161	0.254	0.289	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

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

Note

Effective FY 2014 the Increment II Advanced Analytics/All Source capability was realigned to Intelligence Analysis System (PE 0206625M). Effective FY 2015 the Joint Surveillance Target Attack Radar System (JSTARS) capability (PE 0206625M) is subsumed by DCGS-MC.

A. Mission Description and Budget Item Justification

Distributed Common Ground System-Marine Corps DCGS-MC, in compliance with the Department of Defense DCGS Family of Systems concept, is a Service-level effort to migrate select USMC Intelligence, Surveillance and Reconnaissance (ISR) processing and exploitation capabilities into a single, integrated, net-centric baseline that will be interoperable with other Services and Agencies.

Multiple functional capability sets will be configured to support Marine intelligence analysts across the Marine Air-Ground Task Force (MAGTF). The goal of DCGS-MC is to make external and internal ISR data more visible, accessible, and understandable. The funding decrease from FY 2013 to FY 2014 is attributed to the achievement of Milestone C in 2QFY14 and reduced Engineering and Manufacturing Development efforts for Increment 1 (Geospatial Intelligence) in FY 2014. Funding increase from FY 2014 to FY 2015 supports Virtual Imagery Processor - Marine Corps (VIP-MC) engineering and manufacturing development and research, development and testing of geospatial intelligence (GEOINT) optimization efforts, hardware refresh and antenna optimization.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Test and Evaluation	2.022	1.013	3.500
Articles:	-	-	-
FY 2013 Accomplishments: Continued Developmental and Operational Testing and a Technology Readiness Review in support of the Increment I DCGS-MC functionality. Conducted Developmental Testing, OUSD-I Sponsored, System Demonstration/Exercise Participation (ISR related spiral events) and Rapid Technology Insertion opportunities in support of the Increment II DCGS-MC functionality.			
FY 2014 Plans: Conduct Developmental Testing in support of DCGS-MC Increment I System Optimization efforts and Rapid Technology Insertion initiatives. Conduct Developmental Testing in association with OUSD-I C4ISR related Exercises.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208M / *(U)Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 2268 / *Distributed Common Ground System (DCGS-MC)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Initiate Post Milestone C System Engineering Test Review (SETR) activities associated with DCGS-MC capability drops and software integration and associated test events. Simultaneously supports DCGS-MC and VIP-MC test efforts to support commonality of HW/SW baselines across legacy GEOINT systems.			
Title: Product Development	21.323	3.173	5.763
Articles:	-	-	-

FY 2013 Accomplishments:
Continued DCGS-MC Increment I system development supports the migration of legacy GEOINT systems, TEG and TPC, to a common hardware and software baseline. Continued design and planning activities for migrating Advanced Analytics/All-Source capabilities into the DCGS-MC program baseline. Funded DCGS Management Office for continued DIB upgrades and Enterprise technology migration analysis. Continued rapid technology insertion activities for cloud computing, enhancements for structured and un-structured data mining, common hardware and software migration initiatives, multi-level security cross domain solutions expansion and integration opportunities associated with follow-on versions of the DCGS Integration Backbone (DIB). Ongoing efforts to support architechture studies related to intelligence, surveillance, and reconnaissance activities and virtual rapid prototyping lab (VRPL).

FY 2014 Plans:
Continue research and development efforts for DCGS-MC Increment I Geospatial Intelligence (GEOINT) Optimization in pursuit of a Common GEOINT Hardware and Software baseline. Expand services and development associated with the Ozone Widget framework, DCGS-Enterprise StoreFront and CDL enhancements. Continue research and development efforts associated with follow-on versions of the DCGS Integration Backbone (DIB). Continue DCGS-MC Increment I Common Data Link (CDL) optimization and Human Systems Interface (HSI) analysis and refinement. Effective FY14 the Increment II Advanced Analytics/All Source capability will be realigned to Intelligence Analysis System (PE 0206625M). Continuation of efforts to support architecture studies related to intelligence, surveillance, and reconnaissance activities and virtual rapid prototyping lab (VRPL).

FY 2015 Plans:
Continue research and development efforts for DCGS-MC Increment I Geospatial Intelligence (GEOINT) Optimization in pursuit of a Common GEOINT Hardware and Software baseline. Expand services and development associated with the Ozone Widget framework, DCGS-Enterprise StoreFront and CDL enhancements. Continue research and development efforts associated with follow-on versions of the DCGS Integration Backbone (DIB). Continue DCGS-MC Increment I Common Data Link (CDL) optimization between Joint Surveillance Target Attack Radar System (JSTARS) and TWISTER. Initiate development of Virtual Imagery Processor - Marine Corps (VIP-MC) hardware baseline commonality across the Enterprise DIB Services (EDS). Initiate research of Signals Intelligence (SIGINT) capability for insertion to the EDS baseline. Begin to integrate future enhancements(capability drops) into the current DCGS-MC software baseline.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208M / *(U)Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 2268 / *Distributed Common Ground System (DCGS-MC)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Effective FY 2015, JSTARS (PE 0206625M) capability is subsumed into DCGS-MC.			
Title: Management Services - Engineering and Technical Services	0.476	0.600	0.300
Articles:	-	-	-
FY 2013 Accomplishments: Conducted system requirements analysis and review for the second increment of DCGS-MC, integrating All Source capabilities into Program Baseline. Conduct DCGS-MC System Requirements Review (SRR), System/Sub-System Specification (SSS) development and requirements derivation and traceability processes for the Increment II, All Source capability. Identify and process the required engineering changes, due to emergent requirements and security vulnerabilities to the DCGS-MC Increment I Baseline.			
FY 2014 Plans: Continue system requirements analysis and review associated with DCGS-MC Increment I GEOINT Optimization Engineering Change Proposals (ECPs), Configuration Control Boards, and agile aligned Preliminary Design Review (PDR).			
FY 2015 Plans: Continue requirements analysis that align to future enhancements (capability drops). Continue ongoing software upgrades across all fielded systems to ensure capability remains IA compliant. Major events include SVR/PRR/PCA, CDR.			
Title: Support	2.719	0.741	2.050
Articles:	-	-	-
FY 2013 Accomplishments: Conducted DCGS-MC Increment I system design and optimization efforts to support the migration of legacy GEOINT systems to a common hardware and software baseline. Implemented initial design and planning activities for migrating the Intelligence Analysis System (IAS), All-Source capabilities for Increment II into the DCGS-MC program baseline. Prepared for DCGS-MC Increment II Preliminary Design Review (PDR) and Critical Design Review (CDR). Continued to develop and evaluate RTI prototype opportunities for migration into the DCGS baseline using the DIB. Funded DCGS Management Office for continued DIB upgrades and Enterprise technology migration analysis.			
FY 2014 Plans: Effective FY 2014 the Increment II Advanced Analytics/All Source capability was realigned to Intelligence Analysis System (PE 0206625M). Conduct DCGS-MC Increment I Common Data Link (CDL) optimization and Human Systems Interface (HSI) analysis and refinement.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208M / *(U)Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 2268 / *Distributed Common Ground System (DCGS-MC)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue to develop Advanced Analytics/All Source capability and research SIGINT capability for insertion to the EDS baseline. Conduct DCGS-MC Increment I Common Data Link (CDL) optimization between JSTARS and TWISTER. Establish VIP-MC HW baseline using commonality across the EDS.			
Accomplishments/Planned Programs Subtotals	26.540	5.527	11.613

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

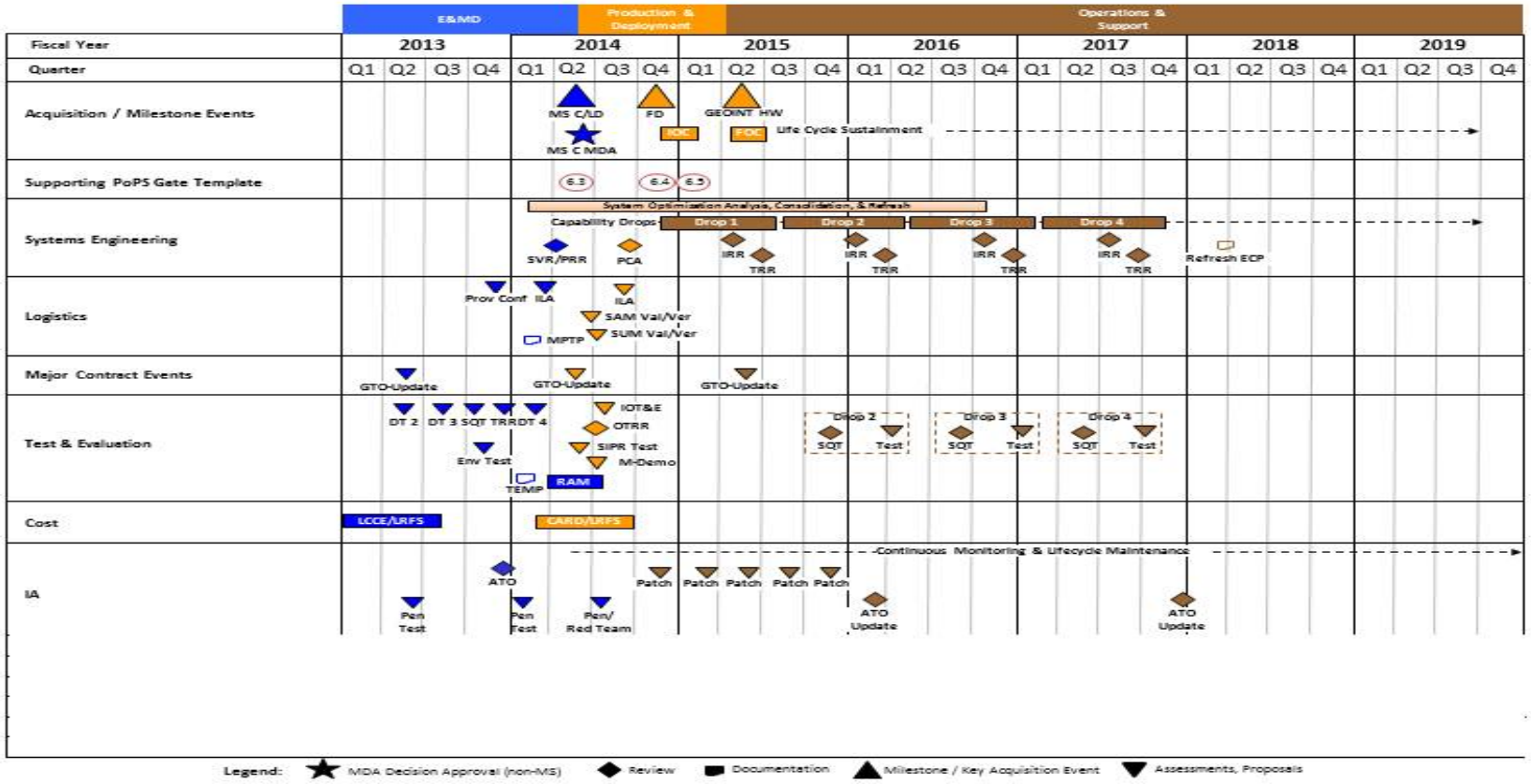
D. Acquisition Strategy

The Acquisition Strategy shall follow a hybrid approach, recommended by the Analysis of Alternatives (AoA), consisting of a viable mix of alternatives that allows flexibility, agility and rapid fielding of new capabilities and will be matured prior to Milestone C to reflect results of the Capability Development Document (CDD), Technology Development Strategy (TDS), and the updated Life Cycle Cost Estimate (LCCE). An evolutionary acquisition approach will be supported by Government Labs for the development of DCGS-MC to maintain maximum programmatic agility while reducing cost. Enhancements will be delivered via Capability Drops.

E. Performance Metrics

Milestone reviews.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208M / *(U)Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 2268 / *Distributed Common Ground System (DCGS-MC)*



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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305208N *I Distributed Common Ground 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**
Total Program Element	154.164	13.453	17.718	18.146	-	18.146	19.699	19.153	19.888	20.394	Continuing	Continuing
2174: *Distributed Common Ground System-Navy (DCGS-N)*	154.164	13.453	17.718	18.146	-	18.146	19.699	19.153	19.888	20.394	Continuing	Continuing
MDAP/MAIS Code: MN40												

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

A. Mission Description and Budget Item Justification

The Distributed Common Ground System - Navy (DCGS-N) is the Navy's portion of the Under Secretary of Defense, Intelligence (USD (I)) DCGS-N Family of Systems (FoS). The Department of Defense (DoD) has defined a DCGS architecture that will be compatible and interoperable across all of the Services' Intelligence, Surveillance and Reconnaissance (ISR) systems and operations. DCGS accesses and ingests data from space borne, airborne, subsurface, and surface ISR collection assets, intelligence databases and intelligence producers. This collected data is shared across a Joint enterprise using the DCGS Integration Backbone (DIB) and in time, the Defense Intelligence Information Enterprise (DI2E) to enhance access and sharing of ISR information across Joint forces through the use of common enterprise standards and services. DCGS FoS supports Joint Task Force (JTF)-level and below combat operations with critical intelligence for battle management and information dominance across the full spectrum of operations, including peace, conflict, war, and Overseas Contingency Operations (OCO). DCGS is a cooperative effort between the services, agencies, and DoD to provide systems capable of receiving, processing, exploiting, and disseminating data from airborne and national reconnaissance platforms. DCGS-N core components include the Analyst Work Station from the Global Command and Control System (GCCS) - Integrated Imagery and Intelligence (I3), Generic Area Limitation Environment (GALE) Signal Intelligence (SIGINT), Common Geo-positioning Services (CGS), Image Product Library (IPL), Modernized Integrated Database (MIDB), Joint Concentrator Architecture (JCA) and Track Management Services.

The DCGS-N system represents the integration of 1) The processing and exploitation of tactical and Imagery Intelligence (IMINT) and Signals Intelligence (SIGINT); 2) Precision target geopositioning, mensuration, and imagery dissemination capabilities; 3) Selected national IMINT requirements and processing capabilities from the National Geospatial-Intelligence Agency (NGA); and 4) Sharing of Intelligence, Surveillance, Reconnaissance and Targeting and Command and Control information via DIB, DI2E, and Net-Centric Enterprise Services (NCES) standards with a wide range of customers (e.g., Global Command and Control System - Maritime (GCCS-M)), Joint Mission Planning System (JMPS), and many others.

The DCGS-N Enterprise Node (DEN), which incorporates current DIB standards and DI2E policy, facilitating interoperability and data sharing among the DCGS FoS. DCGS-N ensures compliance with the DoD DCGS network architecture.

The Navy is focusing on establishing an ISR Enterprise way ahead that will emphasize a reach back strategy to provide intelligence products to support deployed ship and shore operations. The Navy will also migrate to a Service Oriented Architecture (SOA) that requires the development, integration, and testing of a Maritime ISR Enterprise capability, development and migration of ISR SOA applications, and development and integration to leverage a Common Computing Environment (CCE). Additionally, DCGS-N will become the focal point for migration of Maritime Domain Awareness (MDA) fusion and analysis (MFAS) tool applications for the Navy.

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305208N *I Distributed Common Ground Sys*

DCGS-N Increment 2 addresses a critical shortfall in Tasking, Collection, Processing, Exploitation, and Dissemination (TCPED) capability and capacity to support operational, tactical planning, and execution across the full range of joint military operations. Existing TCPED shortfalls will be exacerbated by planned Navy, Joint, and Allied fielding of new Intelligence, Surveillance and Reconnaissance (ISR) platforms. Currently fielded systems provide localized processing capabilities that will be overwhelmed in future years without a significant change in the way the Navy processes, exploits and disseminates intelligence data. DCGS-N Increment 2 will deliver all source fusion and analytical capabilities; provide Maritime Domain Awareness (MDA) capabilities and integrate Tasking, Collection, Processing, Exploitation, and Dissemination (TCPED) capabilities to improve the use and analysis of sensor and platform data. Distributed Common Ground System- Navy (DCGS-N) Increment 2 will be based on an enterprise solution to share this information across commands, services, and agencies to promote shared situational awareness. DCGS-N Increment 2 consists of multiple releases. The first release provides an enhanced Navy Intelligence, Surveillance and Reconnaissance (ISR) enterprise that converges and builds on the DCGS-N Increment 1 and Maritime Domain Awareness Enterprise Nodes; leverages the Defense Intelligence Information Enterprise (DI2E); is compliant with the Common Computing Environment (CCE); federates ISR and TCPED workflow and production improving throughput through automation; exploits new and evolving unmanned systems sensor data; provides Multi-Intelligence (Multi-INT) cross-queuing and modular tools. The second release enhances afloat ISR capabilities by providing a set of software centric tools providing Multi-INT fusion and analysis, behavior prediction and intelligent knowledge management designed to operate in disconnected or denied communications environment. Follow-on releases will be developed based on Fleet requirements.

Intelligence Carry-On Program (ICOP) is a suite of multi-source intelligence and analytical capabilities which includes an integrated Three-Dimensional (3-D) operational picture displaying intelligence and other data sources to provide a richer and more complete picture of the battle space on Unit Level platforms. The system supports a full motion video capability that receives, processes, exploits, and disseminates organic and non-organic data as well as the ability to process and correlate Electronic Intelligence (ELINT) and external Communications Intelligence (COMINT Externals). It integrates mature Commercial Off-the-Shelf (COTS) and Government Off-the-Shelf (GOTS) applications with shared storage and communication paths to reach back to the DCGS-N Enterprise Node (DEN), and to provide data sharing to the Maritime Operations Centers (MOC) and national ISR systems, making tactical users a part of the larger ISR enterprise.

In FY15, DCGS-N Increment 1 will verify and correct discrepancies discovered during the Block 2 Follow-On Operational Test and Evaluation (FOT&E).

In FY15, DCGS-N Increment 2 will contribute to the development of the Program Executive Officer, Command, Control, Communications, Computers and Intelligence (PEO C4I) prototype system. Increment 2 will conduct engineering reviews in accordance with agile development methodologies.

In FY15, ICOP will complete all acquisition and engineering of development integration activities pertaining to formal testing efforts in preparation for fielding of Program of Record (PoR) systems.

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 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0305208N *I Distributed Common Ground Sys*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	14.676	19.718	19.421	-	19.421
Current President's Budget	13.453	17.718	18.146	-	18.146
Total Adjustments	-1.223	-2.000	-1.275	-	-1.275
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	0.001	-	-1.275	-	-1.275
• Congressional General Reductions Adjustments	-1.224	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: 1) DCGS-N Increment 1's Block 2 Operational Test (OT) Afloat, Follow-On Test and Evaluation (FOTE) Shipboard, and Block 2 Full Deployment Decision (FDD) were moved 2 QTRs to align with updated schedule for the OT platform (ship). Increment 1 Block 2 Development Test/ Operational Assessment (DT/OA) was moved 2 QTRs to align with Consolidated Afloat Networks and Enterprise Services (CANES) lab schedule availability.

Current Fleet schedule indicates the OT platform will complete its yard period in Q1FY15; the OT is scheduled for Q2FY15-Q3FY15, with Full Deployment Decision (FDD) occurring by Q4FY15.

2) Based on the DCGS-N Increment 2 FY13 selection of a Analysis of Alternatives (AoA) and a ruling of sufficiency from the Office of the Secretary of Defense (OSD) Cost Assessment and Program Evaluation (CAPE) in 2013, DCGS-N Increment 2's Test and Evaluation Master Plan (TEMP) was rescheduled from 4QFY13 to 1QFY16, Information System (IS) Capability Development Document (CDD) was rescheduled from 3QFY13 to 1QFY15,and its Build Decision (BD) from 1QFY14 to 2QFY16. Fielding Decisions have been updated to reflect latest plan based upon the AoA selection. Realigned Test and Evaluation (T&E) schedule to reflect latest notional schedule.

3) Building on ICOP Prototyping efforts, the ICOP Program of Record (POR) accelerated its Acquisition Decision Memorandum (ADM) to 4QFY13 and ICOP Milestone C/ Full Rate Production(FRP) planned for 3QFY15. Development Test/ Operational Test event timeline scheduled for 4QFY14-1QFY15.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305208N / *Distributed Common Ground Sys*	Project (Number/Name) 2174 / *Distributed Common Ground System-Navy (DCGS-N)*	

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
2174: *Distributed Common Ground System-Navy (DCGS-N)*	154.164	13.453	17.718	18.146	-	18.146	19.699	19.153	19.888	20.394	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	3.000	-	-	-		

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

Note

Cost-To-Complete reflects DCGS-N Increment 2 only. DCGS-N Increment 1 funding is complete in FY15. DCGS-N Increment 2 is continuing as it currently is in pre-acquisition activities and a Life Cycle Cost Estimate (LCCE) is scheduled to complete in FY16 as part of Milestone B.

A. Mission Description and Budget Item Justification

The Distributed Common Ground System - Navy (DCGS-N) is the Navy's portion of the Under Secretary of Defense, Intelligence (USD (I)) DCGS-N Family of Systems (FoS). The Department of Defense (DoD) has defined a DCGS architecture that will be compatible and interoperable across all of the Services' Intelligence, Surveillance and Reconnaissance (ISR) systems and operations. DCGS accesses and ingests data from space borne, airborne, subsurface, and surface ISR collection assets, intelligence databases and intelligence producers. This collected data is shared across a Joint enterprise using the DCGS Integration Backbone (DIB) and in time, the Defense Intelligence Information Enterprise (DI2E) to enhance access and sharing of ISR information across Joint forces through the use of common enterprise standards and services. DCGS FoS supports Joint Task Force (JTF)-level and below combat operations with critical intelligence for battle management and information dominance across the full spectrum of operations, including peace, conflict, war, and Overseas Contingency Operations (OCO). DCGS is a cooperative effort between the services, agencies, and DoD to provide systems capable of receiving, processing, exploiting, and disseminating data from airborne and national reconnaissance platforms. DCGS-N core components include the Analyst Work Station from the Global Command and Control System (GCCS) - Integrated Imagery and Intelligence (I3), Generic Area Limitation Environment (GALE) Signal Intelligence (SIGINT), Common Geo-positioning Services (CGS), Image Product Library (IPL), Modernized Integrated Database (MIDB), Joint Concentrator Architecture (JCA) and Track Management Services.

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208N / *Distributed Common Ground Sys*	**Project (Number/Name)** 2174 / *Distributed Common Ground System-Navy (DCGS-N)*

The Navy is focusing on establishing an ISR Enterprise way ahead that will emphasize a reach back strategy to provide intelligence products to support deployed ship and shore operations. The Navy will also migrate to a Service Oriented Architecture (SOA) that requires the development, integration, and testing of a Maritime ISR Enterprise capability, development and migration of ISR SOA applications, and development and integration to leverage a Common Computing Environment (CCE). Additionally, DCGS-N will become the focal point for migration of Maritime Domain Awareness (MDA) fusion and analysis (MFAS) tool applications for the Navy.

DCGS-N Increment 2 addresses a critical shortfall in Tasking, Collection, Processing, Exploitation, and Dissemination (TCPED) capability and capacity to support operational, tactical planning, and execution across the full range of joint military operations. Existing TCPED shortfalls will be exacerbated by planned Navy, Joint, and Allied fielding of new Intelligence, Surveillance and Reconnaissance (ISR) platforms. Currently fielded systems provide localized processing capabilities that will be overwhelmed in future years without a significant change in the way the Navy processes, exploits and disseminates intelligence data. DCGS-N Increment 2 will deliver all source fusion and analytical capabilities; provide Maritime Domain Awareness (MDA) capabilities and integrate Tasking, Collection, Processing, Exploitation, and Dissemination (TCPED) capabilities to improve the use and analysis of sensor and platform data. Distributed Common Ground System- Navy (DCGS-N) Increment 2 will be based on an enterprise solution to share this information across commands, services, and agencies to promote shared situational awareness. DCGS-N Increment 2 consists of multiple releases. The first release provides an enhanced Navy Intelligence, Surveillance and Reconnaissance (ISR) enterprise that converges and builds on the DCGS-N Increment 1 and Maritime Domain Awareness Enterprise Nodes; leverages the Defense Intelligence Information Enterprise (DI2E); is compliant with the Common Computing Environment (CCE); federates ISR and TCPED workflow and production improving throughput through automation; exploits new and evolving unmanned systems sensor data; provides Multi-Intelligence (Multi-INT) cross-queuing and modular tools. The second release enhances afloat ISR capabilities by providing a set of software centric tools providing Multi-INT fusion and analysis, behavior prediction and intelligent knowledge management designed to operate in disconnected or denied communications environment. Follow-on releases will be developed based on Fleet requirements.

Intelligence Carry-On Program (ICOP) is a suite of multi-source intelligence and analytical capabilities which includes an integrated Three-Dimensional (3-D) operational picture displaying intelligence and other data sources to provide a richer and more complete picture of the battle space on Unit Level platforms. The system supports a full motion video capability that receives, processes, exploits, and disseminates organic and non-organic data as well as the ability to process and correlate Electronic Intelligence (ELINT) and external Communications Intelligence (COMINT Externals). It integrates mature Commercial Off-the-Shelf (COTS) and Government Off-the-Shelf (GOTS) applications with shared storage and communication paths to reach back to the DCGS-N Enterprise Node (DEN), and to provide data sharing to the Maritime Operations Centers (MOC) and national ISR systems, making tactical users a part of the larger ISR enterprise.

In FY15, DCGS-N Increment 1 will verify and correct discrepancies discovered during the Block 2 Follow-On Operational Test and Evaluation (FOT&E).

In FY15, DCGS-N Increment 2 will contribute to the development of the Program Executive Officer, Command, Control, Communications, Computers and Intelligence (PEO C4I) prototype system. Increment 2 will conduct engineering reviews in accordance with agile development methodologies.

In FY15, ICOP will complete all acquisition and engineering of development integration activities pertaining to formal testing efforts in preparation for fielding of Program of Record (PoR) systems.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208N / *Distributed Common Ground Sys*	**Project (Number/Name)** 2174 / *Distributed Common Ground System-Navy (DCGS-N)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: DCGS-N Increment 1	7.200	1.700	0.100
Articles:	-	-	-
FY 2013 Accomplishments: DCGS-N Increment 1 completed development of Engineering Development Models (EDMs) for Block 2. Specific events included a combined Development Test /Operational Assessment ashore in the DCGS-N lab environment. Updated the Cost Analysis Requirements Description (CARD) and Program Life-Cycle Cost Estimate (PLCCE) and received an updated Service Cost Position and Increment 1 Block 2 Limited Deployment Decision (LDD). Completed design and integration of the Block 2 Engineering Change Proposal (ECP) required for Increment 1 Block 2 to leverage the Consolidated Afloat Networks and Enterprise Services (CANES) infrastructure. In preparation for synchronized installations aboard Force-level afloat platforms, Distributed Common Ground Systems- Navy (DCGS-N) conducted coordinated integration testing with CANES within the Space and Naval Warfare Command lab environment.			
FY 2014 Plans: Conduct Block 2 Development Testing and prepare for Afloat Follow-On Test and Evaluation efforts. Begin developing corrections of deficiencies to the Block 2 baseline based on results noted during FY14 integration efforts and development test events. Complete development of appropriate schoolhouse curricula in support of DCGS-N training plans.			
FY 2015 Plans: DCGS-N Increment 1 will complete correction of deficiencies to the Block 2 baseline based on results noted during Block 2 Development Testing and Afloat Follow-On Test and Evaluation efforts.			
Title: DCGS-N Increment 2	6.253	11.672	16.421
Articles:	-	-	-
FY 2013 Accomplishments: Completed the Analysis of Alternatives (AoA) and received a Memorandum of Sufficiency from Cost Assessment and Program Evaluation (CAPE). Continued to conduct exploratory studies, system requirements analysis, design, technical studies and experiments designed to reduce identified risks associated with the recommended AoA solution.			
FY 2014 Plans: Begin Increment 2 Information System Capability Development Document (IS CDD) and Milestone B (MS-B) acquisition documentation. Employ an agile development methodology calling for early, frequent interactions between the developer and the user community to ensure that delivered capabilities meet evolving user needs. Continue to conduct exploratory studies, system requirements analysis, design, technical studies and experiments designed to reduce identified risks associated with the recommended AoA solution.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208N / *Distributed Common Ground Sys*	**Project (Number/Name)** 2174 / *Distributed Common Ground System-Navy (DCGS-N)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
DCGS-N Increment 2 will continue risk reduction efforts, conduct engineering reviews in accordance with agile development methodologies, and prepare for a Development Release for Proposal (RFP) review. In addition, Increment 2 will contribute to the Program Executive Officer, Command, Control, Communications, Computers and Intelligence (PEO C4I) prototype. DCGS-N Increment 2 will finailize Information System Capability Development Document (IS CDD) and Milestone B (MS-B) acquisition documentation.			
Title: Intelligence Carry-On Program (ICOP)	-	4.346	1.625
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: Build on the Unit Level Rapid Technology Transition (RTT) prototypes and begin statutory and regulatory documentation in accordance with pre-Milestone C Decision with a planned Initial Operational Capability (IOC) in FY15. Develop required acquisition documents including the Acquisition Strategy, Cost Analysis Requirements Description (CARD), Acquisition Program Baseline (APB), and Engineering documents such as; Test and Evaluation Master Plan (TEMP), System Engineering Plan (SEP), Tailored-Information Support Plan (T-ISP). Develop associated training documents and conduct developmental testing.			
FY 2015 Plans: ICOP will complete Topside Studies for LPD-17 and Guided Missile Cruiser class platforms, system design/integration activities, operational testing fixes and patches, and completion of acquisition documentation to support Milestone C/ FII Rate Production (FRP) in 3QFY15.			
Accomplishments/Planned Programs Subtotals	13.453	17.718	18.146

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 2914: *Distributed Common Ground System-Navy (DCGS-N)*	12.647	17.350	23.649	-	23.649	32.600	32.673	20.432	21.397	59.100	500.007

Remarks

D. Acquisition Strategy

The Distributed Common Ground System - Navy (DCGS-N) program utilizes mature Commercial Off The Shelf (COTS) and Governmental Off The Shelf (GOTS) capabilities. The Navy adapts and integrates these capabilities and ensures interoperability with the DCGS Integration Backbone (DIB) standards and Defense Intelligence Information Enterprise (DI2E) policies. Integration of DCGS-N Increment 1 components has transitioned from Government-led to Industry-led based on

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208N / *Distributed Common Ground Sys*	**Project (Number/Name)** 2174 / *Distributed Common Ground System-Navy (DCGS-N)*

the award of DCGS-N's Prime Mission Product (PMP) contract. The DCGS-N Increment 2 streamlined Information Technology (IT) acquisition strategy is based on an accelerated acquisition model as defined in the Interim Department of Defense Instruction (DoDI 5000.02). DCGS-N Increment 2 capabilities will be developed through an evolutionary process that calls for multiple releases. Intelligence Carry-On Program (ICOP) will focus on multi-source intelligence and analytical capabilities and unit-level Intelligence, Surveillance and Reconnaissance (ISR) processing, exploitation and dissemination for Surface operations, facilitating receipt, editing and sharing of imagery and video from aerial assets and shipboard cameras. ICOP will build on the Unit Level Rapid Technology Transition (RTT) prototypes and transition into a Program of Record (PoR) beginning in FY14.

E. Performance Metrics

DCGS-N Increment 1 Goal: Provide Fleet with additional capabilities and migration to the Navy's Common Computing Environment (CCE) / Afloat Core Services (ACS).
DCGS-N Increment 1 Metric: Correct any deficiencies found during Follow On Operational Test and Evaluation (FOT&E).

DCGS-N Increment 2 Goal: Support afloat forces through a robust enterprise ISR capability, satisfying maritime needs for processing, exploitation, and dissemination.
DCGS-N Increment 2 Metric: Successful completion of Development Release for Proposal (RFP) review.

ICOP Goal: Support unit-level ISR processing, exploitation and dissemination for Surface operations.
ICOP Metric: Complete statutory/regulatory acquisition and training documentation, accomplish a successful Development Test/Operational Test (DT/OT), and complete correction of deficiencies from operational/environmental testing efforts in support of fielding Program of Record (PoR) systems.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208N / *Distributed Common Ground Sys*	**Project (Number/Name)** 2174 / *Distributed Common Ground System-Navy (DCGS-N)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development (prior)	WR	SSC LANT : Charleston, SC	5.276	-		-		-		-		-	-	5.276	-
Primary Hardware Development	C/CPFF	BAE : Rancho Bernardo, CA	4.525	1.300	Nov 2012	0.200	Dec 2013	-		-		-	-	6.025	-
Systems Engineering (prior)	C/CPAF	Various : Various	8.753	-		-		-		-		-	-	8.753	-
Systems Engineering (prior)	C/CPAF	JFCOMM : Norfolk, VA	5.634	-		-		-		-		-	-	5.634	-
Systems Engineering	C/CPFF	BAE : Rancho Bernardo, CA	33.747	1.150	Nov 2012	-		-		-		-	-	34.897	-
Systems Engineering (prior)	C/CPAF	LMSI : Valley Forge, PA	4.432	-		-		-		-		-	-	4.432	-
Systems Engineering	WR	SSC Lant : Charleston, SC	11.142	0.300	Oct 2012	0.500	Oct 2013	-		-		-	-	11.942	-
Systems Engineering	C/CPFF	SETA SAIC : Columbia, MD	5.060	0.750	Dec 2012	1.000	Dec 2013	2.400	Dec 2014	-		2.400	Continuing	Continuing	Continuing
Systems Engineering (prior)	Various	SAIC : Columbia, MD	4.804	-		-		-		-		-	-	4.804	-
Systems Engineering	C/CPFF	L3 : Chantilly, VA	4.736	-		-		-		-		-	-	4.736	-
Licenses (prior)	C/CPAF	BAE, SSC Lant : Various	0.660	-		-		-		-		-	-	0.660	-
Systems Engineering	WR	SSC PAC : San Diego, CA	2.388	2.848	Oct 2012	3.000	Oct 2013	2.521	Oct 2014	-		2.521	Continuing	Continuing	Continuing
Licenses	WR	SSC LANT : Charleston, SC	0.155	0.055	Oct 2012	0.118	Oct 2013	-		-		-	-	0.328	-
Primary Hardware Development	C/CPFF	Inc 2 (PMP) : Unknown	0.000	-		-		1.600	Mar 2015	-		1.600	Continuing	Continuing	Continuing
Primary Hardware Development	WR	SSC PAC : San Diego, CA	0.000	-		2.400	Oct 2013	0.800	Oct 2014	-		0.800	Continuing	Continuing	Continuing
Software Development	C/CPFF	BAE : Rancho Bernardo, CA	0.000	0.890	Nov 2012	0.370	Dec 2013	0.100	Dec 2014	-		0.100	-	1.360	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305208N / *Distributed Common Ground Sys*	Project (Number/Name) 2174 / *Distributed Common Ground System-Navy (DCGS-N)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	WR	SSC PAC : San Diego, CA	0.000	-		2.500	Oct 2013	0.270	Oct 2014	-		0.270	Continuing	Continuing	Continuing
Software Development	C/CPFF	Inc 2 : Unknown	0.000	-		-		5.125	Mar 2015	-		5.125	Continuing	Continuing	Continuing
Licenses	WR	SSC PAC : San Diego, CA	0.000	-		-		0.100	Oct 2014	-		0.100	Continuing	Continuing	Continuing
		Subtotal	91.312	7.293		10.088		12.916		-		12.916	-	-	-

Remarks

Various represents several prior year contracts in support of product development, logistics, testing, systems engineering and program management. The majority of these contracts were Cost Plus Award Fee (CPAF) contract awards.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support (prior)	Various	Various : Various	4.136	-		-		-		-		-	-	4.136	-
Software Development (prior)	C/CPAF	BAE, NG : Various	16.733	-		-		-		-		-	-	16.733	-
Integrated Logistics Support (prior)	Various	L3, SAIC : Various	4.380	-		-		-		-		-	-	4.380	-
Configuration Management (prior)	C/CPAF	L3 : Chantilly, VA	2.353	-		-		-		-		-	-	2.353	-
Technical Data (prior)	Various	L3, SSC CHAS : Various	0.577	-		-		-		-		-	-	0.577	-
Development Support	C/CPFF	SETA SAIC : Columbia, MD	3.531	-		0.350	Dec 2013	0.400	Dec 2014	-		0.400	Continuing	Continuing	Continuing
Development Support	WR	SSC LANT : Charleston, SC	0.480	0.700	Oct 2012	0.300	Oct 2013	-		-		-	-	1.480	-
Software Development	C/CPFF	Northrop Grumman : Los Angeles, CA	1.899	-		-		-		-		-	-	1.899	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208N / *Distributed Common Ground Sys*	**Project (Number/Name)** 2174 / *Distributed Common Ground System-Navy (DCGS-N)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	WR	SSC LANT : Charleston, SC	1.687	0.600	Oct 2012	0.600	Oct 2013	-		-		-	-	2.887	-
Configuration Management (Prior)	WR	SSC LANT : Charleston, SC	2.108	-		-		-		-		-	-	2.108	-
Development Support	WR	SSC PAC : San Diego, CA	0.000	0.100	Oct 2012	0.500	Oct 2013	0.600	Oct 2014	-		0.600	Continuing	Continuing	Continuing
Integrated Logistics Support	WR	SSC PAC : San Diego, CA	0.000	0.200	Oct 2012	0.200	Oct 2013	0.200	Oct 2014	-		0.200	Continuing	Continuing	Continuing
Integrated Logistics Support	C/CPFF	SETA SAIC : Columbia, MD	0.000	0.700	Dec 2012	0.350	Dec 2013	0.400	Dec 2014	-		0.400	Continuing	Continuing	Continuing
Configuration Management	WR	SSC PAC : San Diego, CA	0.000	0.500	Oct 2012	0.500	Oct 2013	0.300	Oct 2014	-		0.300	Continuing	Continuing	Continuing
		Subtotal	37.884	2.800		2.800		1.900		-		1.900	-	-	-

Remarks

Various represents several prior year contracts in support of product development, logistics, testing, systems engineering and program management. The majority of these contracts were Cost Plus Award Fee (CPAF) contract awards.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation (prior)	Various	SAIC, L3, SSC LANT : Various	10.443	-		-		-		-		-	-	10.443	-
Operational Test & Evaluation (prior)	Various	SAIC, NAWC, NGES, OPTEVFOR, NSWC Corona : Various	5.056	-		-		-		-		-	-	5.056	-
Developmental Test & Evaluation	C/CPFF	BAE : Rancho Bernardo, CA	0.486	0.700	Nov 2012	0.300	Dec 2013	-		-		-	-	1.486	-
Developmental Test & Evaluation (prior)	WR	SSC LANT : Charleston, SC	0.747	1.000	Oct 2012	0.500	Oct 2013	-		-		-	-	2.247	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208N / *Distributed Common Ground Sys*	**Project (Number/Name)** 2174 / *Distributed Common Ground System-Navy (DCGS-N)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Test & Evaluation	WR	SSC PAC : San Diego, CA	0.238	-		-		-		-		-	-	0.238	-
Operational Test & Evaluation	C/CPFF	BAE : Rancho Bernardo, CA	1.360	-		0.400	Dec 2013	-		-		-	-	1.760	-
Operational Test & Evaluation	WR	SSC LANT : Charleston, CA	0.120	-		-		-		-		-	-	0.120	-
Operational Test & Evaluation	C/CPFF	COTF : Norfolk, VA	0.120	-		-		-		-		-	-	0.120	-
Developmental Test & Evaluation	WR	SSC PAC : San Diego, CA	0.000	-		1.800	Oct 2013	1.700	Oct 2014	-		1.700	Continuing	Continuing	Continuing
Developmental Test & Evaluation	C/CPFF	COTF : Norfolk, VA	0.000	0.100	Nov 2012	0.200	Nov 2013	0.200	Nov 2014	-		0.200	Continuing	Continuing	Continuing
		Subtotal	18.570	1.800		3.200		1.900		-		1.900	-	-	-

Remarks

Various represents several prior year contracts in support of product development, logistics, testing, systems engineering and program management. The majority of these contracts were Cost Plus Award Fee (CPAF) contract awards.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support (prior)	C/CPAF	SAIC : Columbia, MD	1.316	-		-		-		-		-	-	1.316	-
Travel	Allot	SPAWAR : San Diego, CA	0.719	0.060	Oct 2012	0.030	Nov 2013	0.030	Nov 2014	-		0.030	Continuing	Continuing	Continuing
Government Engineering Support	WR	SSC LANT : Charleston, SC	1.484	-		-		-		-		-	-	1.484	-
Program Management Support	C/CPFF	PSS BAH : San Diego, CA	1.271	1.300	Nov 2012	1.350	Nov 2013	1.400	Nov 2014	-		1.400	Continuing	Continuing	Continuing
Program Management Support	WR	SSC LANT : Charleston, SC	1.178	0.200	Oct 2012	0.250	Oct 2013	-		-		-	-	1.628	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208N / *Distributed Common Ground Sys*	**Project (Number/Name)** 2174 / *Distributed Common Ground System-Navy (DCGS-N)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	WR	SSC PAC : San Diego, CA	0.430	-		-		-		-		-	-	0.430	-
		Subtotal	6.398	1.560		1.630		1.430		-		1.430	-	-	-

Remarks

Various represents several prior year contracts in support of product development, logistics, testing, systems engineering and program management. The majority of these contracts were Cost Plus Award Fee (CPAF) contract awards.

	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	154.164	13.453		17.718		18.146		-		18.146	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208N / *Distributed Common Ground Sys*	**Project (Number/Name)** 2174 / *Distributed Common Ground System-Navy (DCGS-N)*

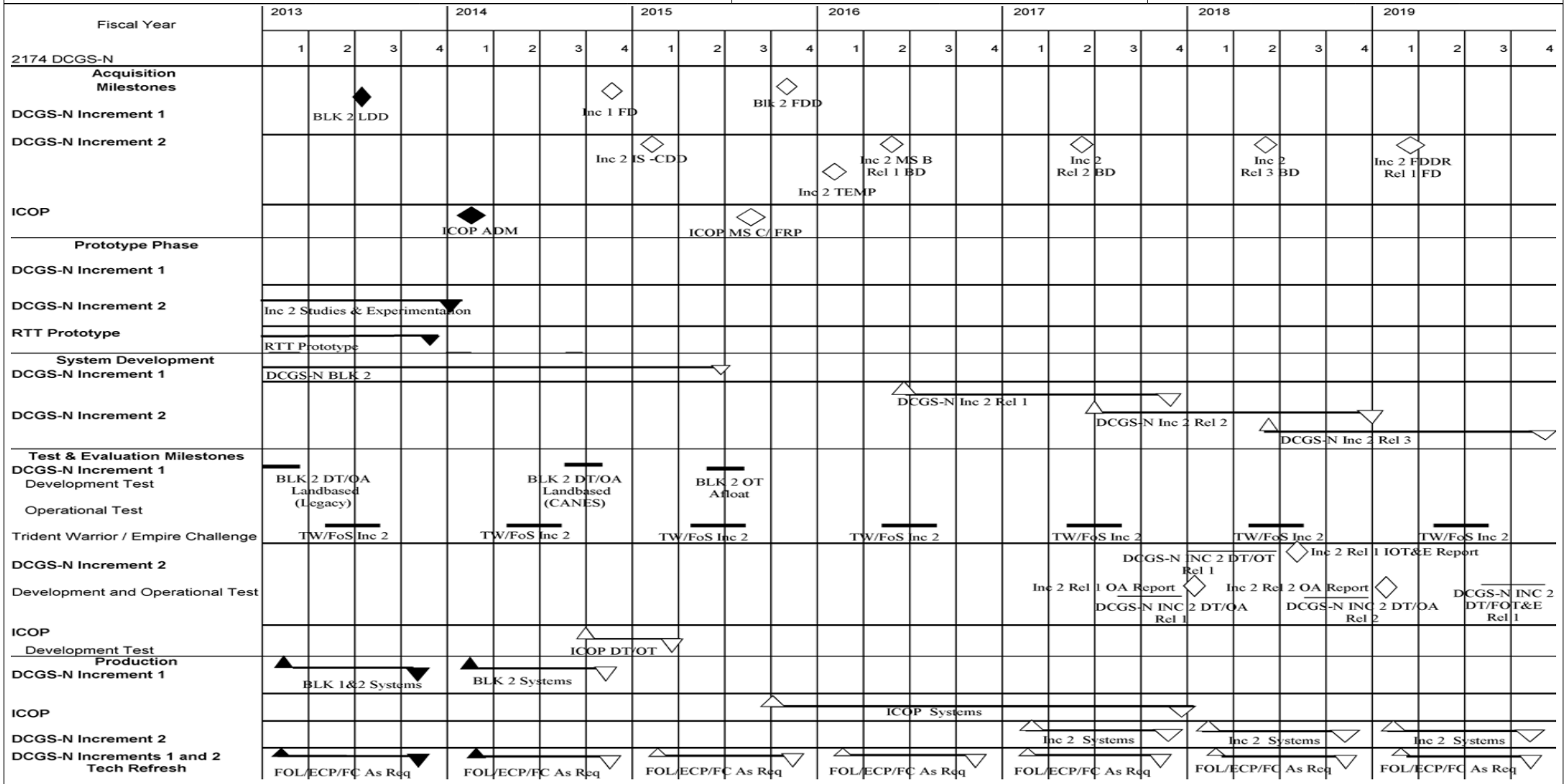


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208N / *Distributed Common Ground Sys*	**Project (Number/Name)** 2174 / *Distributed Common Ground System-Navy (DCGS-N)*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2174				
DCGS-N BLK 2 DT/OA Landbased (Legacy)	1	2013	1	2013
DCGS-N Inc 2 Release 1 DT/OA	3	2017	4	2017
Trident Warrior / DCGS Family of Systems Inc 2 2013	2	2013	3	2013
Trident Warrior / DCGS Family of Systems Inc 2 2014	2	2014	3	2014
Trident Warrior / DCGS Family of Systems Inc 2 2015	2	2015	3	2015
Trident Warrior / DCGS Family of Systems Inc 2 2016	2	2016	3	2016
Trident Warrior / DCGS Family of Systems Inc 2 2017	2	2017	3	2017
Trident Warrior / DCGS Family of Systems Inc 2 2018	2	2018	3	2018
Trident Warrior / DCGS Family of Systems Inc 2 2019	2	2019	3	2019
DCGS-N BLK 2 Development	1	2013	2	2015
DCGS-N Inc 2 Release 1 Development	2	2016	4	2017
DCGS-N Inc 2 TEMP	1	2016	1	2016
DCGS-N Inc 2 Release 2 Development	2	2017	4	2018
DCGS-N Inc 2 Release 3 Development	2	2018	4	2019
DCGS-N BLK 2 LDD	3	2013	3	2013
DCGS-N Inc 2 Rel 1 BD	2	2016	2	2016
DCGS-N Inc 1 FD	4	2014	4	2014
DCGS-N Inc 2 IS- CDD	1	2015	1	2015
DCGS-N Inc 2 Procurement	1	2017	4	2019
ICOP Procurement	3	2015	4	2017
DCGS-N BLK 2 DT/OA Landbased (CANES)	3	2014	4	2014

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305208N / *Distributed Common Ground Sys*	**Project (Number/Name)** 2174 / *Distributed Common Ground System-Navy (DCGS-N)*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
DCGS-N BLK 2 OT AFLOAT	2	2015	3	2015
DCGS-N Inc 2 FDDR	1	2019	1	2019
DCGS-N Inc 2 Rel 1 FD	1	2019	1	2019
DCGS-N Inc 2 Rel 2 BD	2	2017	2	2017
DCGS-N Inc 2 Rel 3 BD	2	2018	2	2018
DCGS-N Inc 1 Procurement	1	2013	4	2014
DCGS-N Inc 2 Studies & Experimentation	1	2013	1	2014
DCGS-N Inc 2 Release 1 DT/OT	1	2018	3	2018
DCGS-N Inc 2 Release 2 DT/OA	3	2018	4	2018
DCGS-N Inc 1 and Inc 2 Tech Refresh	1	2013	4	2019
DCGS-N Inc 1 BLK 2 FDD	4	2015	4	2015
DCGS-N Inc 2 Release 1 OA Report	1	2018	1	2018
DCGS-N Inc 2 Release 1 IOT&E Report	3	2018	3	2018
DCGS-N Inc 2 Release 1 DT/FOT&E	3	2019	4	2019
RTT Prototypes	1	2013	4	2013
ICOP ADM	4	2013	4	2013
ICOP MS C/FRP	3	2015	3	2015
ICOP DT/OT	4	2014	1	2015
DCGS-N Inc 2 Release 2 OA Report	1	2019	1	2019

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305220N *I RQ-4 UAV*							
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	1,512.368	612.682	375.235	498.003	-	498.003	363.120	228.583	110.773	43.222	44.300	3,788.286
4020: *MQ-4 TRITON*	1,512.368	612.682	375.235	498.003	-	498.003	363.120	228.583	110.773	43.222	44.300	3,788.286
MDAP/MAIS Code: 373												

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

A. Mission Description and Budget Item Justification

MQ-4C Triton Unmanned Air System (UAS). The popular name Triton was approved for the MQ-4C UAS in June 2012, designating the RQ-4 Broad Area Maritime Surveillance (BAMS) Unmanned Aircraft System (UAS) as the MQ-4C Triton.

The MQ-4C Triton is a high altitude-long endurance UAS designed to provide Fleet and combatant commanders with persistent maritime Intelligence, Surveillance and Reconnaissance (ISR) of nearly all the world's high-density sea-lanes, littorals, and areas of national interest. Envisioned as an unmanned adjunct to the P-8A Multi-Mission Maritime Aircraft and crucial to the recapitalization of Navy's airborne maritime ISR capability, the system will seek to leverage Maritime Patrol and Reconnaissance Force manpower, training and maintenance efficiencies.

The MQ-4C air vehicle is based on Northrop Grumman's Block 20 Global Hawk and features sensors designed to provide near worldwide coverage through a network of five orbits inside and outside continental United States, with sufficient air vehicles to remain airborne for 24 hours a day, 7 days a week, out to ranges of 2000 nautical miles. Onboard sensors will provide detection, classification, tracking and identification of maritime targets and include maritime radar, electro-optical/infra-red and Electronic Support Measures systems. Additionally, the MQ-4C will have a communications relay capability designed to link dispersed forces in the theater of operations and serve as a node in the Navy's FORCEnet strategy. Tactical-level data analysis will occur in real-time at shore-based mission control sites connected to the air vehicle via satellite communications. Further intelligence exploitation can be conducted at Fleet shore-based sites or aboard aircraft carriers and other ships.

The MQ-4C Triton UAS will implement phased modifications within the acquisition program to pace capability with rapidly evolving technologies and threats to ensure the Navy maintains persistent ISR dominance through the system's lifecycle, and to support the OPNAV N2/N6 Intelligence, Surveillance, Reconnaissance and Targeting (ISR&T) transition plan. Modifications are intended to update Triton's Multi-Intelligence capabilities, provide Counter Electronic Attack (CEA) upgrades, a more robust electronic support capability and to continue improvements to baseline mission system payloads.

MQ-4C will play a significant role in the Sea Shield and FORCEnet pillars of Sea Power 21. In its Sea Shield role, the system will rely on its key attribute of persistence to provide the supported combatant command or fleet commander with unparalleled situational awareness of the maritime battle space as it develops and sustains the common operational tactical picture. The system will also serve as a Fleet response plan enabler, while acting as a trip wire for intelligence preparation of the environment. Additionally, Triton UAS will be a FORCEnet enabler and relay platform, directly connected to both the Global Information Grid and the Distributed Common Ground System-Navy information backbone.

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 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0305220N *I RQ-4 UAV*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	657.483	375.235	336.776	-	336.776
Current President's Budget	612.682	375.235	498.003	-	498.003
Total Adjustments	-44.801	-	161.227	-	161.227
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	9.999	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	182.200	-	182.200
• Rate/Misc Adjustments	-0.001	-	-20.973	-	-20.973
• Congressional General Reductions Adjustments	-54.799	-	-	-	-

Change Summary Explanation

Technical: PB15 resources the MQ-4C Triton Research, Development, Test and Evaluation (RDT&E) program including Multi-Intelligence upgrades. System Demonstration Test Articles (SDTA) quantity reduced from 3 to 2.

Schedule: Technical challenges in the development program (combined with sequestration driven resourcing constraints) led to departmental decisions to delay the start of production and re-plan Triton's schedule milestones.

PB15 shifted Milestone C from 1Q FY15 to 1Q FY16. Full Rate Production (FRP) milestone decision shifted from 1Q FY17 to 2Q FY18. Low Rate Initial Production (LRIP) 1 contract award shifted from 2Q FY15 to 2Q FY16 and LRIP 2 contract award from 2Q FY16 to 2Q FY17. FRP Lot 3 contract award shifted from 2Q FY17 to 2Q FY18 and FRP Lot 4 contract award shifted from 2Q FY18 to 2Q FY19. Initial Operational Capability (IOC) shifted from 3Q FY17 to 3Q FY18. SDTA deliveries shifted from 1Q FY15 through 3Q FY15 to 4Q FY15 through 1Q FY16. LRIP 1 deliveries shifted from 3Q FY17 through 1Q FY18 to 2Q FY18 through 1Q FY19. LRIP 2 deliveries shifted from 2Q FY18 through 4Q FY18 to 2Q FY19 to 4Q FY19. Integrated Test shifted from 4Q FY12 through 3Q FY15 to 4Q FY12 through 1Q FY17. Operational Test Readiness Review shifted from 4Q FY15 to 2Q FY17. Operational Evaluation shifted from 1Q FY16 through 2Q FY16 to 3Q FY17 through 4Q FY17. Follow On Integrated Test was added from 1Q FY18 through 4Q FY19.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305220N / *RQ-4 UAV*	Project (Number/Name) 4020 / *MQ-4 TRITON*	

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
4020: *MQ-4 TRITON*	1,512.368	612.682	375.235	498.003	-	498.003	363.120	228.583	110.773	43.222	44.300	3,788.286
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Product Development	561.893	326.900	446.037

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305220N / *RQ-4 UAV*	**Project (Number/Name)** 4020 / *MQ-4 TRITON*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	2.000	-	-
Description: Awarded contract in FY08 to initiate the MQ-4C Triton System Development and Demonstration (SDD) phase effort. The Prime Contractor is responsible for overall system development and performance, as well as associated management, engineering and logistics activities. System Demonstration Test Article (SDTA) quantity reduced from 3 to 2 vehicles to mitigate shortfalls in Research, Development, Test & Evaluation (RDT&E) funding. ***FY 2013 Accomplishments:*** Continued SDD. Funding increased from FY12 due to the purchase of 2 SDTA vehicles to support Operational Test and Evaluation along with continued government engineering support related to SDD. ***FY 2014 Plans:*** Continue SDD and build of 2 SDTA vehicles. Funding decreases from FY13 to support transition into the test phase of the SDD program. ***FY 2015 Plans:*** Continue SDD and delivery of 2 SDTA vehicles. Funding increased from FY14 to continue the MQ-4C Triton SDD program and to begin development of phased modifications, including Multi-Intelligence upgrades in support of the OPNAV N2/N6 Intelligence, Surveillance, Reconnaissance and Targeting transition plan.			
Title: ILS, Support, Studies & Analysis	13.022	12.762	13.065
Articles:	-	-	-
Description: Integrated Logistics Support, Studies and Analysis. ***FY 2013 Accomplishments:*** Continued integrated logistics support, technical engineering services, sensor risk reduction, logistics supportability analyses and environmental planning, modeling and simulation, development of manpower and basing assessments, and development of technical data to support fielding of the Triton Unmanned Aircraft System (UAS) capabilities. ***FY 2014 Plans:*** Continue integrated logistics support, technical engineering services, sensor risk reduction, logistics supportability analyses and environmental planning, modeling and simulation, development of manpower and basing assessments, and development of technical data to support fielding of the MQ-4C Triton UAS capabilities. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305220N / *RQ-4 UAV*	**Project (Number/Name)** 4020 / *MQ-4 TRITON*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue integrated logistics support, technical engineering services, sensor risk reduction, logistics supportability analyses and environmental planning, modeling and simulation, development of manpower and basing assessments, and development of technical data to support fielding of the Triton Unmanned Aircraft System (UAS) capabilities.			
Title: Program Management (PM)	6.432	5.994	6.723
Articles:	-	-	-
Description: PM support and travel. ***FY 2013 Accomplishments:*** Continued the following: PM support and travel, development of milestone and acquisition-related documentation, capability refinement and open systems architecture development, resource justification, affordability assessments and cost analyses, risk reduction and risk management, system integration and interoperability planning, technology maturity reviews, program protection planning, corrosion prevention planning, and joint and international cooperation efforts. ***FY 2014 Plans:*** Continue the following: PM support and travel, development of milestone and acquisition-related documentation, capability refinement and open systems architecture development, resource justification, affordability assessments and cost analyses, risk reduction and risk management, system integration and interoperability planning, technology maturity reviews, program protection planning, corrosion prevention planning, and joint and international cooperation efforts. Funding decreases from FY13 to reflect the ramp down in program management required to support the test phase of the System Development and Demonstration program. ***FY 2015 Plans:*** Continue the following: PM support and travel, development of milestone and acquisition-related documentation, capability refinement and open systems architecture development, resource justification, affordability assessments and cost analyses, risk reduction and risk management, system integration and interoperability planning, technology maturity reviews, program protection planning, corrosion prevention planning, and joint and international cooperation efforts.			
Title: Test & Evaluation (T&E)	31.335	29.579	32.178
Articles:	-	-	-
Description: T&E efforts. ***FY 2013 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305220N / *RQ-4 UAV*	**Project (Number/Name)** 4020 / *MQ-4 TRITON*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continued test and evaluation support activities to allow test and fielding on the MQ-4C Triton Unmanned Aircraft System (UAS). Funding profile reflected increase in Developmental Testing (DT) and Operational Testing (OT) in support of the established program schedule. ***FY 2014 Plans:*** Continue DT and OT support activities to allow test and fielding of the MQ-4C Triton UAS in accordance with the program schedule. ***FY 2015 Plans:*** Continue DT and OT support activities to allow test and fielding of the MQ-4C Triton UAS in accordance with the program schedule.			
Accomplishments/Planned Programs Subtotals	612.682	375.235	498.003

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-4/044200: *RQ-4 UAV (Triton UAV)*	47.200	-	37.445	-	37.445	658.874	632.825	639.513	708.713	8,041.266	10,765.836
• MILCON/0815976N: *Facilities New Footprint - Training*	12.076	61.702	-	-	-	-	-	-	35.823	-	114.083
• MILCON/0203176N: *Facilities Restoration and Mod*	20.753	-	-	-	-	-	-	-	-	-	20.753
• MILCON/0212176N: *Facilities New Footprint - Fleet Ops*	32.145	17.469	-	-	-	53.071	70.340	-	-	-	173.025
• APN-6/044200: *RQ-4 UAV (Triton UAV)*	-	-	-	-	-	120.737	88.726	91.216	6.731	1,100.470	1,407.880
• MILCON/0816376N: *Facilities New Footprint - T&E*	-	-	-	-	-	-	-	-	-	-	33.034
• OMN/1D4D: *Weapons Maintenance*	-	-	-	-	-	-	5.777	30.373	33.426	Continuing	Continuing
• OMN/1A1A: *Mission and Other Flight Operations*	-	-	-	-	-	-	3.753	11.075	26.233	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305220N / *RQ-4 UAV*	**Project (Number/Name)** 4020 / *MQ-4 TRITON*

D. Acquisition Strategy

The MQ-4C Triton acquisition approach encompasses delivery of detection, tracking, imaging and data dissemination capabilities at Initial Operational Capability (IOC) with activities to enhance sensor and system performance via phased system modifications for post IOC delivery as part of the Triton acquisition program. This approach of phased modifications within the acquisition program enables MQ-4C to pace capability with rapidly evolving technologies and threats to ensure the Navy maintains persistent Intelligence, Surveillance and Reconnaissance dominance through the system's lifecycle.

The MQ-4C Triton program office is pursuing joint efficiency with the Air Force on the Global Hawk Unmanned Aircraft System (UAS). However, the integration of the Triton UAS into the Maritime Patrol Reconnaissance Force and the unique maritime sensors employed dictate a Navy-led acquisition program focused on joint efficiencies, where possible.

E. Performance Metrics

Successfully achieve Milestone C, Integrated Test, Operational Evaluation and Initial Operation Capability.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305220N / *RQ-4 UAV*	Project (Number/Name) 4020 / *MQ-4 TRITON*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPIF	Northrop Grumman : Rancho Bernardo, CA	1,300.826	525.779	Nov 2012	297.513	Nov 2013	402.453	Nov 2014	-		402.453	571.004	3,097.575	3,097.575
Systems Engineering	Various	Various : Various	4.647	1.000	Nov 2012	3.907	Nov 2013	6.536	Nov 2014	-		6.536	14.223	30.313	-
Award Fees	C/CPAF	Northrop Grumman : Bethpage, NY	24.553	-		-		-		-		-	-	24.553	24.553
Systems Engineering	WR	NAWC-AD : Patuxent River, MD	85.401	33.759	Nov 2012	24.225	Nov 2013	29.308	Nov 2014	-		29.308	56.598	229.291	-
Systems Engineering	WR	NAWC-WD : China Lake, CA	3.941	1.355	Nov 2012	1.255	Nov 2013	1.240	Nov 2014	-		1.240	1.484	9.275	-
Primary Hardware Development	TBD	TBD : TBD	0.000	-		-		6.500	Nov 2014	-		6.500	25.500	32.000	-
		Subtotal	1,419.368	561.893		326.900		446.037		-		446.037	668.809	3,423.007	-

Remarks

The percentage of funding actually awarded for the FY10 Award Fee period was 80.6%. In FY11, 75.1% of the Award Fee was earned. In FY12, 53.6% of the Award Fee was earned. In FY13, 0% of Award Fee was earned. Contract type changed from CPAF to CPIF in January 2014.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	Various : Various	10.613	2.074	Nov 2012	2.115	Nov 2013	2.268	Nov 2014	-		2.268	3.398	20.468	-
Integrated Logistics Support	Various	Various : Various	3.034	1.100	Nov 2012	1.600	Nov 2013	1.619	Nov 2014	-		1.619	5.901	13.254	-
Development Support	WR	NAVSEA : Dahlgren, VA	8.432	2.178	Dec 2012	2.000	Dec 2013	2.170	Dec 2014	-		2.170	0.844	15.624	-
Integrated Logistics Support	WR	NAWC-AD : Patuxent River, MD	12.701	6.603	Nov 2012	5.548	Nov 2013	5.485	Nov 2014	-		5.485	11.815	42.152	-
Integrated Logistics Support	WR	NAWC-TSD : Orlando, FL	3.110	1.067	Nov 2012	1.499	Nov 2013	1.523	Nov 2014	-		1.523	1.095	8.294	-
Prior year cost no longer funded in the FYDP	Various	Various : Various	0.768	-		-		-		-		-	-	0.768	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305220N / *RQ-4 UAV*	Project (Number/Name) 4020 / *MQ-4 TRITON*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	38.658	13.022		12.762		13.065		-		13.065	23.053	100.560	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	Various	Various : Various	11.780	7.549	Nov 2012	3.500	Nov 2013	3.610	Nov 2014	-		3.610	17.811	44.250	-
Developmental Test & Evaluation	WR	NAWC-AD : Patuxent River, MD	25.523	19.686	Nov 2012	17.079	Nov 2013	19.968	Nov 2014	-		19.968	45.976	128.232	-
Operational Test & Evaluation	Various	Various : Various	0.000	0.200	Nov 2012	5.200	Nov 2013	4.900	Nov 2014	-		4.900	21.002	31.302	-
Developmental Test & Evaluation	MIPR	DITCO : Various	0.000	3.900	Nov 2012	3.800	Nov 2013	3.700	Nov 2014	-		3.700	1.000	12.400	-
		Subtotal	37.303	31.335		29.579		32.178		-		32.178	85.789	216.184	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Engineering Support	C/CPFF	Mitre : McLean, VA	3.478	1.606	Nov 2012	1.300	Nov 2013	1.300	Nov 2014	-		1.300	1.400	9.084	9.084
Program Management	Various	Various : Various	2.211	0.438	Nov 2012	0.350	Nov 2013	0.320	Nov 2014	-		0.320	6.024	9.343	-
Travel	WR	Various : Various	0.972	0.216	Nov 2012	0.194	Nov 2013	0.171	Nov 2014	-		0.171	0.609	2.162	-
Program Management Support	C/CPFF	Ausley : Lexington Park, MD	10.378	4.172	Dec 2012	4.150	Dec 2013	4.932	Nov 2014	-		4.932	4.314	27.946	27.946
		Subtotal	17.039	6.432		5.994		6.723		-		6.723	12.347	48.535	-

Remarks

Travel funding vehicle type is TO.

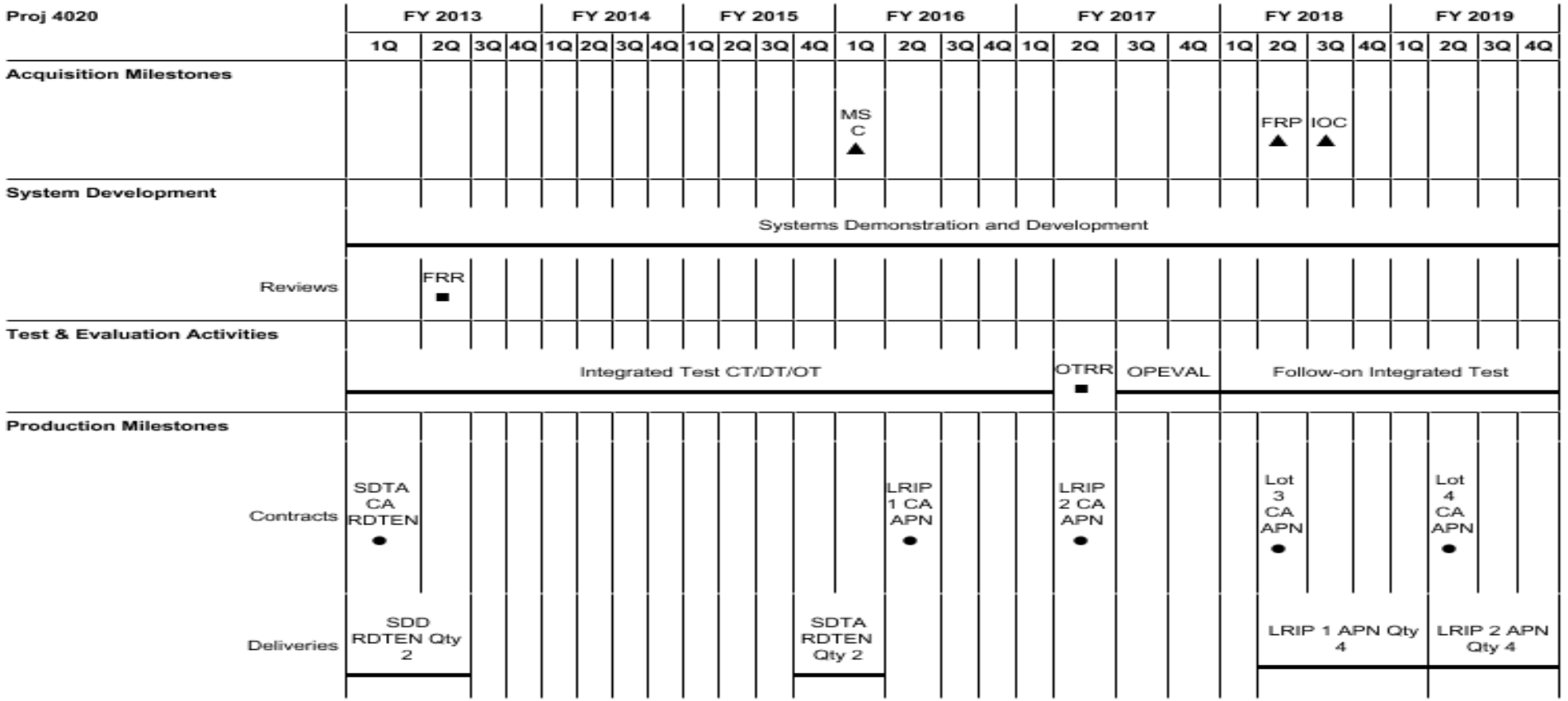
Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305220N / *RQ-4 UAV*	Project (Number/Name) 4020 / *MQ-4 TRITON*	

	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	1,512.368	612.682		375.235		498.003		-		498.003	789.998	3,788.286	-

Remarks

Prior to FY10, MQ-4C Triton, formerly known as RQ-4 Broad Area Maritime Surveillance (BAMS), was budgeted for in PE 0305205N: Endurance Unmanned Aer Veh.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305220N / *RQ-4 UAV*	**Project (Number/Name)** 4020 / *MQ-4 TRITON*



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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305220N / *RQ-4 UAV*	**Project (Number/Name)** 4020 / *MQ-4 TRITON*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 4020				
Acquisition Milestones: Milestone C	1	2016	1	2016
Acquisition Milestones: Full Rate Production	2	2018	2	2018
Acquisition Milestones: Initial Operational Capability	3	2018	3	2018
System Development: System Development and Demonstration	1	2013	4	2019
System Development: Reviews: Flight Readiness Review	2	2013	2	2013
Test & Evaluation Activities: Integrated Test (Combined/Developmental/Operational)	1	2013	1	2017
Test & Evaluation Activities: Follow-on Integrated Test	1	2018	4	2019
Test & Evaluation Activities: Operational Test Readiness Review	2	2017	2	2017
Test & Evaluation Activities: OPEVAL	3	2017	4	2017
Production Milestones: Contracts: System Demonstration Test Articles Contract Award	1	2013	1	2013
Production Milestones: Contracts: Low Rate Initial Production 1 Contract Award	2	2016	2	2016
Production Milestones: Contracts: Low Rate Initial Production 2 Contract Award	2	2017	2	2017
Production Milestones: Contracts: Full Rate Production Lot 3 Contract Award	2	2018	2	2018
Production Milestones: Contracts: Full Rate Production Lot 4 Contract Award	2	2019	2	2019
Production Milestones: Deliveries: System Development and Demonstration Deliveries	1	2013	2	2013
Production Milestones: Deliveries: System Demonstration Test Articles Delivery	4	2015	1	2016
Production Milestones: Deliveries: Low Rate Initial Production Lot 1 Delivery	2	2018	1	2019
Production Milestones: Deliveries: Low Rate Initial Production Lot 2 Delivery	2	2019	4	2019

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305231N *I MQ-8 UAV*							
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	226.502	83.827	41.713	47.294	-	47.294	53.199	33.446	6.533	6.576	Continuing	Continuing
2768: *VTUAV*	226.502	83.827	41.713	47.294	-	47.294	53.199	33.446	6.533	6.576	Continuing	Continuing
MDAP/MAIS Code: 253												

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

A. Mission Description and Budget Item Justification

MQ-8 Unmanned Air System Joint Military Intelligence Program.

The MQ-8 (popular name "Fire Scout") Vertical Take-off Unmanned Aerial Vehicle provides real-time and non-real-time Intelligence, Surveillance and Reconnaissance (ISR) data to tactical users without the use of manned aircraft or reliance on limited joint theater or national assets. The baseline MQ-8 can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting, laser designation and communications relay. The MQ-8 launches and recovers vertically and can operate from air capable ships, as well as confined area land bases. Other characteristics include autonomous air vehicle launch and recovery, autonomous waypoint navigation with command override capability, dual aircraft operations, the incorporation of weapons, the incorporation of an electro-optical/infra-red/laser designator-laser range finder modular mission payload, radar, automatic identification system, and other specialty payloads. Interoperability is achieved through the use of the Tactical Control System software in the ground control station, and through the use of the Tactical Common Data Link (TCDL). Data from the MQ-8 will be provided through standard Department of Defense Command, Control, Communications, Computers and ISR.

A Fire Scout system is comprised of air vehicles, payloads (electro-optical/infra-red/laser designator-range finder), Ground Control Station (with TCS and TCDL integrated for interoperability), UAV Common Automatic Recovery System (UCARS) for automatic take-off and landings, and associated spares and support equipment. A total of 56 systems are planned to support training, maintenance, test and Littoral Combat Ship (LCS) requirements. A limited number of land-based ground control stations supplement the system to support shore based operations, such as pre-deployment or acceptance functional check flights. These land based ground control stations will also support depot level maintenance/post-maintenance activities.

The MQ-8 system is post Milestone C (MS C), which was approved in May 2007. MS C authorized entry into Low Rate Initial Production. The system is currently deployed on Navy Guided Missile Frigates (FFGs). The Navy has truncated MQ-8B procurement with the last LRIP buy in FY11. 21 of the 23 LRIP aircraft (90%) have been delivered. Once delivery is complete, the 23 aircraft will support 8 Fire Scout systems. MQ-8B airframes will continue to support maritime based ISR from FFGs, support LCS DT/OT events and LCS deployments. MQ-8B airframes will sunset through attrition.

The MQ-8C Endurance Upgrade Rapid Deployment Capability (RDC) provides additional mission endurance, payload-weight-power, increased reliability, and improved maintenance to the Fire Scout System. The Navy plans to transition the MQ-8C capability into the Program of Record. The MQ-8C is a more cost efficient and capable system that meets both the Joint Emergent Operational Need Statement (JEONS) and the Fire Scout Capability Production Document (CPD). The Navy plans to

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305231N *I MQ-8 UAV*

procure 48 MQ-8C based systems to support Littoral Combat Ship. This budget transitions the MQ-8C Endurance Upgrade, Radar, and Weapons capabilities into the Program of Record to meet both the JEONS and CPD requirements with a single system.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	99.600	48.713	51.607	-	51.607
Current President's Budget	83.827	41.713	47.294	-	47.294
Total Adjustments	-15.773	-7.000	-4.313	-	-4.313
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-7.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	5.287	-	5.287
• Rate/Misc Adjustments	-	-	-9.600	-	-9.600
• Congressional General Reductions Adjustments	-8.173	-	-	-	-
• Congressional Directed Reductions Adjustments	-7.600	-	-	-	-

Change Summary Explanation

Technical: FYDP funds support the Navy decision to transition MQ-8C Endurance Upgrade, Radar, and Weapons capabilities into the Program of Record.

Schedule:
Revised milestone terminology: Aligns with Navy decision to transition the MQ-8C Endurance Upgrade, Weapons and Radar capabilities into the Program of Record.
Updated MQ-8C transition timeline.
Updated System Development Littoral Combat Ship (LCS) Integration schedule to align with Anti-Submarine Warfare (ASW)/Mine Counter-Measures (MCM)/ Surface Warfare (SUW) mission package integration schedule.
Added schedule events for ASW/MCM/SUW LCS mission package integration.
Adjusted production and delivery schedules for out-year procurements.
Adjusted Quick Reaction Assessment event and added DDG-51 Test.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305231N / *MQ-8 UAV*	Project (Number/Name) 2768 / *VTUAV*	

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
2768: *VTUAV*	226.502	83.827	41.713	47.294	-	47.294	53.199	33.446	6.533	6.576	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

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Hardware and System Development	77.760	21.891	21.900

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305231N / *MQ-8 UAV*	**Project (Number/Name)** 2768 / *VTUAV*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Articles:	-	-	-
FY 2013 Accomplishments: Continue MQ-8C Rapid Deployment Capability (RDC) and Radar RDC hardware, software modifications and Weapons RDC, radar and other payload integration, continue Littoral Combat Ship (LCS) testing, and continue other air capable ship class integration and testing, including Guided Missle Destroyer (DDG), FFG, Joint High Speed Vessel (JHSV), and others as assigned. ***FY 2014 Plans:*** Continue MQ-8C RDC hardware, software modifications and other payload integration. Continue LCS testing, and continue other air capable ship classes integration and testing. Complete MQ-8C Quick Reaction Assessment (QRA). Initiate MQ-8 system upgrade with the MQ-8C air vehicle subsystem. ***FY 2015 Plans:*** Continue MQ-8C RDC hardware, software modifications, Coastal Battlefield Reconnaissance and Analysis (COBRA), and other payload integration. Continue MQ-8B and MQ-8C integration and testing on LCS. Complete and correct deficiencies from MQ-8C and Radar QRAs. Initiate MQ-8C Endurance Upgrade, Radar, and Weapons capabilities into the Program of Record.			
Title: Development/Operational Testing	1.609	6.100	7.500
Articles:	-	-	-
FY 2013 Accomplishments: Continue MQ-8C RDC Developmental Testing. Start Radar Developmental Testing and prepare for QRA testing. Continue LCS and other Class Ship integration and testing. Continue Weapons RDC testing. Start Operational Evaluation of MQ-8 Baseline. ***FY 2014 Plans:*** Continue MQ-8C RDC and Radar RDC Developmental and Government Testing. Complete DDG-51 Flight IIA testing. Continue LCS and other Class Ship integration and testing. Continue radar, weapons, and other payload integration and testing. Complete Operational Testing of MQ-8B Baseline. Complete MQ-8C QRA. Complete Radar RDC QRA. ***FY 2015 Plans:*** Complete MQ-8C RDC Developmental and Government Testing. Continue LCS integration and testing. Continue other payload integration and testing. Complete MQ-8C and Radar RDC correct of deficiency testing. Initiate development testing for Endurance Upgrade, Radar, Weapons, other payload capabilities.			
Title: Engineering and Technical Services	4.458	13.722	17.894
Articles:	-	-	-
FY 2013 Accomplishments: Continue engineering, program technical management, and logistics support for the Vertical Take-off Unmanned Aerial Vehicle (VTUAV) system. These include transportation of system assets, program office personnel travel, and contract support services.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305231N / *MQ-8 UAV*	**Project (Number/Name)** 2768 / *VTUAV*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue to support Littoral Combat Ship (LCS) and other Class Ship integration and payload integration. Continue Weapons integration, weapons studies, systems engineering, and test and evaluation. Continue MQ-8C Rapid Deployment Capability (RDC) integration. Continue payload and system studies. ***FY 2014 Plans:*** Continue engineering, program technical management, logistics support for the VTUAV system. Initiate MQ-8 system upgrade with the MQ-8C air vehicle subsytem. Continue payload and system studies and design. ***FY 2015 Plans:*** Continue engineering, program technical management, logistics support. Continue acquisition planning to transition the MQ-8C, Radar, and Weapons capabilities into the Program of Record. Continue Radar, Weapons, other payloads, LCS capabilities payloads, and system studies and design.			
Accomplishments/Planned Programs Subtotals	83.827	41.713	47.294

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, 044300: *MQ-8 UAV*	110.402	74.080	40.663	-	40.663	37.535	28.403	24.372	25.755	1,678.910	2,530.266
• APN, 060510: *MQ-8 UAV Spares*	7.135	15.600	6.573	-	6.573	6.651	0.250	0.250	0.250	-	117.693
• APN, 058800: *MQ-8 Series*	-	-	8.741	-	8.741	22.608	20.138	9.778	5.696	113.392	180.353

Remarks

D. Acquisition Strategy

The Navy is updating our acquisition strategy to restructure the Fire Scout program and capitalize on Rapid Deployment Capability (RDC) efforts, while leveraging existing program investments. Maintain commonality of MQ-8B and MQ-8C systems, payloads, avionics, software, and ancillary equipment where possible. Continue integration and test of Endurance Upgrade, Radar, and Weapons capabilities to support the Capability Production Document and Joint Emergent Operational Need Statement requirements. Initial Operational Capability (IOC) is anticipated in 2QFY14. A Full Rate Production decision and Littoral Combat Ship IOC will follow completion of Operational Test.

E. Performance Metrics

Successfully provide an MQ-8C variant that supports operational deployments. Successfully provide Radar Rapid Deployment Capability for operational deployments. Successfully achieve LCS Ship Integration. Successfully support interim U.S. Special Operations Command mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305231N / *MQ-8 UAV*	Project (Number/Name) 2768 / *VTUAV*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development	C/CPIF	Northrop Grumman Corp : San Diego, CA	148.513	75.760	Nov 2012	21.891	Nov 2013	19.745	Nov 2014	-		19.745	78.200	344.109	344.109
Primary Hardware Development	C/CPIF	Raytheon Corp : Falls Church, VA	14.251	2.000	Nov 2012	-		2.155	Nov 2014	-		2.155	5.900	24.306	24.306
		Subtotal	162.764	77.760		21.891		21.900		-		21.900	84.100	368.415	368.415

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	Various	Various : Various	3.977	-	Nov 2012	2.100	Nov 2013	4.420	Nov 2014	-		4.420	11.900	22.397	-
		Subtotal	3.977	-		2.100		4.420		-		4.420	11.900	22.397	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWCAD : PAXRV, MD	9.693	0.278	Nov 2012	4.500	Nov 2013	5.100	Nov 2014	-		5.100	10.900	30.471	-
Operational Test & Evaluation/QRA	WR	NAWCAD : PAXRV, MD	1.000	1.331	Nov 2012	1.600	Nov 2013	2.400	Nov 2014	-		2.400	4.200	10.531	-
Prior Years T&E no longer funded in the FYDP	Various	Various : Various	0.342	-		-		-		-		-	-	0.342	-
		Subtotal	11.035	1.609		6.100		7.500		-		7.500	15.100	41.344	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305231N / *MQ-8 UAV*	Project (Number/Name) 2768 / *VTUAV*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Engineering Support	WR	NAWCAD : PAXRV, MD	42.648	0.931	Nov 2012	6.222	Nov 2013	7.380	Nov 2014	-		7.380	19.200	76.381	-
Program Management Support	Various	Various : Various	3.184	3.287	Nov 2012	5.100	Nov 2013	5.624	Nov 2014	-		5.624	12.800	29.995	-
Travel	WR	NAVAIR : PAXRV, MD	0.593	0.240	Nov 2012	0.300	Nov 2013	0.470	Nov 2014	-		0.470	Continuing	Continuing	Continuing
Prior years Mgmt Svcs no longer funded in the FYDP	Various	Various : Various	2.301	-		-		-		-		-	-	2.301	-
		Subtotal	48.726	4.458		11.622		13.474		-		13.474	-	-	-

Remarks

Travel contract type is TO.

	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	226.502	83.827		41.713		47.294		-		47.294	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305231N / *MQ-8 UAV*	**Project (Number/Name)** 2768 / *VTUAV*

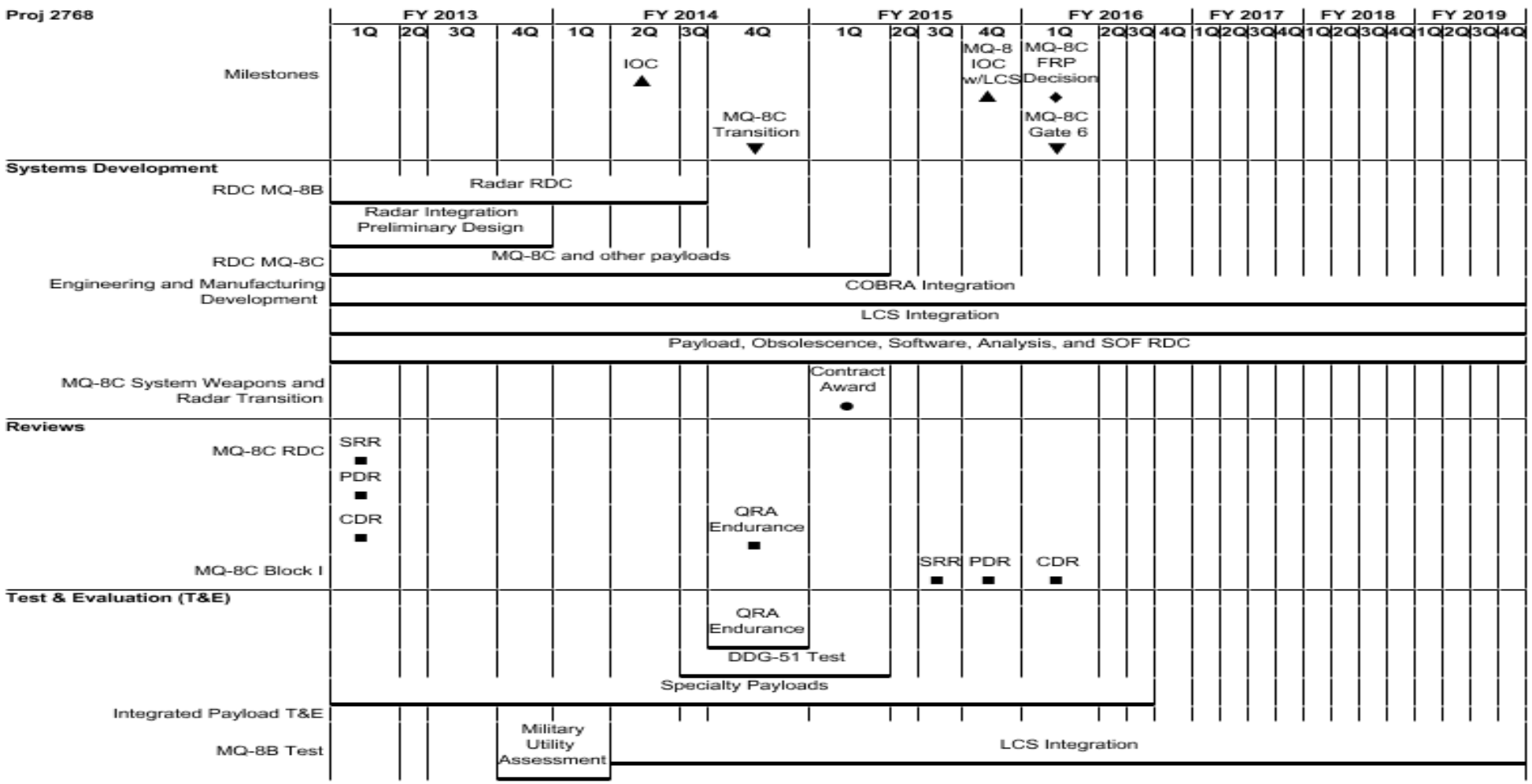
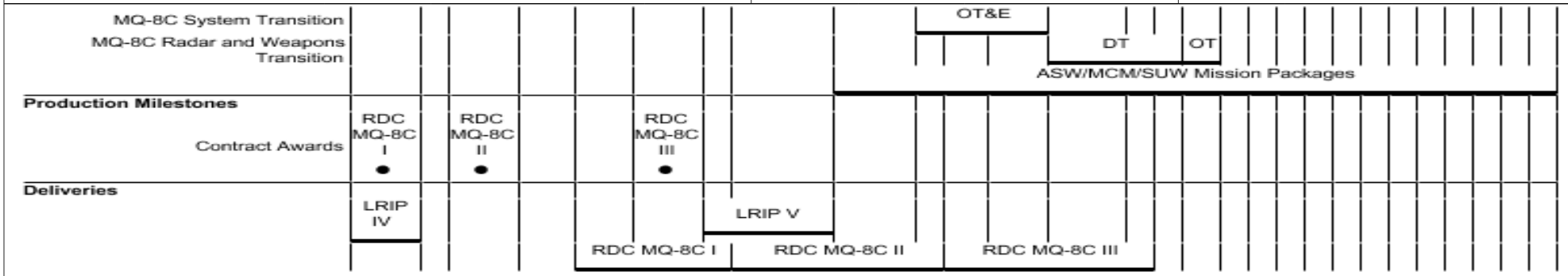


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305231N / *MQ-8 UAV*	**Project (Number/Name)** 2768 / *VTUAV*



2015PB - 0305231N - 2768

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305231N / *MQ-8 UAV*	**Project (Number/Name)** 2768 / *VTUAV*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Proj 2768				
Milestones: MQ-8 Initial Operational Capability (IOC)	2	2014	2	2014
Milestones: MQ-8 Initial Operational Capability (IOC) - MQ-8C Littoral Combat Ship (LCS)	4	2015	4	2015
Milestones: MQ-8C Full Rate Production (FRP) Decision	1	2016	1	2016
Milestones: MQ-8C Upgrade Gate 6	1	2016	1	2016
Milestones: MQ-8C Acquistion Strategy Report (ASR) Approval for transition	4	2014	4	2014
Systems Development: RDC MQ-8B: Radar Rapid Deployment Capability (RDC)	1	2013	3	2014
Systems Development: RDC MQ-8B: Radar Integration Preliminary Design	1	2013	4	2013
Systems Development: RDC MQ-8C: MQ-8C and Special Operations Forces (SOF) payloads	1	2013	1	2015
Systems Development: Engineering and Manufacturing Development: Coastal Battlefield Reconnaissance and Analysis Integration (COBRA), BLK 1/2/3	1	2013	4	2019
Systems Development: Engineering and Manufacturing Development: Littoral Combat Ship (LCS) Integration	1	2013	4	2019
Systems Development: Engineering and Manufacturing Development: Payload, Obsolescence, Software, Analysis, and Special Ooperations Forces (SOF) Rapid Deployment Capability (RDC)	1	2013	4	2019
Systems Development: MQ-8C System Weapons and Radar Transition: MQ-8C Block I Contract Award	1	2015	1	2015
Reviews: MQ-8C RDC: System Requirements Review (SRR)	1	2013	1	2013
Reviews: MQ-8C RDC: Preliminary Design Review (PDR)	1	2013	1	2013
Reviews: MQ-8C RDC: Critical Design Review (CDR)	1	2013	1	2013
Reviews: MQ-8C RDC: Quick Reaction Assessment (QRA) Endurance MQ-8C	4	2014	4	2014
Reviews: MQ-8C Block I: System Requirements Review (SRR)	3	2015	3	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305231N / *MQ-8 UAV*	**Project (Number/Name)** 2768 / *VTUAV*

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
Reviews: MQ-8C Block I: Preliminary Readiness Review (PRR)	4	2015	4	2015
Reviews: MQ-8C Block I: Critical Design Review (CDR)	1	2016	1	2016
Test & Evaluation (T&E): MQ-8C RDC Quick Reaction Assessment (QRA)	4	2014	4	2014
Test & Evaluation (T&E): DDG-51 Test	3	2014	1	2015
Test & Evaluation (T&E): Specialty Payloads	1	2013	3	2016
Test & Evaluation (T&E): MQ-8B Test: MQ-8	4	2013	1	2014
Test & Evaluation (T&E): MQ-8B Test: Littoral Combat Ship (LCS) Integration	2	2014	4	2019
Test & Evaluation (T&E): MQ-8C System Transition: Operational Test and Evaluation (OT&E)	2	2015	4	2015
Test & Evaluation (T&E): MQ-8C Radar and Weapons Transition: Developmental Test (DT)	1	2016	3	2016
Test & Evaluation (T&E): MQ-8C Radar and Weapons Transition: Operational Test (OT)	4	2016	4	2016
Test & Evaluation (T&E): MQ-8C Radar and Weapons Transition: Littoral Combat Ship (LCS) Mission Package Testing	1	2015	4	2019
Production Milestones: Contract Awards: Rapid Deployment Capability (RDC) MQ-8C I	1	2013	1	2013
Production Milestones: Contract Awards: Rapid Deployment Capability (RDC) MQ-8C II	3	2013	3	2013
Production Milestones: Contract Awards: Rapid Deployment Capability (RDC) MQ-8C III	2	2014	2	2014
Deliveries: Air Vehicles - LRIP IV APN	1	2013	1	2013
Deliveries: Air Vehicles - LRIP V APN	3	2014	4	2014
Deliveries: Air Vehicles - RDC MQ-8C I	1	2014	3	2014
Deliveries: Air Vehicles - RDC MQ-8C II	4	2014	2	2015
Deliveries: Air Vehicles - RDC MQ-8C III	3	2015	2	2016

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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305232M / *RQ-11 UAV*							
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	2.042	0.083	-	0.718	-	0.718	0.638	0.487	0.494	0.503	Continuing	Continuing
2292: *RQ-11 UAV*	2.042	0.083	-	0.718	-	0.718	0.638	0.487	0.494	0.503	Continuing	Continuing

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

Note

Prior to FY2010 RQ-11 Unmanned Aerial Vehicle (UAV) was funded in PE 0206313M, project C2273.

A. Mission Description and Budget Item Justification

GROUP 1 (formerly known as TIER I UAS) - The program office is pursuing a rapid acquisition approach to quickly field new technology and capabilities to the warfighter. The strategy is to use evolutionary acquisition with two incremental developments to meet the final desired Small Unit Remote Scouting System (SURSS) requirements (Joint USMC/USA/SOCOM capabiities). The SURSS Block 0, Dragon Eye, was the first increment and is currently fielded to deployed units. For the Block 1 increment the USMC adopted the USSOCOM Rucksack Portable UAV (RPUAV) Operational Requirements Document (ORD), which meets the USMC's requirement and began migrating to the joint materiel solution, the Raven B.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	0.495	0.102	0.720	-	0.720
Current President's Budget	0.083	-	0.718	-	0.718
Total Adjustments	-0.412	-0.102	-0.002	-	-0.002
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-0.102			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.030	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-0.401	-	-0.002	-	-0.002
• Congressional General Reductions Adjustments	-0.041	-	-	-	-

Change Summary Explanation

The $400K reduction in FY13 is due to a Congressional Rescission.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305232M / *RQ-11 UAV*	Project (Number/Name) 2292 / *RQ-11 UAV*	

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
2292: *RQ-11 UAV*	2.042	0.083	-	0.718	-	0.718	0.638	0.487	0.494	0.503	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

GROUP 1 (Family of Systems) - The program office is pursuing a rapid acquisition approach to quickly field new technology and capabilities to the warfighter. The strategy is to use evolutionary acquisition with two incremental developments to meet the final desired Small Unit Remote Scouting System (SURSS) requirements (Joint USMC/USA/SOCOM capabilities). The SURSS Block 0, Dragon Eye, was the first increment and was fielded to deployed units. Dragon Eyes are being removed and replaced with the Raven B. For the Block 1 increment, the USMC adopted the US SOCOM Rucksack Portable UAV (RPUAV) ORD, which meets the USMC's requirement and began migrating to the joint materiel solution, the Raven B. Raven B's are transitioning from an 8 Channel to a Digital Data Link (DDL) version while pursuing Tactical Sensor Network Suite (TSN2) technology which provides enhanced opportunities to detect irregular and asymmetric threats in a variety of domains, including urban, providing the warfighter with enhanced situational awareness and understanding. In concert with TSN2 technology development, continue research/ testing technologies that improve UAV range and endurance as well as reliability and maintainability improvements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Product Development and Support	0.083	-	0.718
Articles:	-	-	-
FY 2013 Accomplishments: Continued Tactical Network Sensor Suite (TNS2) program. This initiative continues to support the development, experimentation, integration and product enhancement of the Marine Corps UAS program, communications hardware and C2 software.			
FY 2014 Plans: N/A			
FY 2015 Plans: Continue TSN2 effort, conduct RMA analysis on EO/IR gimbal payloads and begin integration of advanced payloads.			
Accomplishments/Planned Programs Subtotals	0.083	-	0.718

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/4757: *RQ-11 UAV*	2.315	4.483	2.737	-	2.737	2.609	2.350	2.396	1.959	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305232M / *RQ-11 UAV*	**Project (Number/Name)** 2292 / *RQ-11 UAV*

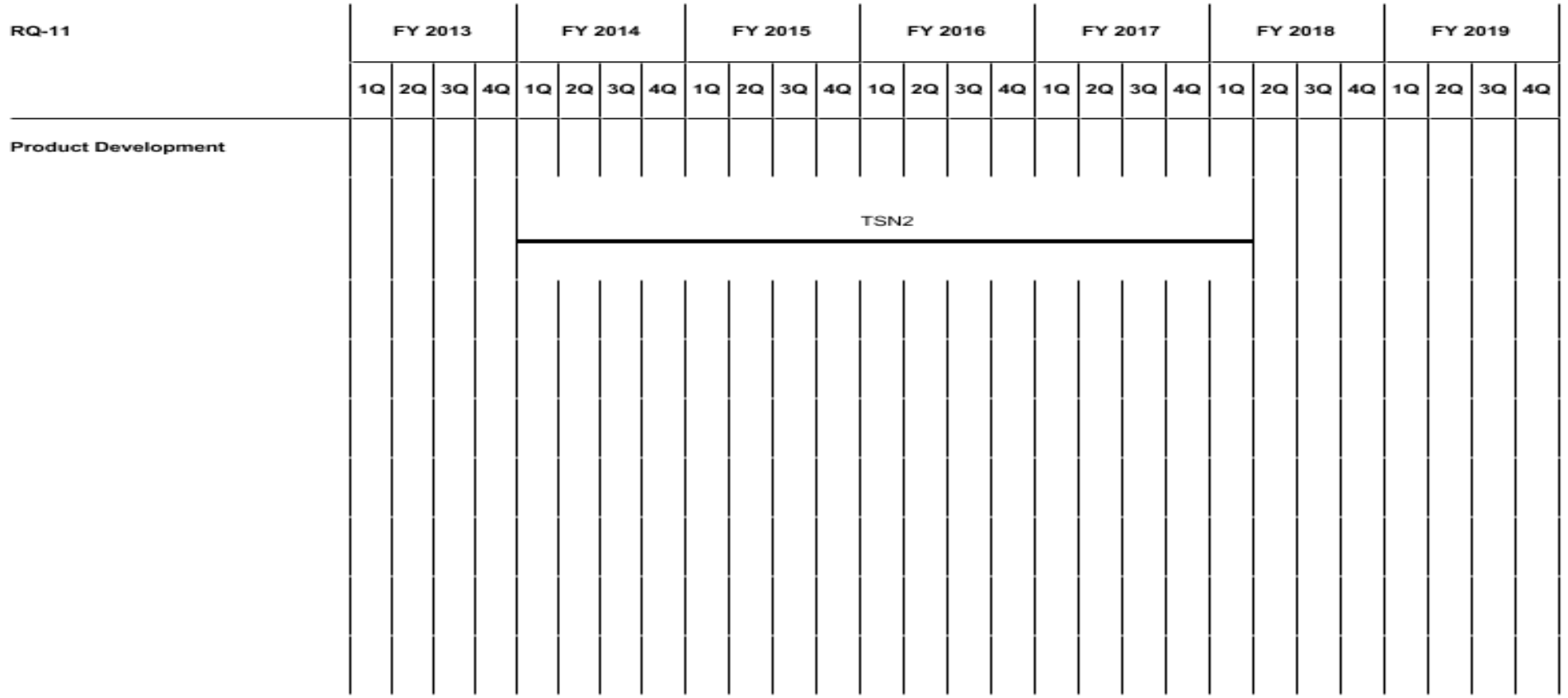
D. Acquisition Strategy

The program office is pursuing a rapid acquisition approach to quickly field new technology and capabilities to the warfighter. The strategy is to use evolutionary acquisition with incremental developments to meet the final desired Small Unit Remote Scouting System (SURSS) requirements (Joint USMC/USA/SOCOM capabiities). The next increment will involve an evolution to a Group 1 (Family of System) individually capable of executing requirements for long, medium and short range missions in fulfillment of the SURSS requirement.

E. Performance Metrics

Fielded joint material solution.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305232M / *RQ-11 UAV*	**Project (Number/Name)** 2292 / *RQ-11 UAV*



2015PB - 0305232M - 2292

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305233N *I RQ-7 UAV*							
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	20.188	0.791	0.710	0.851	-	0.851	0.834	0.783	0.799	0.817	Continuing	Continuing
9C84: *MCTUAS*	20.188	0.791	0.710	0.851	-	0.851	0.834	0.783	0.799	0.817	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

This program element supports additional capability development, at both service specific and joint service levels, for the RQ-7 Shadow non-lethal joint tactical Unmanned Aerial Vehicle system for the Department of Defense to provide the warfighter with the capability for day/night aerial Reconnaissance, Surveillance, Target Acquisition, Intelligence, Battle Damage Assessment, and Force Protection. This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	8.463	0.710	0.974	-	0.974
Current President's Budget	0.791	0.710	0.851	-	0.851
Total Adjustments	-7.672	-	-0.123	-	-0.123
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-7.600	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.123	-	-0.123
• Congressional General Reductions Adjustments	-0.072	-	-	-	-

Change Summary Explanation

Schedule: $7.6M for Weapon Integration was zeroed by Subcommittee on Defense (SAC-D) Public Law Report (112-196) due to undefined weapon system.
Technical: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305233N / *RQ-7 UAV*	Project (Number/Name) 9C84 / *MCTUAS*	

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
9C84: *MCTUAS*	20.188	0.791	0.710	0.851	-	0.851	0.834	0.783	0.799	0.817	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 Marine Corps Tactical Unmanned Aircraft System (MCTUAS) project supports the fielded RQ-7B Shadow Unmanned Aerial Vehicle (UAV) system by conducting research, development, test and evaluation for improvement of the RQ-7 UAV capabilities in Reconnaissance, Surveillance and Target Acquisition, Intelligence, Battle Damage Assessment, Laser Designation and Force Protection. The RQ-7B Shadow UAV system provides critical battlefield intelligence and targeting information in the rapid cycle time required for success at the tactical level.

RQ-7B Shadow UAV systems are acquired through the United States Army (US Army) Unmanned Aerial System (UAS) Program Office to fulfill United States Marine Corps (USMC) UAS requirements. In order to optimize interoperability, maintainability, and capability with minimal cost, the USMC and US Army plan to develop additional capabilities for the common RQ-7 system to include the fuselage, flight and mission electrical and electronic systems, propulsion system, communications system, and capability payloads. These funds represent the USMC share of the combined joint development cost through Program Management Office UAS and the RQ-7 USMC specific development efforts of the NAVAIR 5.1 UAV Test Directorate.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: MCTUAS Development Support	0.791	0.710	0.851
Articles:	-	-	-
Description: Joint development efforts with US Army RQ-7 Shadow Program, for common RQ-7 block upgrades, United States Marine Corps specific development efforts at the joint and Navy unique levels required for continued improvement and interoperability.			
FY 2013 Accomplishments: Continued with Marine Corps share of the costs of common RQ-7 development efforts and Government engineering support for control systems power plant, Intelligence Surveillance Reconnaissance (ISR) systems and continued support for efforts brought forward from FY2012.			
FY 2014 Plans: FY2014 funding continues development of and government engineering support for ongoing initiatives and will continue development efforts for improvements to ISR systems, external payloads, and communications systems. Funding will be used to continue RQ-7 Shadow test and evaluation efforts of the Navy Unmanned Aerial Vehicle Test Squadron.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305233N / *RQ-7 UAV*	**Project (Number/Name)** 9C84 / *MCTUAS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Funding continues development for ongoing initiatives and will initiate development efforts for improvements to Intelligence Surveillance Reconnaissance systems, external payloads and communications systems.			
Accomplishments/Planned Programs Subtotals	0.791	0.710	0.851

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/058900: *RQ-7 UAV*	47.102	26.433	2.544	-	2.544	3.815	3.825	-	-	-	109.736

Remarks

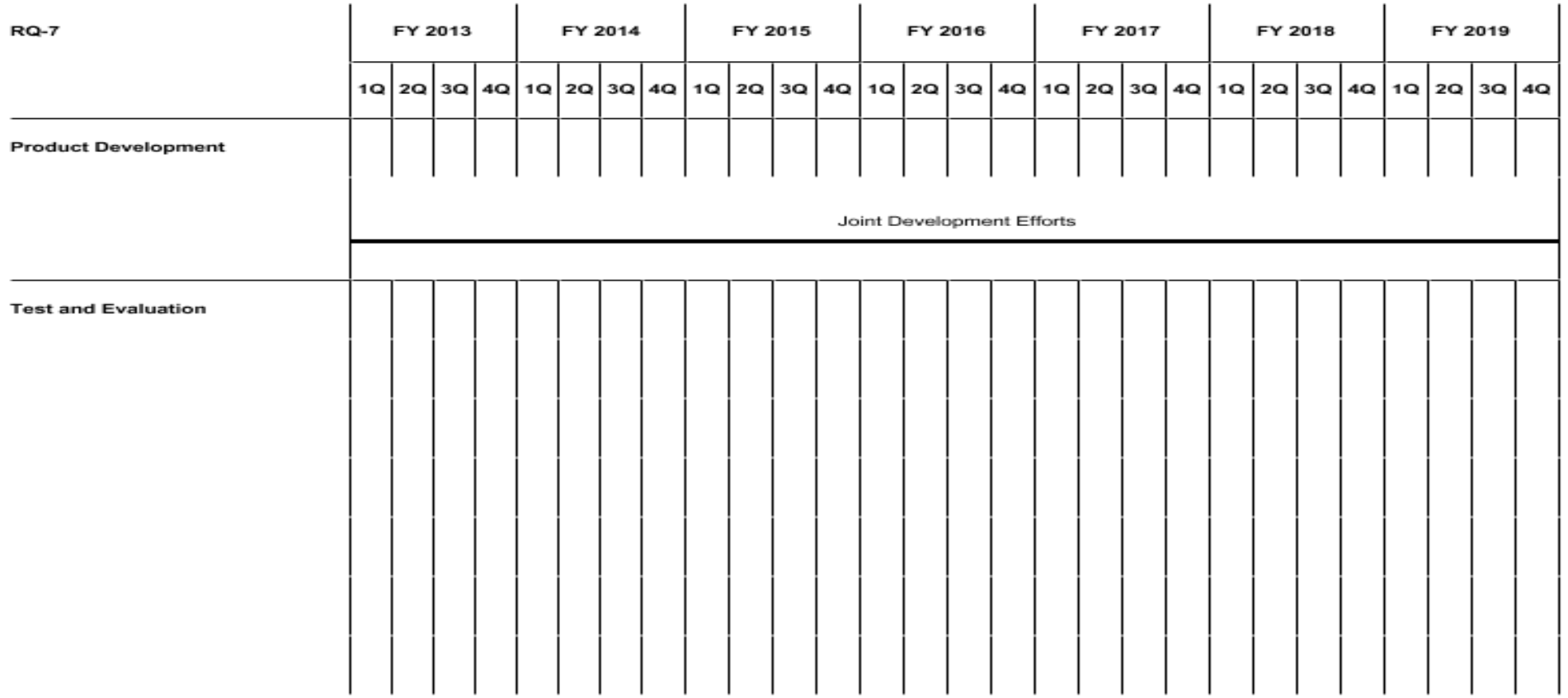
D. Acquisition Strategy

Sole source engineering development services contract with Aircraft Armament Incorporated through United States Army Program Management Unmanned Aerial Systems and United States Marine Corps (USMC) unique capability development efforts of the Navy Unmanned Aerial Vehicle (UAV) Test Squadron.

E. Performance Metrics

Attainment of targeted development effort upgrades improving operational capability of the RQ-7 UAV USMC Tactical Unmanned Aircraft System.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305233N / *RQ-7 UAV*	**Project (Number/Name)** 9C84 / *MCTUAS*



2015PB - 0305233N - 9C84

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305234N *I (U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*

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	50.272	9.204	5.013	4.813	-	4.813	4.992	5.123	5.174	5.287	Continuing	Continuing
3192: *RQ-21A BLACKJACK*	50.272	9.204	5.013	4.813	-	4.813	4.992	5.123	5.174	5.287	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

Small Tactical Unmanned Aircraft System (STUAS) is a non-lethal joint tactical Unmanned Aerial Vehicle systems for Department of Defense to provide Persistent Intelligence, Surveillance and Reconnaissance (ISR)/Target Acquisition, which will fill the capability gap in ISR services available to Fleet and Marine forces.

This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	9.734	5.013	5.114	-	5.114
Current President's Budget	9.204	5.013	4.813	-	4.813
Total Adjustments	-0.530	-	-0.301	-	-0.301
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-0.119	-	-0.119
• Rate/Misc Adjustments	-	-	-0.182	-	-0.182
• Congressional General Reductions Adjustments	-0.530	-	-	-	-

Change Summary Explanation

Financial: Decrease in FY2013 from PB14 represents sequestration reduction.
Schedule: APN-4 $9.593M marked by the Subcommittee on Defense (SAC-D) Public Law Report (112-196) causing the elimination of APN-4 Low Rate Initial Production (LRIP) contract award and LRIP Delivery.
Technical: N/A

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305234N / *(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*	Project (Number/Name) 3192 / *RQ-21A BLACKJACK*	

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
3192: *RQ-21A BLACKJACK*	50.272	9.204	5.013	4.813	-	4.813	4.992	5.123	5.174	5.287	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 Small Tactical Unmanned Aircraft System (STUAS) is a combined United States Navy (USN) and United States Marine Corps (USMC) program that provides persistent maritime and land-based tactical Intelligence, Surveillance, and Reconnaissance/Target Acquisition (RSTA) support for tactical level maneuver decisions and unit level force defense/force protection for Naval amphibious assault ships (multi-ship classes) and Navy and Marine land forces. This system will support Naval Missions such as building the Recognized Maritime Picture, Maritime Security Operations, Maritime Interdiction Operations, and provide support for Naval Units operating from sea/shore in Overseas Contingency Operations. This submission is the USNs portion of the program and has been coordinated with the USMC budget submission PE 0305239M (RQ-21A).

A STUAS system (Land-based or Ship-based) consists of five (5) air vehicles, two (2) Ground Control Stations, multi-mission (plug and play) payloads, one (1) launcher, one (1) recovery system and associated support equipment.

The STUAS system will continue to evolve and upgrade capabilities to satisfy capabilities shortfalls, new requirements, and reliability, maintainability and safety issues. Upgraded capabilities may include Navy Command and Control integration, Signals Intelligence and Synthetic Aperture Radar payloads, weapons integration, Heavy Fuel Engine, Laser Designator and Digital Common Data Link. RQ-21A will also continue to expand its shipboard capability across new ship classes.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Engineering and Technical Services	9.204	3.513	3.613
Articles:	-	-	-
Description: Provides for the Government Engineering Technical Support, Logistics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support, Program related travel in support of the upgrade/payload efforts.			
FY 2013 Accomplishments: Provided Government Engineering Technical Support, Logistics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support and program related travel. Completed all required documentation leading to a Milestone C decision, which was approved on May 16, 2013. Started Initial Operational Test and Evaluation (IOT&E) efforts.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305234N / *(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*	**Project (Number/Name)** 3192 / *RQ-21A BLACKJACK*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Provide for the Government Engineering Technical Support, Logistics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support, Program related travel in support of the upgrade/payload efforts. ***FY 2015 Plans:*** Will provide support for Government Engineering Technical Support, Logistics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support, and program related travel in support of upgrade/payload efforts. Small Tactical Unmanned Aircraft System will begin Class Ship integration and testing. Integration of mature payloads will be performed.			
Title: Upgrade/Payload Integration	-	1.500	1.200
Articles:	-	-	-
Description: Provide Upgrade/Payload Integration ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Prime System Contractor will be responsible for upgrade/payload integration as well as systems engineering, integrated logistics support and associated management activities. ***FY 2015 Plans:*** Small Tactical Unmanned Aircraft System will begin integration efforts on board Landing Helicopter Dock class ships. Integration of mature payloads will be performed. Prime System Contractor will be responsible for all system upgrades as well as systems engineering, integrated logistics support and associated management activities. Due to the modularity of the system, payload integration efforts will be the responsibility of the contracted party, which may include the Prime Contractor, Government Labs, or the payload manufacturer.			
Accomplishments/Planned Programs Subtotals	9.204	5.013	4.813

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-4/0444: *RQ-21A UAV (Blackjack)*	-	-	-	-	-	-	25.936	45.224	73.446	Continuing	Continuing
• APN-6/0605: *STUASL0*	-	-	-	-	-	-	5.100	5.100	-	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305234N / *(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*	**Project (Number/Name)** 3192 / *RQ-21A BLACKJACK*

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,/0305239M: *STUAS/RQ-21A*	22.924	11.122	8.192	-	8.192	8.376	8.580	8.734	8.928	Continuing	Continuing
• RDTEN,/0305242M: *STUAS/ RQ-21A UAS Payloads*	-	-	2.000	-	2.000	2.000	2.000	2.000	2.000	Continuing	Continuing
• PMC-473700: *STUAS/RQ-21A*	13.982	66.612	70.565	-	70.565	73.174	74.273	75.460	77.008	Continuing	Continuing
• PMC/7000: *STUAS/RQ-21A Spares and Repair Parts*	-	5.000	5.093	-	5.093	5.198	5.312	5.406	5.517	Continuing	Continuing

Remarks

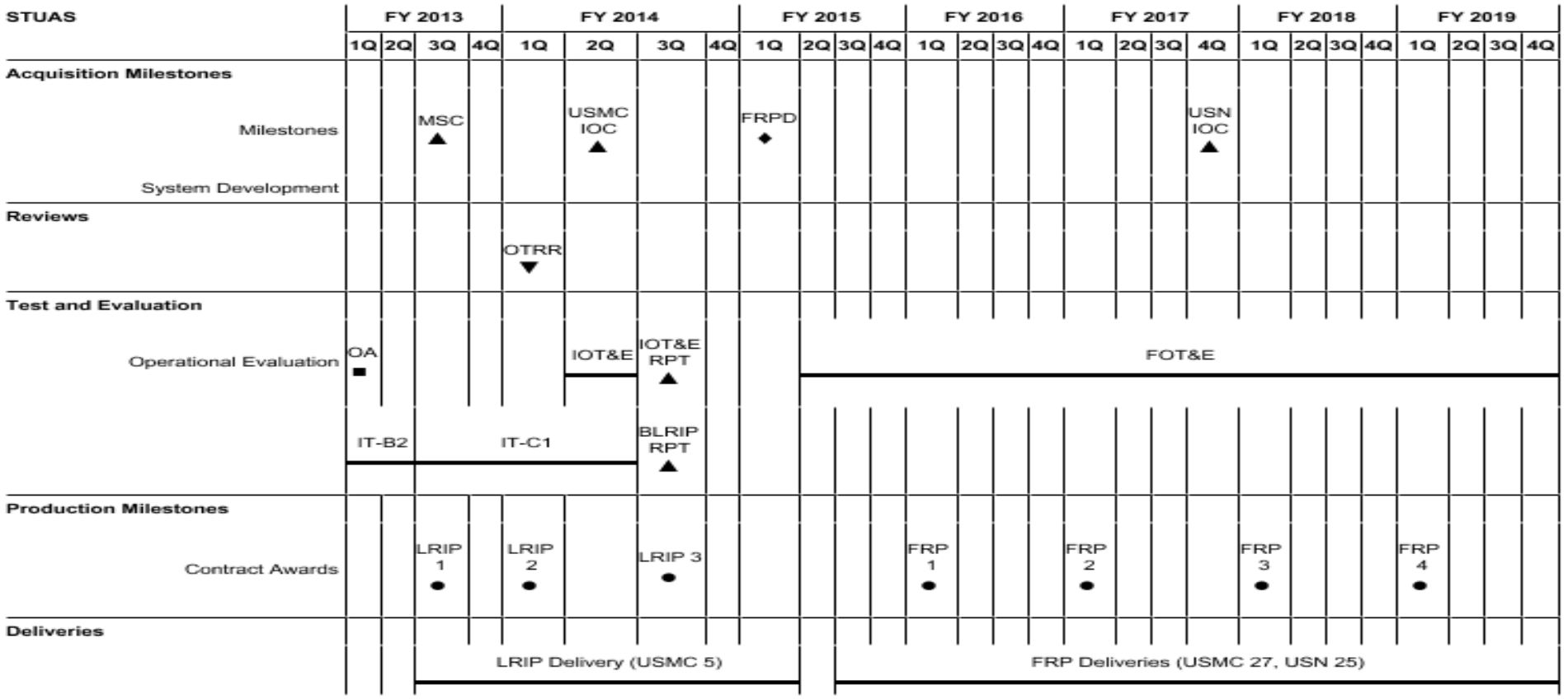
D. Acquisition Strategy

The program office has utilized a competitive acquisition approach for award of the Engineering and Manufacturing Development effort to field a capability that meets threshold requirements. Low Rate Initial Production test article will be utilized to successfully complete Initial Operational Test and Evaluation and achieve Initial Operational Capability (IOC) leading to a Full-Rate Production Decision Review. The program office will use Sole Source acquisition approach for the remaining Research Development Test and Evaluation efforts except for the payloads. The payloads shall be competitively awarded or procured via Government Labs with Insitu, Inc. conducting integration efforts as required.

E. Performance Metrics

Attainment of Small Tactical Unmanned Aircraft System IOC in accordance with approved schedule.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305234N / *(U)SMALL (LEVEL 0) TACTICAL UAS (STUASL0)*	**Project (Number/Name)** 3192 / *RQ-21A BLACKJACK*



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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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305239M *I (U)RQ-21A*

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	24.201	22.924	11.122	8.192	-	8.192	8.376	8.580	8.734	8.928	Continuing	Continuing
2298: *SMALL (LEVEL 0) TACTICAL UAS (STUAL0)*	24.201	22.924	11.122	8.192	-	8.192	8.376	8.580	8.734	8.928	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The RQ-21A program will provide persistent maritime and land-based tactical Reconnaissance, Surveillance and Target Acquisition (RSTA) data collection and dissemination capability to the war fighter. For the United States Marine Corps (USMC), RQ-21A will provide the Marine Expeditionary Force and subordinate commands (divisions and regiments) with a dedicated, organic Intelligence, Surveillance, and Reconnaissance (ISR) capability delivering intelligence products directly to the tactical commander in real time. For the United States Navy (USN) RQ-21A will provide persistent RSTA support for tactical maneuver decisions and unit-level force defense/force protection for Navy Ships, Marine Corps land forces, Navy Expeditionary Combat Command forces, and Navy Special Warfare Units. This is a combined development program between Navy and Marine Corps. This submission is the Marine Corps portion of the program and has been coordinated with the Navy budget submission PE 0305234N (STUAS).

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	22.343	11.122	9.274	-	9.274
Current President's Budget	22.924	11.122	8.192	-	8.192
Total Adjustments	0.581	-	-1.082	-	-1.082
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.444	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	1.000	-	1.000
• Rate/Misc Adjustments	-0.001	-	-2.082	-	-2.082
• Congressional General Reductions Adjustments	-1.862	-	-	-	-

Change Summary Explanation

The decrease in funding from FY13 through FY15 represents the program shift to Full Rate Production (FRP).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305239M / *(U)RQ-21A*	Project (Number/Name) 2298 / *SMALL (LEVEL 0) TACTICAL UAS (STUAL0)*	

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
2298: *SMALL (LEVEL 0) TACTICAL UAS (STUAL0)*	24.201	22.924	11.122	8.192	-	8.192	8.376	8.580	8.734	8.928	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 RQ-21A program will provide persistent maritime and land-based tactical Reconnaissance, Surveillance and Target Acquisition (RSTA) data collection and dissemination capability to the Warfighter. For the United States Marine Corps (USMC), RQ-21A will provide the Marine Expeditionary Force and subordinate commands (divisions and regiments) with a dedicated, organic Intelligence, Surveillance, and Reconnaissance (ISR) capability delivering intelligence products directly to the tactical commander in real time. For the United States Navy (USN) RQ-21A will provide persistent RSTA support for tactical maneuver decisions and unit-level force defense/force protection for Navy Ships, Marine Corps land forces, Navy Expeditionary Combat Command forces, and Navy Special Warfare Units. This is a combined development program between Navy and Marine Corps. This submission is the Marine Corps portion of the program and has been coordinated with the Navy budget submission PE 0305234N Small Tactical Unmanned Aircraft System (STUAS).

The RQ-21A system will continue to evolve addressing capability shortfalls, new requirements, obsolescence equipment, reliability, maintainability, and safety issues. Additional capabilities and/or system upgrades may include Navy Command and Control integration, Signals Intelligence and Synthetic Aperture Radar payloads, Weapons Integration, Heavy Fuel Engine, Laser Designator and Digital Common Data link. RQ-21A will also continue to expand its shipboard capability across new ship classes.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: RQ-21A: Product Development	17.092	6.200	4.000
Articles:	1.000	-	-
FY 2013 Accomplishments: Completed the Engineering Manufacturing and Development efforts for the RQ-21A program. Procured (1) one LRIP System for use in Initial Operational Test and Evaluation (IOT&E). Received Milestone C approval on May 16, 2013.			
FY 2014 Plans: RQ-21A will conduct IOT&E. The program will then address correction of deficiencies from IOT&E along with the start of other upgrades to the system to include additional payloads.			
FY 2015 Plans: RQ-21A will begin integration efforts on board LHD class ships. Integration of mature payloads will be performed. Prime System Contractor will be responsible for all system upgrades as well as systems engineering, integrated logistics support, and associated			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305239M / *(U)RQ-21A*	**Project (Number/Name)** 2298 / *SMALL (LEVEL 0) TACTICAL UAS (STUAL0)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
management activities. Due to the modularity of the system, payload integration efforts will be the responsibility of the contracted party which may include the Prime Contractor, Government Labs, or the payload manufacturer.			
Title: RQ-21A: Engineering and Technical Services	5.832	4.922	4.192
Articles:	-	-	-
FY 2013 Accomplishments: Provided for the Government Engineering Technical Support, Logisitics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support, and program related travel via NAWC Pax River. Started Initial Operational Test and Evaluation (IOT&E) efforts. Completed Hardware and Software Development on the EMD program. Completed all required documenation for Milestone C decision.			
FY 2014 Plans: Provide support for Government Engineering Technical Support, Logisitics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support, and program related travel via NAWC Pax River in support of IOT&E, Interim Contractor Support, Full Rate Production Decision, and Follow-on Operational Test and Evaluation.			
FY 2015 Plans: Will provide support for Government Engineering Technical Support, Logisitics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support, and program related travel via NAWC Pax River in support of upgrades/payloads efforts. RQ-21A will begin Class Ship integration and testing. Integration of mature payloads will be performed.			
Accomplishments/Planned Programs Subtotals	22.924	11.122	8.192

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/0444: *NAVY RQ-21A Blackjack*	-	-	-	-	-	-	25.936	45.224	73.446	Continuing	Continuing
• APN/0605: *NAVY RQ-21A Blackjack*	-	-	-	-	-	-	5.100	5.100	-	Continuing	Continuing
• RDTEN/0305234N: *NAVY RQ-21A Blackjack*	9.204	5.013	4.813	-	4.813	4.992	5.123	5.174	5.287	Continuing	Continuing
• RDTEN/0305242M: *STUAS/ RQ-21A UAS Payloads*	-	-	2.000	-	2.000	2.000	2.000	2.000	2.000	Continuing	Continuing
• PMC/4737: *STUAS/RQ-21A*	13.982	66.612	70.565	-	70.565	73.174	74.273	75.460	77.008	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305239M / *(U)RQ-21A*	**Project (Number/Name)** 2298 / *SMALL (LEVEL 0) TACTICAL UAS (STUAL0)*

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/7000: *STUAS/RQ-21A Spares and Repair Parts*	-	5.000	5.093	-	5.093	5.198	5.312	5.406	5.517	Continuing	Continuing

Remarks

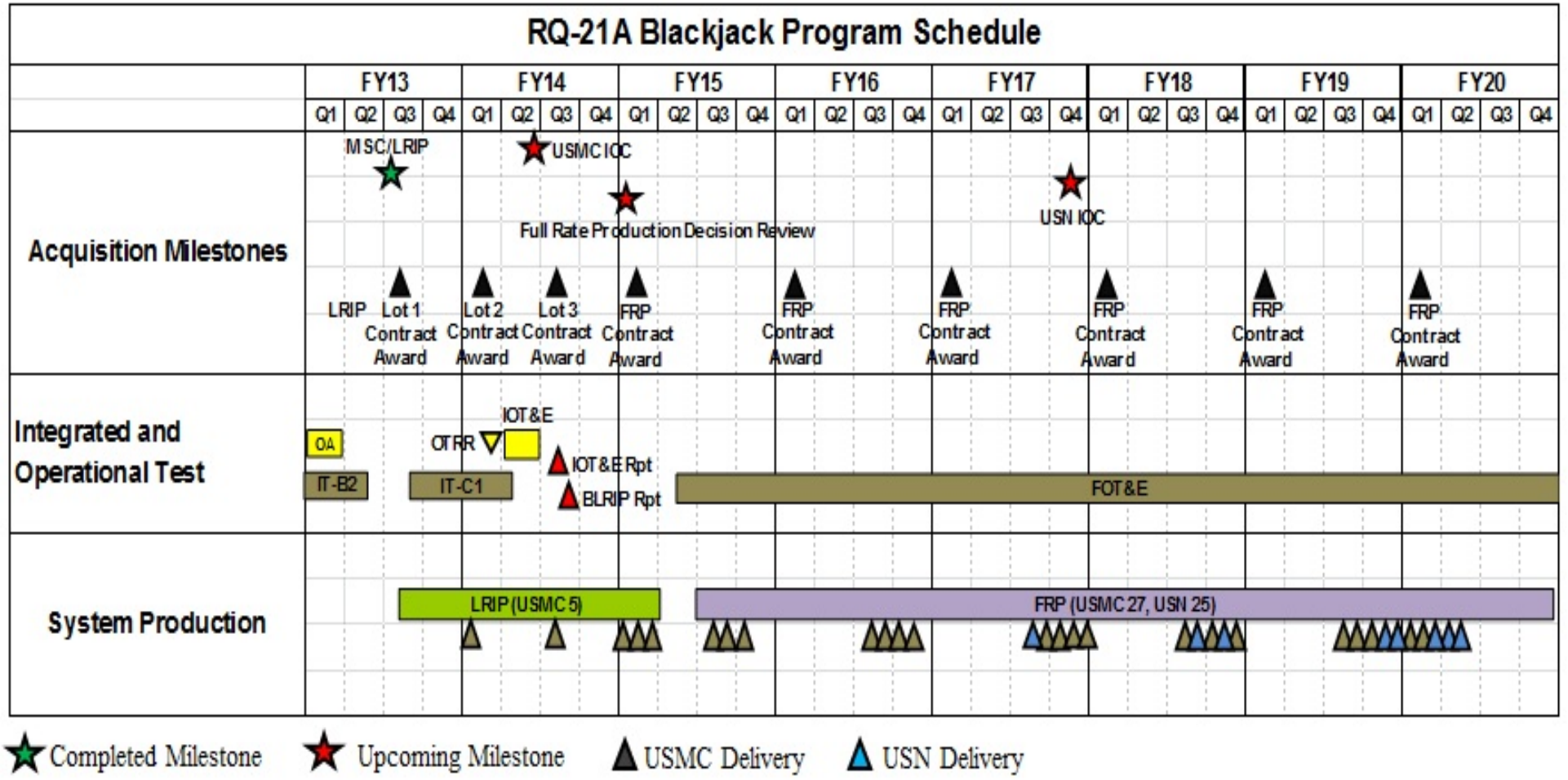
D. Acquisition Strategy

The program office has utilized a competitive acquisition approach for award of the Engineering and Manufacturing Development effort to field a capability that meets threshold requirements. LRIP test article will be utilized to successfully complete IOT&E and achieve Initial Operational Capability (IOC) leading to a Full Rate Production decision. The program office will use Sole Source acquisition approach for the remaining RDT&E efforts except for the payloads. The payloads shall be competively awarded or procured via Government Labs with Insitu, Inc. conducting integration efforts as required.

E. Performance Metrics

Attainment of RQ-21A IOC in accordance with approved schedule.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305239M / *(U)RQ-21A*	**Project (Number/Name)** 2298 / *SMALL (LEVEL 0) TACTICAL UAS (STUAL0)*



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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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305241N *I (U) MULTI-INTELLIGENCE SENSOR 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	0.000	-	28.851	22.559	-	22.559	30.011	54.509	26.965	27.138	Continuing	Continuing
3329: *Multi Intelligence Sensor Development*	0.000	-	28.851	22.559	-	22.559	30.011	54.509	26.965	27.138	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The details of this program element are classified SECRET and are submitted annually to Congress in the classified budget justification books.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	28.851	54.963	-	54.963
Current President's Budget	-	28.851	22.559	-	22.559
Total Adjustments	-	-	-32.404	-	-32.404
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-32.404	-	-32.404

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305241N / *(U) MULTI-INTELLIGENCE SENSOR DEVELOPMENT*	Project (Number/Name) 3329 / *Multi Intelligence Sensor 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
3329: *Multi Intelligence Sensor Development*	-	-	28.851	22.559	-	22.559	30.011	54.509	26.965	27.138	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 details of this program element are classified SECRET and are submitted annually to Congress in the classified budget justification books.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Multi Intelligence Sensor Development	-	28.851	22.559
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: N/A			
FY 2015 Plans: N/A			
Accomplishments/Planned Programs Subtotals	-	28.851	22.559

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The details of this program element are classified SECRET and are submitted annually to Congress in the classified budget justification books.

E. Performance Metrics

The details of this program element are classified SECRET and are submitted annually to Congress in the classified budget justification books.

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305242M *I Unmanned Aerial Systems (UAS) Payloads*

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	-	-	2.000	-	2.000	2.000	2.000	2.000	2.000	Continuing	Continuing
2298: *SMALL (LEVEL 0) TACTICAL UAS (STUAL0)*	0.000	-	-	2.000	-	2.000	2.000	2.000	2.000	2.000	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The Unmanned Aircraft System (UAS) Payload Program will provide responsive capability to develop, integrate, field, and sustain Intelligence, Surveillance, and Reconnaissance (ISR) and non-ISR payloads for all UAS's within the Marine Corps. These sensor payloads will alleviate Marine Corps ISR Capability gaps caused by rapidly changing missions, threats, and technologies and enhance the effectiveness and utility with the UAS. New Start 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	-	-	-	-	-
Current President's Budget	-	-	2.000	-	2.000
Total Adjustments	-	-	2.000	-	2.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	2.000	-	2.000

Change Summary Explanation

Technical: Not applicable.
Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0305242M / *Unmanned Aerial Systems (UAS) Payloads*	Project (Number/Name) 2298 / *SMALL (LEVEL 0) TACTICAL UAS (STUAL0)*	

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
2298: *SMALL (LEVEL 0) TACTICAL UAS (STUAL0)*	-	-	-	2.000	-	2.000	2.000	2.000	2.000	2.000	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 Unmanned Aircraft System (UAS) Payload Program will provide responsive capability to develop, integrate, field, and sustain Intelligence, Surveillance, and Reconnaissance (ISR) and non-ISR payloads for all UAS's within the Marine Corps. These sensor payloads will alleviate Marine Corps ISR Capability gaps caused by rapidly changing missions, threats, and technologies and enhance the effectiveness and utility with the UAS. New Start in FY15.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Product Integration	-	-	1.600
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: N/A			
FY 2015 Plans: Limited procurement of mature payloads to support specific efforts for integration, test, and evaluation on Group 1 thru 3 UAS platforms.			
Title: Engineering and Technical Services	-	-	0.400
Articles:	-	-	-
FY 2013 Accomplishments: N/A			
FY 2014 Plans: N/A			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 2298 / *SMALL (LEVEL 0) TACTICAL UAS (STUAL0)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Provide support for Government Engineering Technical Support, Test and Evaluation, other Government Support, and program related travel.			
Accomplishments/Planned Programs Subtotals	-	-	2.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Integration of existing payloads into current program through competition or sole source methods based on the specific payload.

E. Performance Metrics

Integration of payloads based on approved schedule.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0305242M / *Unmanned Aerial Systems (UAS) Payloads*	**Project (Number/Name)** 2298 / *SMALL (LEVEL 0) TACTICAL UAS (STUAL0)*

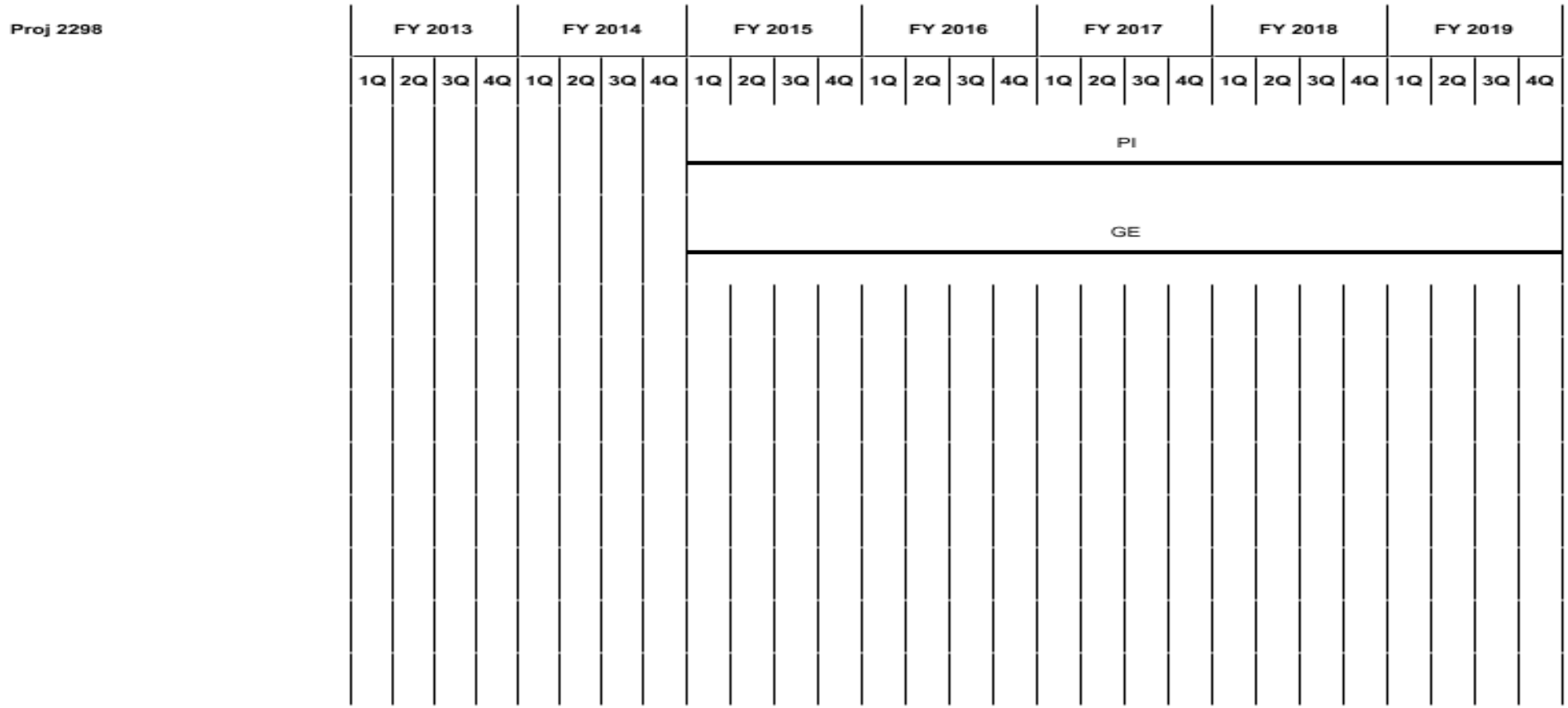


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319: *Research, Development, Test & Evaluation, Navy I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0308601N *I Modeling & Simulation Support*							
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**
Total Program Element	16.035	5.217	5.116	4.719	-	4.719	4.795	5.019	5.109	5.198	Continuing	Continuing
2222: *Modeling & Simulation*	16.035	5.217	5.116	4.719	-	4.719	4.795	5.019	5.109	5.198	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

This Program Element addresses projects under the Navy Modeling and Simulation (M&S) Office. It supports technical and management initiatives directed by Congress, Department of Defense (DOD), Secretary of the Navy (SECNAV), and Chief of Naval Operations (CNO) with the aim of bringing organization, focus, and efficiency to the development and use of M&S throughout the Navy and DoD. It provides a central agency for the formulation and implementation of policy and guidance in M&S, and represents Navy interests in Joint and other agency initiatives. It funds efforts to define and coordinate the corporate Navy M&S policy and guidance to evolve an interoperable and reusable core M&S capability consistent with the M&S technical framework prescribed by DOD. Efforts are organized around three product areas: (1) Core Services: This activity provides essential planning and coordination of M&S efforts with other Services, the Office of Secretary of Defense (OSD), the Joint Staff, and other agencies to develop policies and procedures necessary for M&S standards, visibility, and potential reuse across DoD. (2) Community Services: This activity provides M&S subject matter expert support embedded in the DON M&S Communities to recommend implementations for M&S policies, standards, VV&A, and reuse within their Community and to ensure that the wider DON and DoD are aware (visibility) of the M&S products and services, initiatives, processes, and standards. (3) Community Experiments and Prototypes: This activity conducts experiments and prototypes aimed at determining the feasibility and applicability of proposed standards or technical approaches to Navy M&S and investigates Service-unique requirements for standards or guidance to achieve M&S efficiencies.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	5.908	5.116	5.489	-	5.489
Current President's Budget	5.217	5.116	4.719	-	4.719
Total Adjustments	-0.691	-	-0.770	-	-0.770
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.184	-			
• Rate/Misc Adjustments	-	-	-0.770	-	-0.770

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 7: *Operational Systems Development*		R-1 Program Element (Number/Name) PE 0308601N *I Modeling & Simulation Support*			
• Congressional General Reductions Adjustments	-0.507	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0308601N / *Modeling & Simulation Support*	Project (Number/Name) 2222 / *Modeling & Simulation*	

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
2222: *Modeling & Simulation*	16.035	5.217	5.116	4.719	-	4.719	4.795	5.019	5.109	5.198	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 addresses projects under the Navy Modeling and Simulation (M&S) Office. It supports technical and management initiatives directed by Congress, Department of Defense (DoD), Secretary of the Navy (SECNAV), and Chief of Naval Operations (CNO) with the aim of bringing organization, focus, and efficiency to the development and use of M&S throughout the Navy and DoD. It provides a central agency for the formulation and implementation of policy and guidance in M&S, and represents Navy interests in Joint and other Agency initiatives. It funds efforts to define and coordinate the corporate Navy M&S policy and guidance to evolve an interoperable and reusable core M&S capability consistent with the M&S technical framework prescribed by DoD. Efforts are organized around three product areas: (1) Core Services: This activity provides essential planning and coordination of M&S efforts with other Services, the Office of Secretary of Defense (OSD), the Joint Staff, and other agencies to develop policies and procedures necessary for M&S standards, visibility, and potential reuse across DoD. (2) Community Services: This activity provides M&S subject matter expert support embedded in the DON M&S Communities to recommend implementations for M&S policies, standards, VV&A, and reuse within their Community and to ensure that the wider DON and DoD are aware (visibility) of the M&S products and services, initiatives, processes, and standards. (3) Community Experiments and Prototypes: This activity conducts experiments and prototypes aimed at determining the feasibility and applicability of proposed standards or technical approaches to Navy M&S and investigates Service-unique requirements for standards or guidance to achieve M&S efficiencies.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: CORE SERVICES	1.576	1.655	1.978
Articles:	-	-	-

Description: This activity provides essential planning and coordination of M&S efforts with other Services, the Office of Secretary of Defense (OSD), the Joint Staff, and other agencies to develop policies and procedures necessary for M&S visibility and potential reuse across DoD. It provides updates to the DoD Enterprise Catalog, M&S Master Plan, and M&S Investment Strategy. This activity supports development of common services, tools, and databases to ensure the integration and connectivity of M&S products employed in Naval assessments, training, acquisition, and among operational communities. It manages and maintains the Navy M&S Information Service (NMSIS), the central Naval M&S information resource to support informed M&S investment decision making across DON. It implements and manages the Modeling and Simulation (M&S) Quality Assurance (VV&A) process and guidelines for implementing for modeling, simulation, and data. It reviews both new and legacy M&S VV&A plans and reports and develops and maintains the Naval M&S VV&A repository. It establishes and implements a VV&A training curriculum for developers and Accreditation Agents.

FY 2013 Accomplishments:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0308601N / *Modeling & Simulation Support*	**Project (Number/Name)** 2222 / *Modeling & Simulation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Chaired NMSG-100 Resource Discovery and Access technical activity to develop processes for generation and maintenance of NATO metadata; worked with the DoD Modeling and Simulation Coordination Office (M&SCO) to prepare for the NMSG Business Meetings; participated in the annual NATO and DoD Review of progress and Technical Activity Proposal and Terms of Reference compliance with DoD Global Information Grid (GIG) Enterprise Services; and authored draft Technical Report for participating country review. Participating countries include Canada, France, Germany, Turkey and United States. - Navy Net-Centric Accomplishments include collaborated with Ocean M&S Executive Agent (MSEA) to obtain metadata updates for the Oceanographic and Atmospheric Master Library (OAML) and posted updates to the M&S Catalog and DoD Enterprise Catalog, published M&S Training Course metadata as single entries to the Enterprise Catalog for discovery, developed and coordinated new NMSO Net Centric Data initiative briefing to assist Service Commands in making their M&S data Net-Centric compliant for improved informational sharing and reuse, provided M&S resources data to Navy Research, Development, Test & Evaluation (RDT&E) for Navy Infrastructure & Capability (NICAP) survey, compared questionnaire data to metadata in the DoD Data Service Environment and M&S Catalog to develop more complete surveys and provide a means to evaluate Navy resources that should be documented with metadata discovery. - Provided substantive inputs to DoD plans, strategies, guidance, and definitions. Specific documents reviewed include the latest draft version of the DoD M&S Glossary, the Priority Objective Implementation Plan, Navy [IT] Standards Working Group final draft Charter, DoDI 5000.61 (DoD M&S VV&A), and the Defense Standardization Program's Standardization Directory (SD-1) updated with additional standardization management activity responsibilities assigned to NMSO. As a result of this coordination M&S documents were streamlined, rationalized, and synchronized across DoD. - Responded to multiple VV&A Help Desk inquiries from organizations to include the Strategic Systems Programs, NAVAIR Flight Dynamics Branch, the Hydrodynamics Department of the Naval Surface Warfare Center, the Joint Strike Fighter (JSF) Operational Test Team, etc. Provided VV&A information, advice, assistance, and collected VV&A documents for archiving, discovery, and sharing. - Newly appointed Technical Deputy for the M&S Steering Committee Priority Objective 2.g targeting VV&A Improvement. Effort expanded to focus on VV&A policy, education, best practices, and collaboration as a VV&A Improvement Group (VIG). Action items completed include updating the listing of VV&A-related policy and guidance documents originally compiled in 2011, analysing VV&A behavior that needs to be changed, implementing steps to modify that behavior, and providing the Modeling & Simulation Coordination Office with a roadmap to comply with DoDI 5025.01 (DoD Directives Program). - Researched M&S Standards issues and represented Navy in votes on NATO Standard Agreements and other M&S documents. - Coordinated with the NMSO Data and Web Services Lead to update information on the NMSO Navy M&S Information System (NMSIS) relating to VV&A and Standards. Focused on updating or deleting outdated information, and promoting M&S activities from around the Navy by linking information that promotes Navy's use of M&S. Also added infomation about the DISA Enterprise Catalog, how to add metadata to it, and how to search it. - Approved requests for access to the M&S Resource Repository (MSRR), M&S Standard Vetting Tool and other tools as NMSO's Navy and Marine Registrar and Resource Content Manager; completed web page and M&S Information System (MSIS) re-design			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0308601N / *Modeling & Simulation Support*	**Project (Number/Name)** 2222 / *Modeling & Simulation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
to comply with new DoD Information Assurance Certification (DIACAP) guidance on protection of DoD Personally Identifiable Information (PII). - Serves multiple roles in the Simulation Interoperability Standards Organization (SISO), the only non-governmental Standards Development Organization (SDO) focused on M&S Standards. Ensured M&S standardization across the industry and government thus reducing future impacts on Navy programs. - Vice-Chair of the Standards Activity Committee (SAC) participating in meetings and teleconferences and assisting working groups - SAC Representative to the IEEE Computer Society Standards Activities Board - SAC ex-officio member of the SISO Conference Committee - Vice-Chair of SISO VV&A Forum Planning and Review Panel - Member of Generic Methodology for Verification and Validation Product Development Group - Identifying Naval organizations for classification as a Standard Management Activity (SMA). These activities will become part of the coordination and review team for M&S Standards and Methodologies Standardization Area (MSSM) documents under the Defense Standardization Program. - Provided input on DoD / Modeling & Simulation Coordination Office products including: Defense Standardization Program's Acquisition Streamlining and Standardization Information System (ASSIST), Naval SYSCOM Technical Standards Policy, Procedure for New and Reinstated Defense Standards, and Modelling and Simulation Architecture Standards for Technical Interoperability High Level Architecture (HLA). Highlights include: identified incorrect information about two IEEE Standards (IEEE Std 1730 and IEEE Std 1516.3), provided correct information, and recommended changes.			
FY 2014 Plans: - Fulfill the requirement to write a NATO technical report for NATO's Country review comprising technical aspects of NATO's Resource Discovery and Access effort that will result in a successful closure of the NATO MSG-100 effort. Completion of the technical report for submission to NATO's Science and Technology Organization Collaborative Support Office web site is expected by April 2014. - Assist interested M&S Communities of Interests in their efforts to make M&S resources discoverable for reuse to the Global Information Grid Enterprise Service ensuring compliance with DoD Net Centric Data Strategy (dated May 9, 2003) and Directive 8320.02 (Data Sharing in a Net Centric Department of Defense). - Manage the Navy Modeling and Simulation (M&S) Registry of systems to enable access to M&S data searched across repositories and web sites. - Perform web page and MSRR upgrades as required to comply with new DoD Information Assurance Certification guidance. - Lead DoD M&S Community of Interest Enterprise Data Team. Focus on appropriate use of semantic and structural metadata to make data discoverable, understandable and trusted in support of the Net Centric Data Strategy guidance.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0308601N / *Modeling & Simulation Support*	**Project (Number/Name)** 2222 / *Modeling & Simulation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue FY14 efforts.			
Title: COMMUNITY SERVICES	2.446	2.543	2.232
Articles:	-	-	-

Description: This activity provides M&S subject matter expert support embedded in the DON M&S Communities to recommend implementations for M&S policies and standards within their Community and to ensure that the wider Navy is aware of the M&S products and services, initiatives, processes, and standards (visibility). It promotes M&S reuse through cooperative Community M&S activities which identify and prioritize M&S capability requirements between and across Communities. It also provides an M&S degree program through the Naval Postgraduate School (NPS), Modeling Virtual Environments and Simulation (MOVES) curriculum which qualifies officers to fill 6202-P coded billets. Financial support for thesis and dissertation efforts done by the students is covered by this funding. Topics are broad M&S topics of concern which are prioritized based on how they meet the requirements across, between and within the M&S Communities.

FY 2013 Accomplishments:

- Coordinated with the Naval Postgraduate School MOVES Institute and the MOVES degree program to provide military relevant theses topics for their doctorate candidates. Also successfully negotiated USMC and US Army agreements to use MOVES as their primary post graduated education source to maximize DoD M&S knowledge and standardization and as a result minimize costs.
- Conducted multiple M&S Forums across the Navy System Commands to coordinate, advise, inform, advocate, and implement M&S plans, strategies, goals, objectives and activities across the M&S acquisition, testing and experimentation communities.
- Participated in DoD Service working groups and Joint reviews of M&S plans, programs, policies, and procedures, and publications.
- Continued to promote and support participation in Joint and cooperative research, development, acquisition, and operation of M&S systems, technologies, and capabilities.
- The Marine Corp Modeling & Simulation Management Office (MCMSMO), per direction from the Marine Corps Senior Analyst, is co-leading a DoD M&S Steering Committee effort on reuse. Working with M&S communities throughout DoD, this effort aims to outline the circumstances and incentives most appropriate for reuse of models, simulations, and their data.
- Training IDS team is an integral member of the U.S. Fleet Forces Command (USFF) N73-led Readiness Kill Chain Cross-Functional Team. Provided insights and assisted with analysis of possible actions the USFF Commander can take now to initiate improvements for training readiness kill chain.
- Provided support to US Fleet Forces Command Training Directorate for development of Navy wide training policies and programs that facilitate effective force generation at lower costs through the effective use of M&S in the continued development of the Navy Continuous Training Environment and Fleet Synthetic Training Program.

FY 2014 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0308601N / *Modeling & Simulation Support*	**Project (Number/Name)** 2222 / *Modeling & Simulation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue FY13 efforts ***FY 2015 Plans:*** Continue FY14 efforts			
Title: COMMUNITY EXPERIMENTS and PROTOTYPES	1.195	0.918	0.509
Articles:	-	-	-
Description: This activity conducts experiments and prototypes aimed at determining the feasibility and applicability of proposed standards or technical approaches to Navy M&S, and investigate Service-unique requirements for standards or guidance. Individual efforts focus on developing or evaluating approaches to optimize training, assessments and acquisition functional/ mission objectives through more efficient development and use of M&S. This activity develops methodologies and standards that will result in model and data reusability and interoperability through the formulation of a technical framework. These standards support the full range of architecture and engineering design requirements across the Navy. This activity also supports Fleet exercises and experiments through the application of distributed simulations across a wide variety of warfighting and supporting communities. Specifically, it develops and integrates appropriate M&S into Fleet Synthetic Training (FST), and develops simulation efforts to test and evolve the standards for models, interfaces, and data. It supports development of tools necessary to enable the seamless access and use of operationally relevant M&S products to support Navy training, warfare assessments and acquisition requirements.			
FY 2013 Accomplishments: - Developed Virtual World Standard Interfaces (VWSI) and finalized architecture as an extension of AMIE to allow virtual environments to rapidly integrate M&S to improve rapid development of requirements, DOTMLPF solutions, and design alternatives. - Successfully tested a Naval Undersea Warfare Center (NUWC) Weapons Analysis Facility (WAF) hardware-in-the-loop torpedo through the AMIE VWSI plug-in to drive and visualize its virtual world representation. - Established an instance of the OpenSimulator virtual world at DISA's Rapid Access Computing Environment (RACE) to provide Navy-wide access for its VWSI reference implementation. - Completed preliminary testing for VWSI integration with AMIE using Joint Integration Mission Model (JIMM), Comprehensive Acoustic System Simulation (CASS), and Gaussian Ray Bundle (GRAB). - Established, documented, and demonstrated a draft Government-owned, non-proprietary open architecture M&S integration environment titled Architecture Management Integration Environment (AMIE) which is currently in use by 8 Navy Sites, 3 Army Sites, 1 Air Force site, and 1 Academia site and presently has 46 developed interfaces. - The NAVAIR Invention Evaluation Board (IEB) found considerable merit with this project and is filing a patent with the United States Patent Office.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0308601N / *Modeling & Simulation Support*	**Project (Number/Name)** 2222 / *Modeling & Simulation*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Successfully conducted an open architecture demonstration of AMIE and Future Airborne Capability Environment (FACE). The integration of the HL-20 FACE compliant model into AMIE is the first step in setting up a test bed to test conformance of FACE components in an operational environment. - Successfully led the integration test utilizing AMIE as the architecture to combine the NAVSEA Probability of raid annihilation P(ra) test bed physics based simulation data and the Manned Flight Simulator Hardware In-The-Loop (HWIL) MH60S hostile fire gun to run in operational warfare environment. - Successfully utilized AMIE for integration testing with Redstone Test Center (RTC), the Unmanned Aircraft Systems Integration Lab (UASIL), and the Atlantic Test Range (ATR) for the Joint Unmanned Aircraft Systems Mission Environment (JUAS ME) project. - Naval Post Graduate School (NPS) is utilizing VWSI and AMIE capabilities to complete research to support the development of a web-based virtual world environment. ***FY 2014 Plans:*** - Expand AMIE configuration control board beyond NAVAIR, and onto other Navy SYSCOMS and services. - Complete regression testing of AMIE and VWSI. - Publish reference implementation and Training Guide for AMIE and VWSI using enterprise feedback and results of regression testing. ***FY 2015 Plans:*** - Continue FY14 efforts			
Accomplishments/Planned Programs Subtotals	5.217	5.116	4.719

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

This is a non-ACAT program. The focus of the Navy Modeling and Simulation (M&S) Office is to facilitate and enable the efficient use of M&S by minimizing duplication of M&S efforts and maximize the reuse of M&S and data.

E. Performance Metrics

This program supports efforts to define, develop, and utilize M&S technologies, standards and techniques in DoN and joint programs across a wide range of disciplines and technical arenas. As such, performance metrics are specific to individual projects initiated under this program element. Representative examples of performance criteria for M&S support include the following: VV&A of deployed M&S systems to support Fleet and Force missions and assessments; degree of composability and

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0308601N / *Modeling & Simulation Support*	**Project (Number/Name)** 2222 / *Modeling & Simulation*

adaptability of system architectures employed M&S systems; ability of M&S systems to replicate and permit recreation of force or system interactions that otherwise would be performed by more labor-intensive or expensive personnel, forces, or elements; degree to which M&S frameworks would permit rapid integration and employment of analytic capabilities for the analysis and documentationof warfighter missions, weapons systems or Tactics, Techniques and Procedures (TT&P); and ability od a specific M&S technology or technique to meet the requirements specified in an individual project supported by this program.

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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0702207N / *Depot Maintenance (NON-IF)*							
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	107.664	20.387	28.042	21.168	-	21.168	19.846	19.561	19.792	15.182	Continuing	Continuing
3030: *FA-18 SLAP*	107.664	10.376	21.858	13.853	-	13.853	19.846	19.561	19.792	15.182	Continuing	Continuing
3182: *T-45 SLAP*	0.000	10.011	6.184	7.315	-	7.315	-	-	-	-	-	23.510

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

A. Mission Description and Budget Item Justification

3030: A significant portion of the F/A-18 airframe is believed to have additional inherent capability and a life extension may be possible for many portions of the airframe. The F/A-18 Service Life Assessment Program (SLAP) is assessing the structural and subsystem conditions of the F/A-18 fleet in order to determine what modifications are necessary to extend the aircraft designed life limits to allow it to achieve Chief of Naval Operations inventory requirements. Without SLAP and follow on Service Life Extension Program aircraft are retired from the USN inventory when a design service life metric is reached.

3182: The T-45 Service Life Assessment Program (SLAP) is assessing the subsystem condition of the T-45 fleet in order to determine what modifications are necessary to extend the aircraft subsystem design life limits to allow it to meet Chief of Naval Air Training (CNATRA) Pilot and Naval Flight Officer (NFO) training requirements through 2035.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	27.391	28.042	29.947	-	29.947
Current President's Budget	20.387	28.042	21.168	-	21.168
Total Adjustments	-7.004	-	-8.779	-	-8.779
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.287	-			
• SBIR/STTR Transfer	-0.458	-			
• Program Adjustments	-	-	-0.262	-	-0.262
• Rate/Misc Adjustments	0.002	-	-8.517	-	-8.517

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 7: *Operational Systems Development*		R-1 Program Element (Number/Name) PE 0702207N *I Depot Maintenance (NON-IF)*			
• Congressional General Reductions Adjustments	-2.261	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Project 3030 FA-18 SLAP schedule updated to reflect ongoing Subsystems Phase C efforts. Subsystems SLAP Phase B results have been delivered, Phase C will continue analysis of the Phase B results. Subsystems Phase C and Structures Phase C will be executed under the same contract.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0702207N / *Depot Maintenance (NON-IF)*	Project (Number/Name) 3030 / *FA-18 SLAP*	

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
3030: *FA-18 SLAP*	107.664	10.376	21.858	13.853	-	13.853	19.846	19.561	19.792	15.182	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 F/A-18 Service Life Assessment Program (SLAP) is assessing the structural and subsystem conditions of the F/A-18 fleet in order to determine what modifications are necessary to extend the aircraft designed life limits to allow it to achieve Chief of Naval Operations (CNO) inventory requirements. The goal of the F/A-18 SLAP program is to identify critical structures and components that can achieve the extended service life limit goals. SLAP consists of structural analyses of the main landing gear, arresting hook and catapult back-up structures, vertical tails, wings and fuselage. A second effort is to assess the subsystem components (hydraulics, wiring, actuators, etc) to identify over and above inspections, overhaul intervals or replacement schedules to fly past design of 6,000 hours. The current life limits for the F/A-18 E/F are 6,000 Flight Hours (FH), 2,250 catapults/arrestments (Cat/Traps) and 15,750 total landings. The F/A-18 SLAP program of record states the SLAP goals as 12,000 FH, 3,500 Cat/Traps and 22,500 total landings. The primary objective of F/A-18 SLAP is to determine if the stated SLAP goals are feasible. An increase in total landings and flight hours would allow the F/A-18 to meet CNO inventory requirements, to include planning for the announced one year Joint Strike Fighter slide. This effort is required to be conducted for these airframes and subsystems to ascertain what actions and modifications must be taken to safely operate each system beyond its designed life until the targeted end of service life.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: F/A-18 SLAP	10.376	21.858	13.853
Articles:	-	-	-
Description: The current design life limits do not support USN inventory requirements. Funding supports assessing the structural condition of the F/A-18 fleet in order to determine what modifications are necessary to extend the aircraft designed life limits to allow it to achieve CNO inventory requirements.			
FY 2013 Accomplishments: Continued analysis of numerous data points to provide exploitation of complete structural fatigue testing with the expectation of extending the current service life of F/A-18E/F flight hours from 6,000 to 9,000 hours.			
FY 2014 Plans: Continue stress analysis of numerous data points to provide exploitation of complete structural fatigue testing with the expectation of extending the current service life of F/A-18E/F from the design limits to the SLAP goals. Locations encompass the forward, center and aft fuselage, inner and outer wings, as well as landing gear.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3030 / *FA-18 SLAP*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Continue stress analysis of numerous data points to provide exploitation of complete structural fatigue testing with the expectation of extending the current service life of F/A-18E/F from the design limits to the SLAP goals. Locations encompass the forward, center and aft fuselage, inner and outer wings, as well as landing gear.			
Accomplishments/Planned Programs Subtotals	10.376	21.858	13.853

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/0525: *F-18 Series (OSIP 020-14)*	-	10.001	11.050	-	11.050	10.837	10.974	55.096	87.110	1,221.661	1,406.729

Remarks

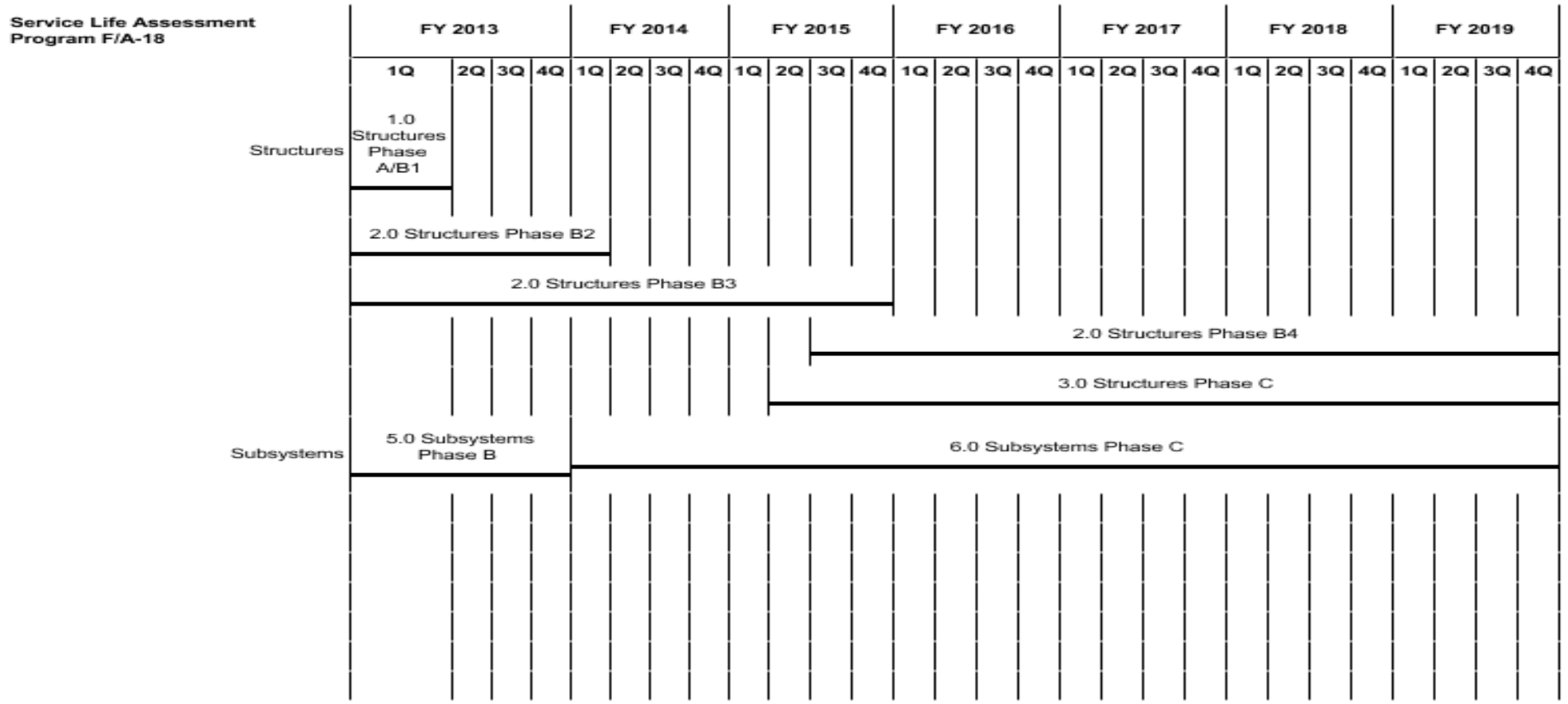
D. Acquisition Strategy

The Service Life Assessment Program (SLAP) program employs sole source contracts with Boeing, the aircraft prime manufacturer. SLAP further decomposes program of record goals into smaller discrete steps, analyzing requirements to extend FH from 6,000 to 9,000 first. These analyses will provide the raw engineering data to develop aircraft modifications to extend total aircraft landings, Cat/Traps, and FH. The F/A-18 SLAP Program consists of two major engineering efforts: the aircraft structural assessment and the aircraft subsystems assessment. Both efforts are broken into multiple phases which develop tools and models, assess current aircraft usage, and develop concepts to extend aircraft life to meet CNO objectives. The program will combine exploitation of complete structural fatigue testing and actual fleet usage with the expectation of extending the service life of the F/A-18 aircraft. Conducting F/A-18 SLAP to study the aircraft lifetime will provide a better estimate of aircraft service life and a follow on Service Life Extension Program (SLEP).

E. Performance Metrics

The F/A-18 SLAP provides an assessment of aircraft structure fatigue life as affected by flight maneuver, Cat/Traps and landings, based on actual usage and identifies the efforts required to extend the aircraft life to SLAP goals. During SLAP Structures Phase A (FY08-FY13) tools and modeling necessary to assess usage and fatigue life are developed. During SLAP Structures Phase B (FY11-FY19) specific structural locations which do not meet SLAP goals are identified and analyzed. Subsystem SLAP is also initiated concurrently with Structures Phase (B). A Flight Control Surface SLAP, SLEP retrofit concepts and repairs for deficient locations are developed during SLAP Structures and Sub-Systems Phase C (FY14-FY19). SLAP is followed by the SLEP during which the actual retrofit and repairs are performed under OSIP 020-14 established in FY14.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3030 / *FA-18 SLAP*



2015PB - 0702207N - 3030

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0702207N / *Depot Maintenance (NON-IF)*	Project (Number/Name) 3182 / *T-45 SLAP*	

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
3182: *T-45 SLAP*	-	10.011	6.184	7.315	-	7.315	-	-	-	-	-	23.510
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

3182: The T-45 aircraft structure is currently fatigue limited to 14,400 flight hours based on initial full-scale fatigue tests conducted from 1992-1996. This service life limit prevents the T-45 fleet from meeting Integrated Production Plan (IPP), previously Pilot Training Requirements, past 2025. Recent studies have determined that the fleet squadrons have not been flying the T-45 aircraft as aggressively as the initial fatigue studies predicted. These studies demonstrate that the 14,400 flight hour service life can likely be extended, with a Service Life Extension Program (SLEP), to 21,600 flight hours, which will support meeting IPP until 2035. A T-45 Structural Service Life Assessment Program (SLAP) was completed in February 2012. The results are being used to provide guidance on what structural areas to SLEP. In order for the T-45 to meet IPP until 2035, it is also necessary to assess the sub-systems of the T-45 in their ability to remain viable. Beginning in FY13, the T-45 sub-systems SLAP effort will assess the sub-system condition of the T-45 fleet in order to determine sub-system modifications and/or redesign necessary to extend the aircraft designed service life to support IPP and Naval Flight Officer Training Requirements (NTR) until 2035. This sub-system assessment will be based on the updated fleet aircraft usage spectrum and future predicted training missions of the T-45 aircraft. The assessment will address all critical sub-systems required and their ability to maintain IPP/NTR until 2035, analysis and studies will be conducted to outline improvements, assess manufacturing capabilities, prototype redesign and test of sub-systems for trainer aircraft. The original funding within the T-45 SLAP budget programmed for T-45 tail hook has been absorbed into the overarching SLAP effort due to the success of T-45 additional tail hook life extension efforts.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: T-45 SLAP	10.011	6.184	7.315
Articles:	-	-	-
Description: Funding supports conducting a Subsystem SLAP to determine modifications necessary to extend service life through 2035.			
FY 2013 Accomplishments: Initiated subsystem SLAP activities and engineering studies with the expectation of extending the T-45 service life to 2035.			
FY 2014 Plans: Continue Subsystem SLAP activities and engineering studies with the expectation of extending the T-45 service life to 2035.			
FY 2015 Plans: Complete the Subsystem SLAP activities and engineering studies with the expectation of extending the T-45 service life to 2035.			
Accomplishments/Planned Programs Subtotals	10.011	6.184	7.315

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3182 / *T-45 SLAP*

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/05690: *T-45 Series OSIP 00895/02214*	17.722	11.305	23.293	-	23.293	26.093	22.442	45.669	41.728	402.222	796.470

Remarks

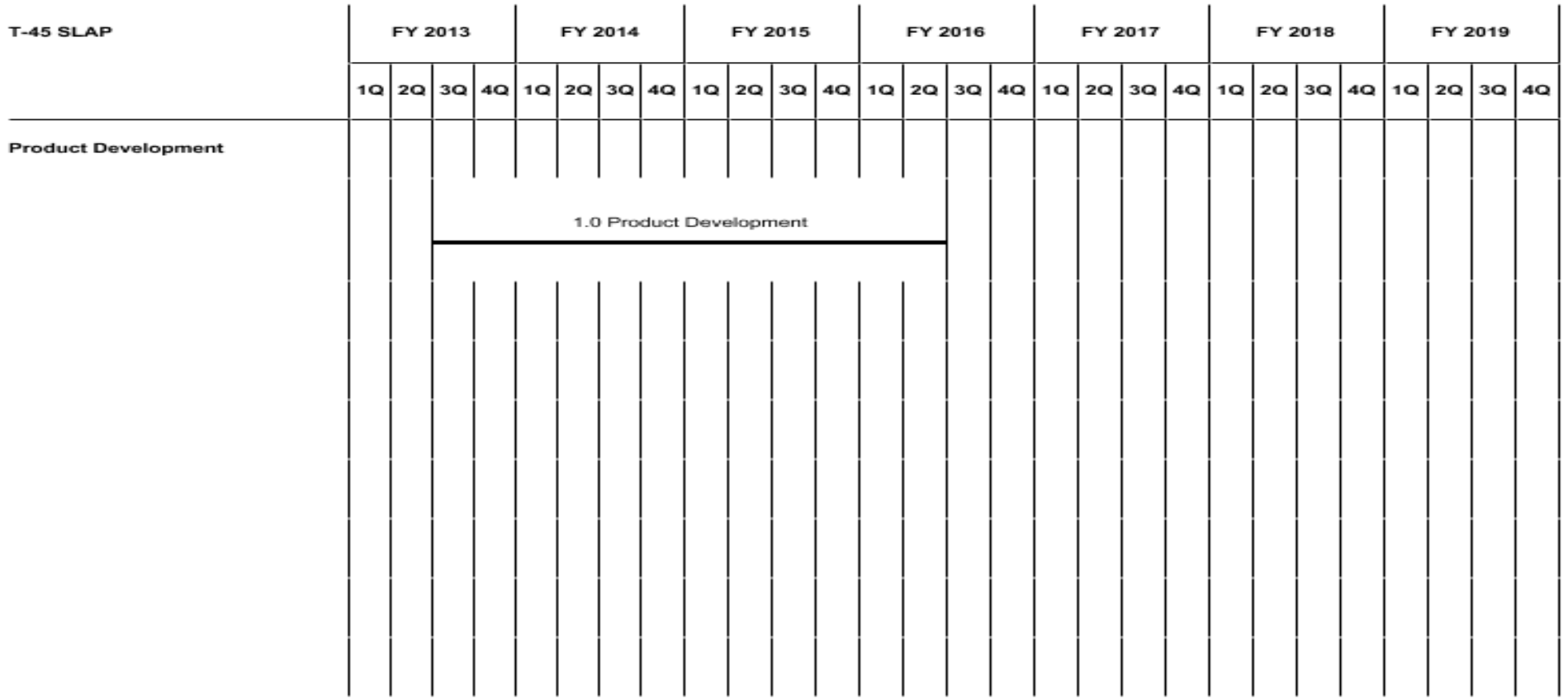
D. Acquisition Strategy

The Subsystem Service Life Assessment Program (SLAP) is a sole source contract effort with Boeing, the aircraft prime contractor. SLAP consists of an analysis of the aircraft subsystems (e.g., Global Positioning System Inertial Navigation Assembly or Mission Data Processor). The analysis will facilitate the future development of subsystem modifications and/or redesigns necessary to extend their life until 2035. The original funding within the T-45 SLAP budget programmed for T-45 tail hook has been absorbed into the overarching SLAP effort due to the alternate path success of T-45 tail hook life extension efforts.

E. Performance Metrics

SLAP provides an assessment of aircraft component life as affected by flight maneuver, catapults, arrestments, landings, and obsolescence based on actual usage and identifies the efforts required to extend the aircraft life to SLAP goals (2035). Effort delineates tasking incrementally to include; Tools and modeling necessary to assess usage and life are developed, specific designs which do not meet SLAP goals are identified and analyzed. Retrofit concepts and redesigns for problem areas are developed, followed by the Service Life Extension Program (SLEP) during which the actual retrofits are undertaken.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0702207N / *Depot Maintenance (NON-IF)*	**Project (Number/Name)** 3182 / *T-45 SLAP*



2015DON - 0702207N - 3182

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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0708011N *I Industrial Preparedness*							
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	209.057	64.411	50.933	37.169	-	37.169	54.987	55.741	56.749	57.850	Continuing	Continuing
1050: *Manufacturing Tech*	209.057	47.911	50.933	37.169	-	37.169	54.987	55.741	56.749	57.850	Continuing	Continuing
9999: *Congressional Adds*	0.000	16.500	-	-	-	-	-	-	-	-	-	16.500

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

A. Mission Description and Budget Item Justification

The Manufacturing Technology (ManTech) program is intended to improve the productivity and responsiveness of the U.S. defense industrial base by funding the development and transition of leading edge manufacturing technologies. The ManTech program is executed through a Center of Excellence (COE) strategy. A majority of the COEs are consortium based with only a small group of technical and management personnel at the center. ManTech projects are primarily performed by industry participants that bill the COE which, in turn, bills the Navy which causes a non-traditional financial execution profile for the program. The program therefore does not meet traditional execution benchmarks. The ManTech program, by providing seed funding for the development of moderate to high risk process and equipment technology, permits contractors to upgrade their manufacturing capabilities. Ultimately, the program aims to produce high-quality weapon systems with shorter lead times and reduced acquisition costs.

Due to the number of efforts in this PE, the programs described herein are representative of the work included in this PE.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	54.879	50.933	51.269	-	51.269
Current President's Budget	64.411	50.933	37.169	-	37.169
Total Adjustments	9.532	-	-14.100	-	-14.100
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.256	-			
• SBIR/STTR Transfer	-2.129	-			
• Program Adjustments	-	-	-0.284	-	-0.284
• Rate/Misc Adjustments	-0.001	-	-13.816	-	-13.816
• Congressional General Reductions Adjustments	-6.082	-	-	-	-
• Congressional Add Adjustments	18.000	-	-	-	-

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708011N *I Industrial Preparedness*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 9999: *Congressional Adds*		
Congressional Add: *Industrial Preparedness (Cong)*	16.500	-
Congressional Add Subtotals for Project: 9999	16.500	-
Congressional Add Totals for all Projects	16.500	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708011N / *Industrial Preparedness*	Project (Number/Name) 1050 / *Manufacturing 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
1050: *Manufacturing Tech*	209.057	47.911	50.933	37.169	-	37.169	54.987	55.741	56.749	57.850	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 ManTech Program is intended to improve the productivity and responsiveness of the U.S. defense industrial base by funding the development of manufacturing technologies. Major areas of endeavor both underway and planned include: advanced manufacturing technology for metalworking, joining, electronics and electro-optics, composites, shipbuilding, and above-the-factory-floor business operations technology. The ManTech Program is aimed at assisting acquisition programs in meeting performance and affordability goals by inserting manufacturing process solutions early into the design phase.

The budget levels for FY13, FY14 and particularly FY15 are lower than they have traditionally been due to DON decisions to re-baseline programs. For FY16 and beyond the budget returns to the prior profile.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: COMPOSITES PROCESSING AND FABRICATION	5.335	5.669	3.750
Articles:	-	-	-

Description: The primary technical goal of the Composites Processing and Fabrication activity is improving weapon systems affordability, enhancing weapon system effectiveness and improving reliability / war-fighter readiness through the increased utilization of composite materials and structures. This is being achieved through the development and maturation of affordable, robust manufacturing and assembly processes that fully exploit the benefits of composite materials. Concentration is on affordability for the following platforms: DDG-51, CVN-78 Class Carrier, VIRGINIA Class Submarine (VCS) / OHIO Replacement Program(ORP), and Littoral Combat Ship (LCS), and the Joint Strike Fighter (JSF).

Reductions from FY 14 to FY 15 reflect DON decisions to re-baseline programs.

FY 2013 Accomplishments:
- Continued Composite Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Includes continuation of efforts to develop / optimize composite materials fabrication technology for reduced cost VCS construction.
- Continued Composite Materials and Process Improvement Thrust for DDG-51 Shipbuilding Affordability Initiative.
- Continued Composite Materials and Process Improvement Thrust for CVN-78 Shipbuilding Affordability Initiative.
- Continued Composite Materials and Process Improvement Thrust for Air Platforms, including the Joint Strike Fighter (JSF).
- Continued Composite Materials and Process Improvement Thrust for LCS Shipbuilding Affordability Initiative

FY 2014 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0708011N / *Industrial Preparedness*	**Project (Number/Name)** 1050 / *Manufacturing Tech*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Continue efforts of FY 2013. ***FY 2015 Plans:*** Complete Composite Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Includes continuation of efforts to develop / optimize composite materials fabrication technology for reduced cost VCS construction. Continue all FY 2014 efforts unless otherwise noted as complete. Initiate - Composite Materials and Process Improvement Thrust for VCS/ORP Shipbuilding Affordability Initiative.			
Title: CORPORATE INVESTMENTS	5.997	8.764	4.319
Articles:	-	-	-
Description: The Corporate Investments activity is focused on accelerating defense industrial enterprise progress toward implementation of world-class industrial practices as well as advanced design and information systems that support weapon system development, production, and sustainment. Key emphasis areas include: 1) Benchmarking and accelerating the implementation of world-class industrial practices throughout the contractor base; 2) Demonstrating and validating advanced business practices and information technologies capable of streamlining management functions in all industrial base tiers; and 3) Leveraging information technologies in pursuit of tighter coupling of all defense industrial enterprise elements. Corporate Investment efforts create improvements to cost and cycle time for weapon system development, production, and repair. Additionally, Corporate Investments include the funding of recently identified near-term high priority affordability efforts for the following affordability platforms: DDG-51, CVN-78 Class Carrier, VIRGINIA Class Submarine (VCS), Littoral Combat Ship (LCS), as well as the Joint Strike Fighter (JSF). Funding increase from FY13 to FY14 supports additional investments in the advanced manufacturing enterprise area focused on above the shop floor and production planning activities. Reductions from FY 14 to FY 15 reflect DON decisions to re-baseline programs. ***FY 2013 Accomplishments:*** - Continued Near-Term High Priority Shipbuilding Affordability Thrust for CVN-78. - Continued Near-Term High Priority Shipbuilding Affordability Thrust for LCS. - Continued efforts to improve the Navy industrial base through above-the-factory-floor enhancements and supply chain processes/technology improvements for Navy weapon system acquisition programs such as the DDG-51, CVN-78, LCS, VCS, and others. - Continued Near-Term, High Priority Shipbuilding Affordability Thrust for DDG-51. - Continued Near-Term High Priority Shipbuilding Affordability Thrust for VCS.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0708011N / *Industrial Preparedness*	**Project (Number/Name)** 1050 / *Manufacturing Tech*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Initiate Near-Term High Priority Affordability Thrust for JSF. ***FY 2014 Plans:*** - Continue efforts of FY 2013. ***FY 2015 Plans:*** Complete Near-Term High Priority Shipbuilding Affordability Thrust for VCS. Continue all FY 2014 efforts unless otherwise noted as complete. Initiate Near-Term High Priority Shipbuilding Affordability Thrust for VCS/ORP.			
Title: ELECTRONICS PROCESSING AND FABRICATION	9.526	10.000	8.050
Articles:	-	-	-
Description: Electronics Processing and Fabrication efforts develop and deploy affordable, robust manufacturing processes and capabilities for electronics critical to defense applications over their full life cycle. Efforts create new and improved manufacturing processes on the shop floor, as well as repair and maintain facilities such as depots and logistics centers, with a strong emphasis on process maturation. Emphasis is on affordability for the following shipbuilding platforms: DDG-51, CVN-78 Class Carrier, VIRGINIA Class Submarine (VCS) / OHIO Replacement Program (ORP), and Littoral Combat Ship (LCS), with some funding geared towards toward electronics / electro-optics improvements for high priority air platforms such as the Joint Strike Fighter (JSF). Reductions from FY 14 to FY 15 reflect DON decisions to re-baseline programs. ***FY 2013 Accomplishments:*** - Continued Electronics/Electro-Optics Thrust for VCS Affordability Initiative. Includes continuation of improved affordable electronics/electro-optics efforts. - Continued Electronics/Electro-Optics Thrust for LCS Shipbuilding Affordability Initiative. - Continued Electronics/Electro-Optics Thrust for Air Platforms, including the Joint Strike Fighter (JSF). Includes continuation of electronics/electro-optics efforts to improve affordability for Air Platforms. - Continued Electronics/Electro-Optics Thrust for DDG-51 Shipbuilding Affordability Initiative. Includes radar/communications efforts to impact DDG-51 affordability. - Continued Electronics/Electro-Optic Thrust for CVN-78 Shipbuilding Affordability Initiative. Includes continuation of electronics/ electro-optics efforts to improve affordability for CVN-78 Class Carrier. ***FY 2014 Plans:*** - Continue efforts of FY 2013. ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0708011N / *Industrial Preparedness*	**Project (Number/Name)** 1050 / *Manufacturing Tech*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Complete Electronics/Electro-Optics Thrust for VCS Affordability Initiative. Includes continuation of improved affordable electronics/electro-optics efforts. Continue all FY 2014 efforts unless otherwise noted as complete. Initiate Electronics/Electro-Optics Thrust for VCS/ORP Affordability Initiative. Includes electronics/electro-optics efforts to improve affordability for VCS/ORP.			
Title: METALS PROCESSING AND FABRICATION	17.146	16.100	10.950
Articles:	-	-	-
Description: The objective of the Metals Processing and Fabrication activity is to develop affordable, robust manufacturing processes and capabilities for metals and special materials critical to defense weapon system applications. Major areas that support this objective include: processing methods, special materials, joining, and inspection and compliance. These efforts directly impact the cost and performance of future aircraft, rotorcraft, land combat vehicles, surface and subsurface naval platforms, space systems, artillery and ammunition, and defense industry manufacturing equipment. Emphasis is on affordability for the following shipbuilding platforms: DDG-51, CVN-78 Class Carrier, VIRGINIA Class Submarine (VCS) / OHIO Replacement Program (ORP), and Littoral Combat Ship (LCS), with some funding geared toward metals processing and fabrication improvements for high priority air platforms such as the Joint Strike Fighter (JSF). Funding decrease from FY13 to FY14 reflects ramp up of the JSF project portfolio with less emphasis on metals processing technology. Reductions from FY 14 to FY 15 reflect DON decisions to re-baseline programs. ***FY 2013 Accomplishments:*** - Continued schedule Compression/Production Engineering Thrust for VCS Shipbuilding Affordability Initiative. - Continued outfitting Thrust for VCS Shipbuilding Affordability Initiative. - Continued rapid response efforts. - Continued Metals Materials and Process Improvement Thrust for DDG-51 Shipbuilding Affordability Initiative. Metallic materials and process efforts for DDG-51 include material characterization for optimum processing and fabrication as well as process optimization (welding, bonding, machining, etc.) resulting in reduced cost of fabrication for DDG-51 components. - Continued Metals Materials and Process Improvement Thrust for CVN-78 Shipbuilding Affordability Initiative. Metallic materials and process efforts for CVN 78 include material characterization for optimum processing and fabrication as well as process optimization (welding, bonding, machining, etc.) resulting in reduced cost of fabrication for CVN 78 components. - Continued Metals Thrust for Littoral Combat Ship (LCS) Shipbuilding Affordability Initiative.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0708011N / *Industrial Preparedness*	**Project (Number/Name)** 1050 / *Manufacturing Tech*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Continued Metals Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Metallic materials and process efforts for VCS include material characterization for optimum processing and fabrication as well as process optimization (welding, bonding, machining, coating/cladding, etc.) resulting in reduced cost of fabrication for VCS components. - Continued Metal Materials and Process Improvements Thrust for Other Ship/NAVSEA Platforms. - Continued Metals Materials and Process Improvement Thrust for Air Platforms. - Continued Metal Materials and Process Improvements Thrust for Marine Corps Systems. ***FY 2014 Plans:*** - Continue efforts of FY 2013. ***FY 2015 Plans:*** Complete Metals Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Continue all FY 2014 efforts unless otherwise noted as complete. Initiate Metals Materials and Process Improvement Thrust for VCS/ORP initiative.			
Title: OTHER (SHIPBUILDING, REPAIR TECH, ENERGETICS, AND TECHNICAL ENGINEERING SUPPORT)	9.907	10.400	10.100
Articles:	-	-	-
Description: The "Other" activity includes shipbuilding technology, repair technology, energetics, and technical engineering support. Shipbuilding technology primarily addresses the development of manufacturing process improvements for shipyards and is geared towards affordability efforts for the following shipbuilding platforms: DDG-51, CVN-78 Class Carrier, VIRGINIA Class Submarine (VCS) / OHIO Replacement Program (ORP), and Littoral Combat Ship (LCS). Repair technology addresses repair, overhaul, and sustainment functions that emphasize remanufacturing processes and advancing technology. Energetics efforts concentrate on developing energetics solutions to ensure the availability of safe, affordable, and quality energetics products largely in support of Program Executive Office (PEO) Integrated Warfare Systems (IWS). ***FY 2013 Accomplishments:*** - Continued Shipbuilding Affordability Thrust for CVN-78. - Continued Shipbuilding Affordability Thrust for VCS. - Continued Shipbuilding Affordability Thrust for LCS. - Continued Shipbuilding Affordability Thrust for DDG-51. - Continued Shipbuilding Thrust for Other Ship/NAVSEA Platforms. - Continued Repair Technology Thrust for repair and sustainment of Navy weapons systems. Includes continuation of Repair Technology projects based on high priority depot needs. - Continued Energetics Thrust for PEO IWS and Other Acquisition Programs. Includes continuation of energetics efforts to support PEO IWS and other acquisition programs.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0708011N / *Industrial Preparedness*	**Project (Number/Name)** 1050 / *Manufacturing Tech*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Continued to provide technical engineering support for the ManTech Program. ***FY 2014 Plans:*** - Continue efforts of FY 2013. ***FY 2015 Plans:*** Complete Shipbuilding Affordability Thrust for VCS. Continue all FY 2014 efforts unless otherwise noted as complete. Initiate Shipbuilding Affordability Thrust for VCS/ORP.			
Accomplishments/Planned Programs Subtotals	47.911	50.933	37.169

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Efforts are focused on affordability reduction for the following: DDG Family, CVN-78 Class Carrier, Littoral Combat Ship (LCS), the VIRGINIA Class Submarine (VCS) / OHIO Replacement Program (ORP), and the Joint Strike Fighter (JSF).

E. Performance Metrics

The ManTech program's overall goal is to transition production technology to reduce the cost of Navy weapons systems. Metrics are currently collected on the cost savings per hull or per aircraft for each of the five primary affordability platforms: DDG-51, CVN-78 Class Carrier, VIRGINIA Class Submarine/OHIO Replacement Program (VCS/ORP), Littoral Combat Ship (LCS), and Joint Strike Fighter (JSF).

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0708011N / *Industrial Preparedness*	**Project (Number/Name)** 1050 / *Manufacturing Tech*

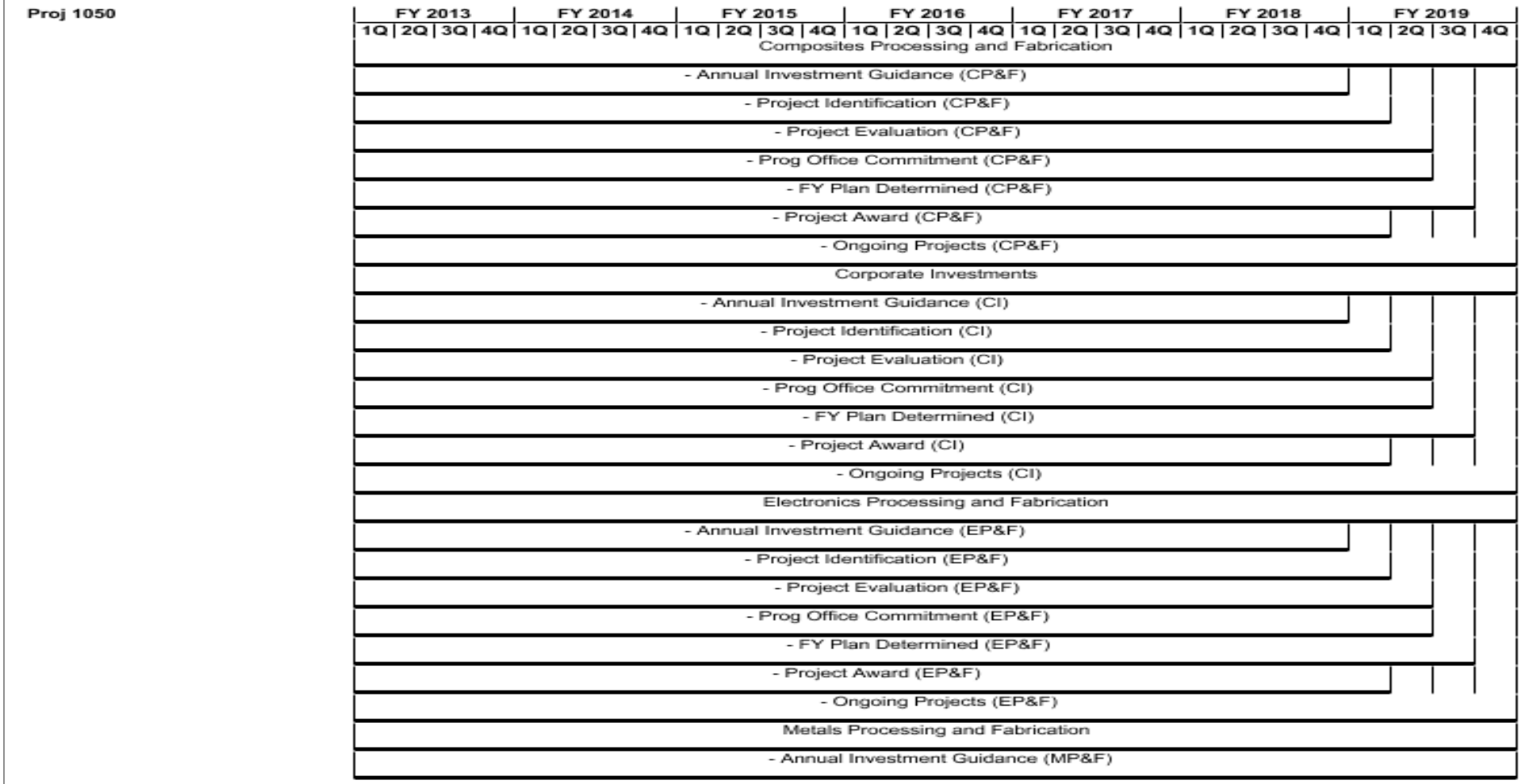
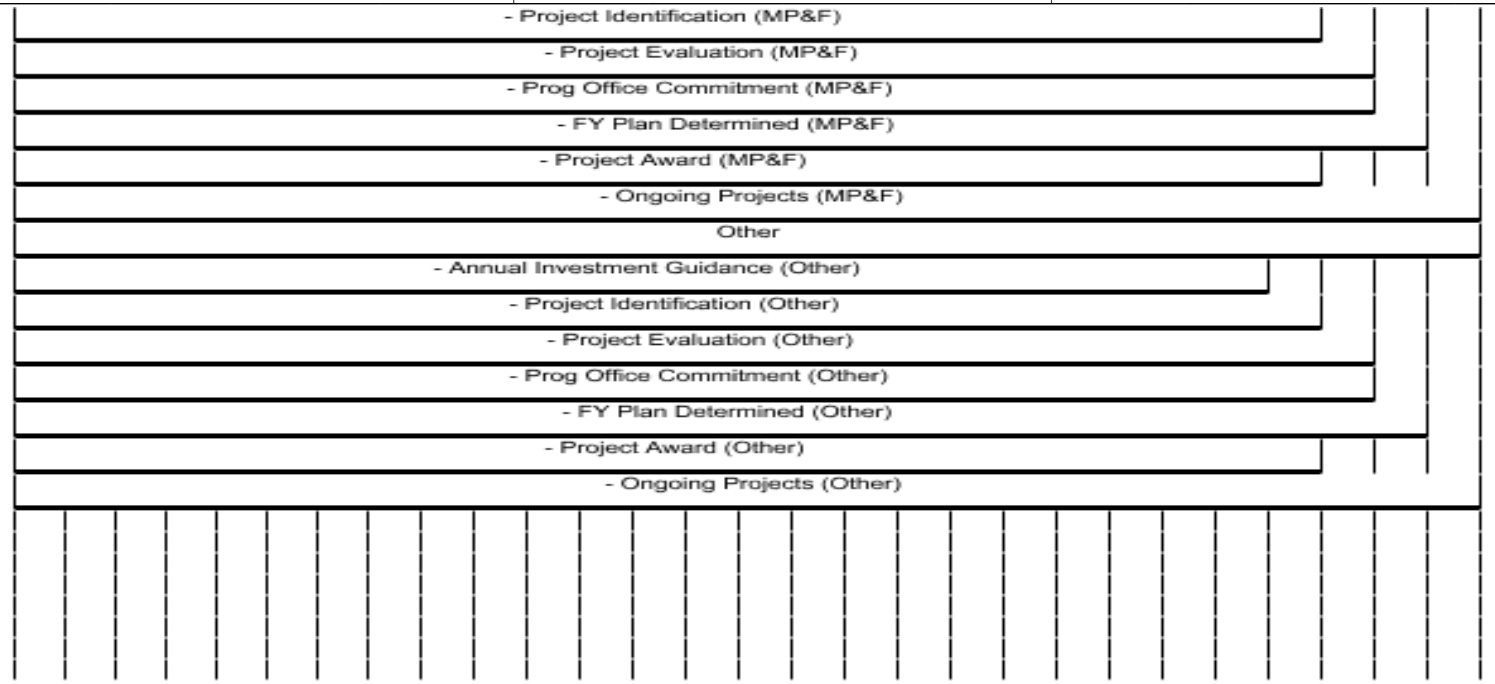


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0708011N / *Industrial Preparedness*	**Project (Number/Name)** 1050 / *Manufacturing Tech*



2015DON - 0708011N - 1050

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy												Date: March 2014
Appropriation/Budget Activity 1319 / 7					R-1 Program Element (Number/Name) PE 0708011N / *Industrial Preparedness*				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*	-	16.500	-	-	-	-	-	-	-	-	-	16.500
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

Congressional interest items not included in other projects.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
Congressional Add: Industrial Preparedness (Cong)	16.500	-
FY 2013 Accomplishments: The purpose of the funding is to accelerate Navy ManTech shipbuilding affordability initiatives and is to be allocated proportionally to the following major shipbuilding categories: aircraft carriers, large surface combatants, small surface combatants, attack submarines and amphibious warfare ships. Progress executing this funding includes soliciting affordability project ideas from the shipbuilding industry producing these platforms via the Navy ManTech COEs, prioritizing project candidates based on overall proposal strength and combined ranking by the acquisition program office and industry. A project portfolio has been developed for each platform totaling approximately the $3.3M allocated and is ready for final approval and execution.		
FY 2014 Plans: N/A		
Congressional Adds Subtotals	16.500	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional add

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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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0708730N *I Maritime Tech (MARITECH)*							
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	3.923	4.424	4.998	4.347	-	4.347	4.362	4.393	4.413	4.526	Continuing	Continuing
2466: *NSRP ASE*	3.923	4.424	4.998	4.347	-	4.347	4.362	4.393	4.413	4.526	Continuing	Continuing

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

A. Mission Description and Budget Item Justification

The National Shipbuilding Research Program (NSRP) is an industry and enterprise wide research collaboration that seeks to reduce the Navy's shipbuilding and repair cost. The resulting technologies implemented in NSRP-ASE member shipyards, benefit both the shipyard and the US Navy.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	5.000	4.998	5.000	-	5.000
Current President's Budget	4.424	4.998	4.347	-	4.347
Total Adjustments	-0.576	-	-0.653	-	-0.653
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.159	-			
• Rate/Misc Adjustments	-	-	-0.653	-	-0.653
• Congressional General Reductions Adjustments	-0.417	-	-	-	-

Change Summary Explanation

FY 2013 reductions reflect Congressionally mandated sequestration and general reductions.
FY 2015 reductions reflect the Department's decision to reduce contracted services.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy			Date: March 2014
Appropriation/Budget Activity 1319 / 7	R-1 Program Element (Number/Name) PE 0708730N / *Maritime Tech (MARITECH)*	Project (Number/Name) 2466 / *NSRP ASE*	

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
2466: *NSRP ASE*	3.923	4.424	4.998	4.347	-	4.347	4.362	4.393	4.413	4.526	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

NSRP ASE is a collaboration of U.S. shipyards working with the Navy customer to reduce the cost of building and repairing naval ships and improving shipbuilding industry productivity through advanced technology and processes. NSRP ASE is an innovative and proven approach to public/private cooperation to manage cost-shared R&D based on a national consensus Strategic Investment Plan. The Plan targets potential industry-wide technology and process solutions which are vetted by industry experts and builds upon the progress made over the previous years. The collaboration's organizational structure promotes teaming of industry, government and academia to achieve the continuous product and process improvements necessary for improved Navy ship affordability. Solutions include both leverage of best commercial practices and creation of industry-wide initiatives with aggressive technology transfer to, and buy-in by, multiple U.S. shipyards. Navy PEOs (Ships, Subs and Carriers) and NAVSEA are directly involved in NSRP. The Plan calls for matching government and industry investments over several years.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Technology Development Projects	4.424	4.998	4.347
Articles:	-	-	-

Description: The NSRP is an ongoing Research and Development program. This program awards small research projects and large research projects to Improve Quality; (2) Reduce Total Ownership Costs; and, (3) Increase Energy Efficiency. These research projects have been known to produce technological advances in shipbuilding that once implemented have resulted in savings for the Navy.

FY 2013 Accomplishments:

(1) Complete technology development projects in the four major initiative areas (Ship Design and Material Technologies, Ship Production Technologies, Business Process and Information Systems, and Infrastructure and Support (Regulatory Compliance, Technology Transfer and Workforce Development)) that will be competitively selected by industry subject matter experts and Navy stakeholders during GFY12, targeting the following priorities in Naval shipbuilding and repair: (1) Improving Quality; (2) Reduction of Total Ownership Costs; and, (3) Increasing Energy Efficiency. It is anticipated that projects selected will continue to be focused in the following areas:

- Promotion of Modular Construction
- Reduction of Re-work
- Improving Production Engineering
- Improving Specifications and Standards
- Improving Manufacturing Processes

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0708730N / *Maritime Tech (MARITECH)*	**Project (Number/Name)** 2466 / *NSRP ASE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Improving Production Planning - Data Exchange - Improving Safety & Health / Reducing Environmental Impacts - Education and Training - Total Ownership Cost (2) Continue technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community			
FY 2014 Plans: (1) Completed technology development projects in the four major initiative areas (Ship Design and Material Technologies, Ship Production Technologies, Business Process and Information Systems, and Infrastructure and Support (Regulatory Compliance, Technology Transfer and Workforce Development) that were competitively selected by industry subject matter experts and Navy stakeholders during GFY13. The projects targeted the following priorities in Naval shipbuilding and repair: (1)Improving Quality; (2) Reduction of Total Ownership Costs; and, (3) Increasing Energy Efficiency. It is anticipated that projects currently in process will continue to be focused in the following areas: - Promotion of Modular Construction - Reduction of Re-work - Improving Production Engineering - Improving Specifications and Standards - Improving Manufacturing Processes - Improving Production Planning - Data Exchange - Improving Safety & Health / Reducing Environmental Impacts - Education and Training - Total Ownership Cost (2) Continue technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community.			
FY 2015 Plans: (1) Complete technology development projects in the four major initiative areas (Ship Design and Material Technologies, Ship Production Technologies, Business Process and Information Systems, and Infrastructure and Support (Regulatory Compliance, Technology Transfer and Workforce Development)) that will be competitively selected by industry subject matter experts and Navy stakeholders during GFY13, targeting the following priorities in Naval shipbuilding and repair: (1) Improving Quality; (2) Reduction of Total Ownership Costs; and, (3) Increasing Energy Efficiency. It is anticipated that projects selected will continue to be focused in the following areas:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Navy		Date: March 2014
Appropriation/Budget Activity 1319 / 7	**R-1 Program Element (Number/Name)** PE 0708730N / *Maritime Tech (MARITECH)*	**Project (Number/Name)** 2466 / *NSRP ASE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
- Promotion of Modular Construction - Reduction of Re-work - Improving Production Engineering - Improving Specifications and Standards - Improving Manufacturing Processes - Improving Production Planning - Data Exchange - Improving Safety & Health / Reducing Environmental Impacts - Education and Training - Total Ownership Cost (2) Continue technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community			
Accomplishments/Planned Programs Subtotals	4.424	4.998	4.347

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

R&D projects have been solicited and awarded by an industry collaboration represented by the Executive Control Board (ECB) of the National Shipbuilding Research Program (NSRP). The Navy has entered into an agreement with the industry collaboration using "other transaction" authority pursuant to 10 U.S.C. 2371.

E. Performance Metrics

Quarterly reports and reviews